Final Exercise Report

Shearon Harris Nuclear Power Plant

Licensee: **Carolina Power and Light Company**

Exercise Date: **June 27, 2000**

Report Date: **September 28, 2000**

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

Federal Emergency Management Agency

Region IV
3003 Chamblee-Tucker Rd
Atlanta, GA 30341

September 28, 2000

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

Dear ~~Mr. Reyes~~ Luis:

Enclosed is a copy of the final exercise report for the June 27, 2000, partial plume exposure pathway exercise of the offsite radiological emergency response plans site-specific to the Shearon Harris Nuclear Power Plant. This report addresses the evaluation of the plans and preparedness for the State of North Carolina and the counties within 10-mile Emergency Planning Zone. The State of North Carolina, the Risk Counties of Chatham, Harnett, Lee and Wake and the Host Counties of Alamance and Randolph participated in the exercise. The final exercise report was prepared by the Federal Emergency Management Agency Region IV staff. Copies of this report will be forwarded to the State of North Carolina, FEMA Headquarters, and NRC Headquarters by my staff.

All objectives for this exercise were demonstrated and no Deficiencies or Areas Requiring Corrective Action (ARCAs) were identified. All six of the prior ARCAs were corrected during this exercise.

Based on the results of the June 27, 2000 exercise and FEMA's review of the North Carolina's Annual Letter of Certification for 1999 and 2000, the offsite radiological emergency response plans and preparedness for the State of North Carolina and the affected local jurisdictions site-specific to the Shearon Harris Nuclear Power Plant 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 offsite radiological emergency response plans and preparedness site-specific to the Shearon Harris Nuclear Power Plant, granted on April 29, 1989, will remain in effect.

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

Sincerely,

John B. Copenhaver
Regional Director

Enclosure

cc: Ms. Vanessa E. Quinn, Acting Chief
FEMA Headquarters, Radiological and Emergency
Preparedness Branch - PT-CR-RP

Chief
Emergency Preparedness and Health Physics Section
Operator Licensing, Human Performance and Plant
Support Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

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Atlanta, Georgia 30341

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I. EXECUTIVE SUMMARY

On June 27, 2000, a partial participation exercise was conducted in the plume exposure pathway emergency planning zone (EPZ) around the Shearon Harris Nuclear Power Plant 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 October 7-8, 1997. This exercise was originally scheduled for September 21, 1999. However, due to the State's response to the aftermath of Hurricane Floyd the exercise was postponed, with approval from FEMA, to June 27, 2000. The next Federally evaluated exercise for Shearon Harris is scheduled for April 24, 2001. The qualifying emergency preparedness exercise was conducted on February 28, 1987.

FEMA wishes to acknowledge the efforts of the many individuals in the State of North Carolina, the Risk Counties of Chatham, Harnett, Lee and Wake, as well as other individuals who participated in this exercise.

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

This report contains the evaluation of the biennial exercise and the following out-of-sequence activities: Protective actions for schools, traffic control points, reception centers and congregate care, supplemental route alerting and a medical drill.

State and local organizations demonstrated knowledge of their emergency response plans and procedures and implemented them. There were no Deficiencies or Areas Requiring Corrective Action (ARCA) identified during the June 27, 2000 exercise. Six ARCAs identified during the 1995 and 1997 exercises were corrected during this exercise (30-97-03-A-01, 30-95-11-A-07, 30-95-12-A-02, 30-97-22-A-02, 30-97-17-A-03 and 30-95-22-A-06).

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 title 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 Rule 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 the following:

- Taking the lead in offsite 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, and
  - 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 Shearon Harris Nuclear Power Plant to FEMA Region IV by the State of North Carolina and involved local jurisdictions occurred on March 28, 1988. Formal approval of the RERP was granted by FEMA on April 29, 1989, under 44 CFR 350.

A REP exercise was conducted on June 27, 2000, 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 Shearon Harris Nuclear Power Plant. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite 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 FEMA Region IV RAC Chairperson, 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 of the report 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 June 27, 2000 exercise to test the offsite emergency response capabilities in the area surrounding the Shearon Harris Nuclear Power Plant.

A. Plume Emergency Planning Zone Description

The Carolina Power and Light Company operates the Shearon Harris Nuclear Power Plant. The facility is located in the State of North Carolina in the Southwest corner of Wake County, approximately 16 miles southwest of Raleigh, the County seat and State Capitol. The 10-mile EPZ encompasses portions of Wake, Chatham, Harnett and Lee Counties. The primary land use around the plant is that of agriculture with some light manufacturing. The Jordan Lake and Harris Lake recreational areas fall with in the 10-mile EPZ. U. S. Highways 1, 64 and 401 with NC 42, 55 and 751 comprise the major road transportation arteries, along with rail lines controlled by Norfolk & Southern (NS) and CSX railroads. The EPZ is sub-divided into 14 Protective Action Zones.

The IPZ area for the Harris Nuclear Plant is an area with a radius of approximately 50 miles from the plant. While this area remains primarily agricultural, the following are significant communities or facilities located with the IPZ: Cities of Raleigh, Durham, Fayetteville, Burlington, Chapel Hill, Sanford, Fort Bragg Military Reservation, North Carolina State University, University of North Carolina, Duke University, Research Triangle Park (RTP), Raleigh-Durham International Airport. The county governments and municipal governments in the counties with the 50-mile IPZ are:

Alamance	Harnett	Person
Caswell	Hoke	Randolph
Chatham	Johnston	Robeson
Cumberland	Lee	Sampson
Durham	Montgomery	Wake
Franklin	Moore	Wayne
Granville	Nash	Wilson
Guilford	Orange	Vance

There are approximately 29,185 residents within the 10-mile EPZ. The EPZ Includes, part of Chatham, Harnett, Lee, and Wake Counties.

B. Exercise Participants

In addition to Carolina Light and Power Company, the following agencies, organizations, and units of government participated in the Shearon Harris Nuclear Power Plant exercise on June 27, 2000.

STATE OF NORTH CAROLINA

Department of Crime Control and
Public Safety, Division of Emergency Management (DEM)
Department of Environment, Health and Natural
Resources, Division of Radiation Protection (DRP)
Sanford/Lee County Emergency Management Office

RISK JURISDICTIONS

Chatham County
Harnett County
Lee County
Wake County

FEDERAL

U. S. Army Corps of Engineers

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross
Amateur Radio Operators

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Shearon Harris Nuclear Power Plant exercise on June 27, 2000. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

DATE AND SITE: June 27, 2000 – Shearon Harris Nuclear Power Plant

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken						
		SEOC	DOSE/SEOC	JIC	CHATHAM COUNTY	HARNETT COUNTY	LEE COUNTY	WAKE COUNTY
Unusual Event	1527	1536	1536		1527	1535	1536	1535
Alert	1604	1614	1614	1651	1611	1611	1611	1611
Site Area Emergency	1733	1748	1748	1738	1746	1746	1746	1746
General Emergency	2024	2034	2034	2025	2035	2034	2034	2035
Simulated Rad. Release Started	1725	1725	1725		1726	1746	1725	1725
Simulated Rad. Release Terminated	2130							
Facility Declared Operational		1645		1645	1700	1620	1700	1609
Declaration of State of Emergency		1910 State			1930 - County Declared	1915 – County Declared	1915 – County Declared	1910 County Declared
Exercise Terminated		2200		2200	2200	2230	2210	2145
Early Precautionary Actions: Taken at the Site Area Emergency Declaration (1825) All 10-mile EPZ counties ask businesses, and civic activities to be curtailed and hospitals to reduce number of patients					Buses and Wildlife personnel on standby, Shelter animals	Buses and Wildlife personnel on standby, Shelter animals	Place buses on standby	Lake and Park Clearance 1841 – Shelter animals
1st Protective Action Decision Public Notification		1805			1805	1805		
1st Siren Activation		1813			1810	1810		
1st EAS Message		1813			1813	1813		
2nd Protective Action Decision **Evacuate Zones:** A, B, C, D, H, I, J, K, L, M, & N **Shelter Zones:** E, F & G		2045	2045	2045	2045	2045	2045	2045
2nd Siren Activation		2050			2050	2050	2050	2050
2nd EAS Message		2051			2051	2051	2051	2051
KI Administration Decision: Ingest (Field Teams only)			2030			2100 – Distribute to emergency workers	1745 – Distribute 2034 - Ingest	

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 June 27, 2000 exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Shearon Harris Nuclear Power Plant.

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(s), 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)

Table 2. Summary of Exercise Evaluation

DATE AND SITE: June 27, 2000 – Shearon Harris Nuclear Power Plant

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 Operations Ctn.	M	M	M	M					M	M	M		M										M										
Dose Assessment - SEOC	M			M			M		M																								
Emergency Operations Facility	M	M	M	M					M																								
Joint Information Center	M	M	M	M							M	M	M																				
CHATHAM COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M									M										
Traffic Control Points					M												M																
Reception/Congregate Care					M													M	M														
Emergency Worker Decon					M																	M											
Lake Warning					M					M																							
HARNETT COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M									M										
Traffic Control Points					M												M																
Emergency Worker Decon					M																	M											
Reception/Congregate Care					M													M	M														
LEE COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M									M										
Traffic Control Points					M												M																
Reception/Congregate Care					M													M	M														
Emergency Worker Decon					M																	M											
WAKE COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M	C								M							C			
Protective Actions for Schools				M	M											M																	
Traffic Control Points					M												M																
Reception/Congregate Care					M													M	C														
Emergency Worker Decon					M																	M											
Command Post Operations	M	M	M	M					M	M																							
MEDICAL DRILL					M															M	M												

LEGEND:

M = MET D = Deficiency(ies) A = ARCAs

C = Credit (Wake County given credit for objectives 15, 19 & 30 for involvement in Hurricane Floyd and Y2K.

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 for [illegible] Presented below is a definition of the terms used in this subsection relating 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 of 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 activation and mobilization of the State Emergency Response Team (SERT) was well demonstrated. The Director of the Division of Emergency Management and the Director of Operations provided positive direction and control, involved a cooperative staff in the decision making process, and conducted frequent State Emergency Operations Center (SEOC) briefings with informative agency updates. The staff consistently coordinated with the utility, 10-mile EPZ Counties and the FEMA liaison who participated in this exercise. The Public Information Officer coordinated with the Joint Information Center (JIC), and the plant liaison worked well with the Division of Radiological Health personnel in providing vital information to a pro-active SEOC staff.

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 11, 13 and 23

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 30-97-3-A-01

Description: The State, at the request of Lee County, assumed direction and control of the response to the emergency at the Shearon Harris Nuclear Power Plant at 3:15 p.m. The Site Area Emergency declaration was received at the SEOC at 4:32 p.m. The plan calls for the activation of the public alert and notification system to inform the public of the incident at the nuclear power plant and advise them to stay tuned for further information. The final coordinated decision for this activation of the public alert and notification system was not reached until 5:33 p.m. The decision-making process was too long. (NUREG-0654, A.1.d)

Corrective Action Demonstrated: Procedures have been updated and reviewed. Coordination between the State and 10-mile EPZ counties to activate the public warning and notification system was done expeditiously. It took approximately 10 minutes for the coordinated decision to be reached and protective action decisions (PAD) were expeditiously implemented.

Issue No.: 30-95-11-A-07

Description: The digital recorder at the EAS radio station should have the capability to record the entire EAS pre-scripted message. (NUREG-0654, E.5.7.)

Corrective Action Demonstrated: A digital recorder has been installed at the Emergency Alert System (EAS) radio station and is compliant with the Federal Communication Commission's EAS requirements. The capacity of the EAS radio station to record the entire EAS pre-scripted message was successfully demonstrated during the June 27, 2000, Shearon Harris exercise.

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

1.2 Dose Assessment - SEOC

Plume dose projections were performed by the dose assessment staff from the State Division of Radiological Protection. Several preliminary dose projections were compared with those from the utility and were consistent. The staff made a computer run on dose assessment using current information that was consistent with the utility's general emergency recommendations of evacuation and sheltering in place. The staff consistently exchanged information with SEOC radiation protection personnel who were involved in formulating and implementing PADs.

a. **MET:** Objectives 1, 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 Emergency Operations Facility

The Shearon Harris Emergency Operations Facility (EOF), located on-site in the training complex, is an excellent facility from which all participating organizations can effectively manage emergency operations. Communications, 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 deployed to the EOF were well trained, knowledgeable, and followed applicable procedures. They performed their respective responsibilities in an efficient and professional manner.

a. **MET:** Objectives 1, 2, 3, 4 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

1.4 Joint Information Center

The JIC was established at the Carolina Power and Light (CP&L) Company headquarters in Raleigh, North Carolina. The JIC demonstration was conducted by a well trained, professional and competent staff, consisting of representatives from the State of North Carolina, the Counties of Chatham, Harnett, Lee and Wake, and CP&L. Coordination between these organizations was excellent. Three timely and accurate media briefings were conducted. The briefings were augmented by State, County and utility press releases to provide additional details and supply written documentation for the use of the media. The "Mock Media" personnel were knowledgeable and aggressive and provided a realistic experience for the briefers. Rumor control functioned in accordance with the plan, handling 22 messages, determining several trends and providing information to the briefers to correct inaccurate or false information.

a. **MET:** Objectives 1, 2, 3, 4, 11, 12 and 13

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 30-95-12-A-02

Description: The media was not briefed, new releases were not developed to follow the EAS message, and Wake County's second EAS message contained no information on transients, shelter locations, or the use of KI by the special population.

Corrective Action Demonstrated: Coordination between the State of North Carolina and Wake County resolved this issue during the media briefing at which protective actions (evacuation and shelter in place) were disclosed to the media. The information deemed to be missing in the 1995 issue was discussed at the media briefing at which information for transients, special populations and the location of congregate care facilities was provided, not only for Wake County, but for the other EPZ Counties as well.

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

2. RISK JURISDICTIONS

2.1 CHATHAM COUNTY

2.1.1 Emergency Operations Center

The Chatham County Emergency Operations Center (EOC) staff demonstrated the ability to respond to an incident at the Shearon Harris Nuclear Power Plant, and to coordinate and support all necessary emergency response activities and organizations. The EOC, located in Pittsboro, North Carolina, is a large, well-lit and fully furnished facility suitable for supporting emergency operations. The EOC was fully operational with all key staff in place less than an hour after the Unusual Event Declaration. The County Director of Emergency Operations, with the support of the County Manager and the Operations Officer, directed the emergency response well. He made appropriate PADs with the concurrence of the County Manager. Coordination with the other risk counties was frequent and decision-making was collaborative.

Supplemental route alerting was successfully demonstrated by well-trained members of the Moncure Volunteer Fire Department.

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 14 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

The North Carolina Highway Patrol and the North Chatham Volunteer Fire Department demonstrated traffic and access control. Personnel were knowledgeable of dosimetry use, relocation center locations, evacuation routes, road impediment removal, and how to control traffic entrance and exit.

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 Reception Center and Congregate Care

Chatham County demonstrated the capability to monitor, decontaminate, register and shelter evacuees as well as man traffic control points (TCP) at the Northband High School. All county emergency workers were issued thermoluminescent dosimeters (TLD), and direct-reading dosimeters. Six individuals were monitored by walking through a Ludlum model 52 portal monitor. The CDV-700 was used for monitoring vehicles and the re-monitoring of individuals. The Congregate Care Center was staffed by the Chatham County Department of Social Services, American Red Cross (ARC), a County Deputy Sheriff and amateur radio personnel. The shelter had been opened and used for evacuees during Hurricane Floyd in 1999.

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

2.1.4 Emergency Worker Decontamination

This was an excellent demonstration by members of the Pittsboro Volunteer Fire Department and First Health of the Carolinas Chatham County Unit. Participating personnel were well trained and highly motivated. Monitoring of a single vehicle and an emergency worker was thorough and professional. Contamination control was excellent, and the facility area included indoor showers.

a. **MET:** Objectives 5 and 22

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 30-97-22-A-02

Description: The adequacy of this facility is very questionable. Only one portable outdoor shower was available, with water from the fire truck used for washing. There were no separate facilities for male and female. Contamination control was inadequate. EWs are monitored on the sidewalk in front of the school, after decontamination. EWs must walk past the monitoring area to exit the facility.

Corrective Action Demonstrated: This facility now has indoor showers. The showers provide separate facilities for males and females; and appropriate contamination control measures made this a successful demonstration. The facility has been modified to meet all requirements as an emergency worker decontamination station.

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

2.1.5 Lake Warning

Representatives from the U.S. Army Corp of Engineers, the NC Wildlife Resources Commission, and the NC Division of Parks and Recreation demonstrated exceptional knowledge regarding procedures for alerting boaters on Jordan Lake, and for monitoring and controlling their personal radiation exposure. Agencies worked very well together to accomplish their joint alert and notification task. This was done with the use of flares, sirens, and PA systems. One boat was launched and a route was run. Persons were also available to demonstrate campground alert and notification procedures if requested.

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

2.2 HARNETT COUNTY

2.2.1 Emergency Operations Center

Direction and control and interaction of the EOC staff were outstanding. Briefings were held frequently and established the tone for a very pro-active EOC operation. The PIO was very involved throughout the exercise and contributed substantially to this outstanding operation. Participation by the State, utility, public officials and the many volunteer organizations added realism and enhanced the overall operation.

The EOC is located in the County Law Enforcement Center in Lillington, and is well designed and equipped. Maps displays and status boards were prominently displayed and utilized throughout the exercise. The State Liaison and County personnel utilized the State EM2000 computer-logging program. The County also utilized a computerized logging program that was displayed on a TV for all EOC members to view. A notebook containing operational procedures, the EOC layout, position descriptions, message forms, and an operational log was provided to each EOC member. Supplemental route alerting was demonstrated by the Northwest Harnett County Volunteer Fire Department with support from the Sheriff's Department personnel.

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 11, 14 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 Traffic Control Points

Two TCPs were demonstrated in Harnett County through interview with North Carolina State Troopers. The State Troopers demonstrated an excellent knowledge of their TCP assignments, dosimetry requirements and procedures, radiation dose limits, and the use of KI and its possible side effects. They were aware of evacuation routes, location of reception and decontamination centers, schools, and other special facilities.

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

2.2.3 Emergency Worker Decontamination

The monitoring and decontamination of emergency workers was conducted out-of-sequence at the Angiers Fire Station by 14 volunteer members of the fire department; 12 of which were trained monitors. The fire station, and parking area around it, afford space for monitoring and decontamination activities for both individuals and vehicles. Excellent monitoring and decontamination techniques were demonstrated for both individuals and vehicles by a knowledgeable and well trained staff. Each staff-member was provided the necessary dosimetry and was knowledgeable of its use. They were aware of their radiation dose limits and the use of KI.

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

2.2.4 Reception Center and Congregate Care

Procedures, facilities, equipment, supplies and personnel for radiological monitoring/decontamination of evacuees and vehicles, and the registration and congregate care of evacuees was demonstrated by personnel at the Harnett Central High School, near Lillington in Harnett County. This excellent demonstration was performed out-of-sequence at 1900 hrs. and all personnel were pre-positioned in accordance with the extent-of-play agreement.

The emergency workers were issued Category 2 dosimetry consisting of a simulated TLD and a 0-200 mR direct-reading dosimeter (DRD). The DRDs were charged and initial readings were recorded on their exposure record forms along with the serial numbers from both dosimeters.

Personnel from the Angier-Black River Volunteer Fire Department and the Buies Creek Volunteer Fire Department demonstrated the monitoring and decontamination activities. The monitors wore full bodied Tyvek suits with hood, gloves and shoe covers. Personnel from the Buies Creek Volunteer Fire Department successfully demonstrated monitoring and decontamination of vehicles.

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 LEE COUNTY

2.3.1 Emergency Operations Center

The EOC is an excellent facility that provides all the amenities required to accomplish its mission, and all objectives were demonstrated. The Emergency Management Coordinator did an excellent job coordinating activities among the various counties and volunteer organizations, including Amateur Civil Radio Emergency Service and the ARC personnel. The Emergency Management Coordinator conducted several briefings and encouraged staff to participate. The Mayor of Sanford, Chairman of the County Commission, City, and County Managers were present during the exercise and participated in the decision making process. The staff should be commended for doing an

outstanding job. The Deep River Volunteer Fire Department excellently demonstrated backup route alerting.

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 11, 14 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

2.3.2 Traffic Control Points

TCP activities were discussed at the Lee County EOC with three North Carolina Highway Patrol Officers and two Sanford City Police Officers. All the officers interviewed were knowledgeable and thoroughly understood their responsibilities. They were very receptive to learning improved methods of accomplishing their duties. Protective action procedures were discussed and an understanding of the need to use dosimetry was clearly evident. The Sanford Police Department correctly established a TCP. They displayed a good knowledge of moving traffic and the location of reception/congregate care centers. This demonstration by the Sanford Police Department corrects the previous ARCA 30-97-17-A-03.

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

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 30-97-17-A-03

Description: TCP LT-3 was scheduled to have been established at the intersection of State Highway 42 and the access road to East Lee Junior High School; however it was set up at on the access road at the entrance to the parking lot some 100 yards away from State Highway 42. Further, the City of Sanford officer assigned to TCP LT-3 stated that he had not been told of a need for dosimetry. He had not been

issued any dosimetry and was not adequately trained. (NUREG-0654, H.j.k.10 and K.3.a.)

Corrective Action Demonstrated: The City of Sanford Police Department correctly established a TCP at Lemon Springs Road and Main Street (TCP #17). The officer assigned this duty had appropriate dosimetry and received radiological training. This demonstration corrects prior ARCA 30-97-17-A-03.

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

2.3.3 Reception Center and Congregate Care

The Incident Commander of the Lemon Springs Fire Department provided all calibrated dosimetry and survey equipment for the Greenwood School Reception Center and fire station personnel. Six evacuees were professionally monitored by passing through a portal monitor. Good health physics practices limiting contamination were used. A single evacuee was decontaminated. The congregate care center was managed by the Lee County ARC Chapter, assisted by the Lee County Departments of Health, Social Services, Mental Health, the Lee County Sheriff's Department, Lemon Springs Fire Department and many outstanding volunteers. All necessary requirements for a well managed reception and congregate care center were successfully demonstrated.

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

2.3.4 Emergency Worker Decontamination

The Northview Volunteer Fire Department (NVFD) personnel demonstrated the capability to continuously monitor and control radiation exposure of emergency workers. All personnel were issued the proper dosimetry, which they read every 30 minutes. They were knowledgeable of their mission dose as, well as turn back value. The NVFD personnel demonstrated procedures for the monitoring and decontamination of emergency workers, equipment and vehicles. Space was available and procedures were used to minimize contamination of the facility and prevent cross contamination of clean vehicles. Proper instrumentation was available and was used to monitor emergency

workers and vehicles. Monitoring procedures were sufficient to detect radioactive contamination. Decontamination procedures were appropriate to remove contamination.

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

2.4 WAKE COUNTY

2.4.1 Emergency Operations Center

As the lead risk county for the Shearon Harris Nuclear Power Plant, the Wake County EOC staff is highly capable of making emergency management decisions, and alerting and notifying the public in the event of an incident at the plant. The mobilization and alert and notification process were timely and effective. Direction and control and staff interaction were excellent and the PIO staff provided timely and accurate public instructions and press releases. Overall, this was an excellent demonstration of Wake County's capabilities to protect their citizens. The County received credit for objectives 23 and 30 because of its involvement in Hurricane Floyd, Y2K and the winter storm of 1999. Fuquay-Varina Fire Department personnel successfully demonstrated the capability to perform supplemental route alerting.

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 11, 14, 15, 19 and 30

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

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

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

2.4.2 Protective Actions for Schools

Wake County personnel worked as a team under a well developed school evacuation plan. The Wake County out-of-sequence school evacuation interviews were conducted on May 4, 2000, at the Fuquay-Varina Senior High School. Those who participated in the interview included the Wake County Director of Transportation, the Wake County Safety Director, two Assistant School Principals, and the principals from Fuquay-Varina Senior High School, Fuquay-Varina Middle School and Lincoln Heights Elementary School.

All school officials were professional and had an in-depth knowledge of school evacuation procedures. There are ample buses and bus drivers who can be contacted by commercial telephone. There are thirty teachers trained as back-up bus drivers and each bus carries a mobile telephone. Teachers are assigned to school buses to attend to the children when schools are evacuated. Buses are escorted by the Wake County Sheriff deputies who carry appropriate dosimetry and communication equipment. School evacuation information is included in student-parent handbooks and annual plant calendars that are sent to parents.

a. **MET:** Objectives 4, 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

The TCPs were discussed at the Fuquay-Varina Staging Area. Three officers from the Wake County Sheriff's Department had appropriate dosimetry and record forms. They were knowledgeable of their assignments and were motivated to perform their duties. Cruisers with cones and flares are deemed sufficient and additional resources are available for impediment removal.

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

2.4.4 Reception Center

Wake County demonstrated the ability to protect the general population by activating a reception, monitoring and decontamination center for evacuees at the North Garner Middle School. A monitoring and decontamination center for vehicles was also demonstrated out-of-sequence at the Wake Technical Community College Center. The capability to continuously monitor and control the radiation exposure to all personnel was also demonstrated. Wake County Environmental Services had procedures, facilities, equipment, and personnel for the radiological monitoring and decontamination of evacuees. Wake County Mental Services personnel demonstrated the registration of evacuees, and the Garner Volunteer Fire Department demonstrated the monitoring and decontamination of vehicles. Wake County was given credit for objective 19 because of the activation of its congregate care facilities during Hurricane Floyd and the 1999 winter storms.

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

2.4.5 Emergency Worker Decontamination

The Raleigh HazMat Team should be commended for its professionalism in the use of the incident command system (ICS), checklist, teamwork, constant communications and contamination avoidance. Appropriate procedures were used by the Raleigh HazMat Team at fire station #12. Appropriate decontamination of the Apex Rescue Squad personnel and a vehicle at the decontamination station was performed during the Wake County Medical drill on May 3, 2000.

a. **MET:** Objectives 5 and 22

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 30-95-22-A-06

Description: The Apex Rescue Squad monitoring personnel should be provided training in the proper use of the CDV-700 and surveying procedures.

Fire Station #2 personnel should be provided training in the proper use of the CDV-700 and surveying procedures.

Corrective Action Demonstrated: The Raleigh HazMat Team at Fire Station #12 has replaced Fire Station #2. The Raleigh HazMat Team, at Fire Station #12 demonstrated appropriate monitoring, contamination avoidance, and decontamination procedures at the emergency worker and vehicle decontamination station during the May 3, 2000, Harris Medical Drill. Personnel and a vehicle were appropriately surveyed and released at the decontamination station. The Apex Rescue Squad personnel no longer have monitoring responsibility in the Wake County Radiological Emergency Preparedness Plan.

f. **PRIOR ARCAs - UNRESOLVED:**

2.4.6 Command Post Operations

The Fuquay-Varina Command Post, in the Town Hall, implements field operations in response to information/instructions from the Wake County EOC Operations Officer. This staff of senior members from their respective agencies supervises activities of emergency workers at the Fuquay-Varina Staging Area. Communication is by telephone with the EOC and RACES serves as backup communication with field units. Participants were qualified and motivated to perform their responsibilities.

The Fuquay-Varina Staging Area is located at the Fuquay-Varina Elementary School. Emergency workers from various county and city agencies are assigned to field operations as directed by the Command Post. Radiological exposure control equipment and record forms are issued prior to the dispatch of personnel. The Area Coordinator makes assignments from available personnel and vehicle resources, and may request additional resources from the County.

a. **MET:** Objectives 1, 2, 3, 4, 9 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

2.4.7 Medical Service Drill

The Shearon Harris Nuclear Power Plant medical drill was conducted on May 3, 2000, outside of the 10-mile EPZ. The organizations involved in the medical drill included the Raleigh Fire Department and HazMat Team, the Apex Rescue Squad and the Wake County Medical Center. The drill was initiated when two vehicles collided.

One of the wrecked vans carried contaminated materials. One of the passengers received a head wound and was contaminated as the barrels fell to the ground. The patient crawled around in the contaminated area. The Wake County Fire Department deployed two fire trucks and the Raleigh HazMat Team. The Apex Rescue Squad was also deployed to transport the patient to the Wake County Medical Center. The Raleigh Fire Department, HazMat Team and the Apex Rescue Squad used appropriate monitoring, contamination control, and decontamination procedures. In the emergency room, the Wake County Medical Center personnel correctly surveyed and decontaminated the patient. The HazMat Team and Apex Rescue Squad personnel and vehicle were taken to a Wake County decontamination station where personnel and the vehicle were appropriately surveyed and then released.

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. SUMMARY OF DEFICIENCIES AND/OR AREAS REQUIRING CORRECTIVE ACTION (ARCA)

3.1 PRIOR ISSUES - RESOLVED

3.1.1 30-97-03-A-01 SEOC

Description: The State, at the request of Lee County, assumed direction and control of the response to the emergency at the Shearon Harris Nuclear Power Plant at 3:15 p.m. The Site Area Emergency declaration was received at the SEOC at 4:32 p.m. The plan calls for the activation of the public alert and notification system to inform the public of the incident at the nuclear power plant and advise them to stay tuned for further information. The final coordinated decision for this activation of the public alert and notification system was not reached until 5:33 p.m. The decision-making process was too long. (NUREG-0654, A.1.d)

Corrective Action Demonstrated: Procedures have been updated and reviewed. Coordination between the State and 10-mile EPZ Counties to activate the public warning and notification system was done expeditiously. It took approximately 10 minutes for the coordinated decision to be reached and protective action decision (PAD) were expeditiously implemented.

3.1.2 30-95-11-A-07

Description: The digital recorder at the EAS radio station should have the capability to record the entire EAS pre-scripted message. (NUREG-0654, E.5.7.)

Corrective Action Demonstrated: A digital recorder has been installed at the Emergency Alert System (EAS) radio station and is compliant with the Federal Communication Commission's EAS requirements. The capacity of the EAS radio station to record the entire EAS pre-scripted message was successfully demonstrated during the June 27, 2000, Shearon Harris exercise.

3.1.3 30-95-12-A-02
JIC

Description: The media was not briefed, new releases were not developed to follow the EAS message, and Wake County's second EAS message contained no information on transients, shelter locations, or the use of KI by the special population.

Corrective Action Demonstrated: Coordination between the State of North Carolina and Wake County resolved this issue during the media briefing at which protective actions (evacuation and shelter in place) were disclosed to the media. The information deemed to be missing in the 1995 issue was discussed at the media briefing at which information for transients, special populations and the location of congregate care facilities was provided, not only for Wake County, but for the other EPZ Counties as well.

3.1.4 30-97-22-A-02
Chatham County–EWD

Description: The adequacy of this facility is very questionable. Only one portable outdoor shower was available, with water from the fire truck used for washing. There were no separate facilities for male and female. Contamination control was inadequate. EWs are monitored on the sidewalk in front of the school, after decontamination. EWs must walk past the monitoring area to exit the facility.

Corrective Action Demonstrated: This facility now has indoor showers. The showers provide separate facilities for males and females; and appropriate contamination control measures made this a successful demonstration.

3.1.5 30-97-17-A-03
Lee County - TCP

Description: TCP LT-3 was scheduled to have been established at the intersection of State Highway 42 and the access road to East Lee Junior High School; however it was set up at on the access road at the entrance to the parking lot some 100 yards away from State Highway 42. Further, the City of Sanford officer assigned to TCP LT-3 stated that he had not been told of a need for dosimetry. He had not been issued any dosimetry and was not adequately trained. (NUREG-0654, H.j.k.10 and K.3.a.)

Corrective Action Demonstrated: The City of Sanford Police Department correctly established a TCP at Lemon Springs Road and Main Street (TCP #17). The officer assigned this duty had appropriate dosimetry and received radiological training. This demonstration corrects prior ARCA 30-97-17-A-03.

3.1.6 30-95-22-A-06
Wake County - EWD

Description: The Apex Rescue Squad monitoring personnel should be provided training in the proper use of the CDV-700 and surveying procedures.

Fire Station #2 personnel should be provided training in the proper use of the CDV-700 and surveying procedures.

Corrective Action Demonstrated: The Raleigh HazMat Team at Fire Station #12 has replaced Fire Station #2. The Raleigh HazMat Team, at Fire Station #12 demonstrated appropriate monitoring, contamination avoidance, and decontamination procedures at the emergency worker and vehicle decontamination station during the May 3, 2000, Harris Medical Drill. Personnel and vehicle were appropriately surveyed and released at the decontamination station. The Apex Rescue Squad personnel no longer have monitoring responsibility in the Wake County Radiological Emergency Preparedness Plan. The Apex Rescue Squad is an emergency medical services organization that transports contaminated, injured patients and does not have responsibility at emergency worker and vehicle decontamination stations.

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

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

ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CD-V	Civil Defense - Victoreen
CFR	Code of Federal Regulations
CPM	Counts Per Minute
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
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EEM	Exercise Evaluation Methodology
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FR	Federal Register
FTC	Field Team Coordinator
ft/min	feet per minute
ft^3/min	cubic feet per minute
GE	General Emergency
GM	Guidance Memorandum
JIC	Joint Information Center
KI	Potassium Iodide

mR	milliroentgen
mR/h	milliroentgen per hour
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	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*
OEM	Office of Emergency Management
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
REA	Radioactive Emergency Area
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
R/h	Roentgen(s) per hour
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
TCP	Traffic Control Point
TLD	Thermoluminescent Dosimeter
USDA	U.S. Department of Agriculture

APPENDIX 2

EXERCISE EVALUATORS

Following is a list of personnel evaluating the Shearon Harris Nuclear Power Plant exercise on June 27, 2000. The organizations represented are indicated by the following abbreviations:

ANL	- Argonne National Laboratory
FEMA	- Federal Emergency Management Agency
NRC	- Nuclear Regulatory Commission
USDA	- United States Department of Agriculture

EVALUATION SITE	EVALUATOR	ORGANIZATION
STATE OF NORTH CAROLINA		
State Emergency Operations Center	Robert Perdue	FEMA
	Helen Wilgus	FEMA
Dose Assessment - SEOC	Frank Wilson	ANL
Emergency Operations Facility	Robert Trojanowski	NRC
Joint Media Center	Jim Sutch	ANL
	Dana Cessna	ANL
CHATHAM COUNTY		
Emergency Operations Center	Rebecca Thomson	FEMA
Traffic Control Points	Josh Moore	ANL
Reception/Congregate Care	Josh Moore	ANL
Emergency Worker Decontamination	Dave Moffet	ANL
Backup Route Alerting	Dave Moffet	ANL
Lake Warning	Sandra Bailey	ANL
HARNETT COUNTY		
Emergency Operations Center	Joseph Canoles	FEMA

EVALUATION SITE	EVALUATOR	ORGANIZATION
Traffic Control Points	Tom Carroll	ANL
Emergency worker Decontamination	Tom Carroll	ANL
Reception/Congregate Care	Rebecca Thomson	ANL
Backup Routing Alerting	Bob Rospenda	ANL
LEE COUNTY		
Emergency Operations Center	Eddie Hickman	FEMA
Traffic Control Points	Al Hall	ANL
Reception/Congregate Care	Neil Gaeta	ANL
Backup Route Alerting	Al Hall	ANL
Emergency Worker Decontamination	Eddie Fuente	ANL
WAKE COUNTY		
Emergency Operations Center	Tom Reynolds	FEMA
Traffic Control Points	Wayne Waddell	FEMA
Reception/Congregate Care	George Goforth	ANL
Emergency Worker Decontamination	George Goforth	ANL
Backup Route Alerting	George Goforth	ANL
Command Post Operations	Wayne Waddell	ANL
Staging Area Operations	Wayne Waddell	ANL
Medical Drill (conducted 5-3-2000)	Robert Perdue Don Cornell	FEMA FEMA

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix contains the and the extent-of-play agreement exercise objectives which were scheduled for demonstration in the Shearon Harris Nuclear Power Plant exercise on June 27, 2000.

A. Exercise Objectives

Attached 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.

EXERCISE OBJECTIVES

I. Purpose

To ensure that off-site organizations adequately demonstrate the capabilities specified in NUREG-0654/FEMA REP 1, Revision 1, FEMA developed a standardized set of exercise objectives for fixed nuclear facility exercises. Objectives are divided into three groups. **Group A Objectives** are the core and address the capability to mobilize personnel, make protective action decisions, and adequately provide information to the public. Objectives in Group A must be demonstrated every exercise. **Group B Objectives** are scenario dependant which demonstrate the ability to staff facilities, and positions necessary to provide for the care of the general public and special needs groups. All objectives within this group must be demonstrated, as appropriate, by each participating jurisdiction within a six-year cycle. **Group C Objectives** focus on ingestion pathway, recovery, and reentry concerns. These objectives must be demonstrated once every six years. State government agencies have primary responsibility for these. **This exercise incorporates only Group A & B activities.**

II. Exercise Objectives

1999/2000HARRIS EXERCISE OBJECTIVES							
							CATEGORY
Site: Harris Plant **State: North Carolina** **Exercise Date: June 27, 2000** **Type: Partial Participation** **Risk Counties: Chatham, Harnett, Lee & Wake**	NC SERT	RAD PROTECT	CHATHAM	HARNETT	LEE	WAKE	A,B,C
1. Mobilization of Emergency Personnel	X	X	X	X	X	X	
2. Facilities/Equipment/Displays	X	X	X	X	X	X	A
3. Direction and Control	X	X	X	X	X	X	
4. Communications	X	X	X	X	X	X	EVERY
5. Emergency Worker Exposure Control			X	X	X	X	
6. Equipment/Procedures for Field Monitoring							EXERCISE
7. Dose Projection		X					
8. Field Monitor - Iodine & Particulate							
9. Plume Protective Action Decision	X	X	X	X	X	X	
10. Alert and Notification	X		X	X	X	X	
11. Public Instructions	X		X	X	X	X	

1999/2000HARRIS EXERCISE OBJECTIVES							
							CATEGORY
Site: Harris Plant **State: North Carolina** **Exercise Date: June 27, 2000** **Type: Partial Participation** **Risk Counties: Chatham, Harnett, Lee & Wake**	NC SERT	RAD PROTECT	CHATHAM	HARNETT	LEE	WAKE	A,B,C
12. Emergency Information - Media	X		X	X	X	X	
13. Rumor Control	X		X	X	X	X	
14. Use of KI (note: for discussion at EOC only)	X	X	X	X	X	X	
15. Protective Action - Special Population							B
16. Protective Action - Schools						X	
17. TCPs and SRBs	X		X	X	X	X	SCENARIO
18. Reception Centers			X	X	X	X	
19. Congregate Care Centers			X	X	X	X	DEPENDENT
20. Medical Services - Transportation						X	
21. Medical Services - Facilities						X	
22. Emergency Worker Decontanination Station			X	X	X	X	
23. Supplementary Assistance	X		X	X	X	X	

Extent of Play Instructions
for
1999 Harris Nuclear Power Plant, Partial Participation Exercise

(EOP revised to show rescheduled 2000 dates & times for postponed exercise)

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

Carolina Power and Light (CP&L) Harris Nuclear Power Plant (HNPP) will make the initial notification to the State Warning Point (SWP) using the Selective Signal System (SSS). The State Warning Point will then notify the North Carolina Division of Emergency Management (EM), Communications Section and the Division of Radiation Protection (DRP). Upon notification, EM Communications staff will notify State Emergency Response Team (SERT) agencies and request that they respond to the State Emergency Operations Center (SEOC). HNPP will be notified when the SEOC is activated and all further notification will come directly to the SEOC.

RADIATION PROTECTION

The Mobile Laboratory and other field activities will be located at the NC National Guard Armory near the RDU airport, but **will not be evaluated** as part of this exercise. Pre-positioning of field units, Mobile Lab and Field survey teams, at the NC National Guard Armory will be due to the length of time required to respond during the scenario time frame.

CHATHAM, LEE, HARNETT & WAKE COUNTIES

The utility will make the initial notification to the individual County warning point. Counties will make appropriate notifications. County EOC's will activate when Alert is declared. After EOC activation, all other utility notifications will be directed to the EOC, and field personnel will be activated as needed.

OBJECTIVE #2

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

STATE OF NORTH CAROLINA

The SEOC will be staffed and equipped to support response activities. Event status information will be displayed. State Capitol Police will provide security.

CHATHAM COUNTY

The Chatham County EOC is equipped with the equipment necessary for operations. Security will be provided by the Chatham County Sheriff's Department. **NOTE:** A staff member will provide the evaluator information, by interview, describing the emergency backup generator, and its location. This interview should be accomplished prior to the start of the drill.

HARNETT and LEE COUNTIES

The Harnett and Lee County EOC have all appropriate equipment and displays for operations. The Harnett County Sheriff Department and the Sanford Police Department will demonstrate security at the appropriate county EOC. A photo ID will be required for entrance into the EOC.

WAKE COUNTY

Wake County EOC has all appropriate equipment and displays for operations. The Wake County Sheriff's Department will demonstrate security of the EOC. A photo ID will be required for entrance into the EOC. The Fuquay-Varina Command Post will also be demonstrated during the exercise along with the Fuquay-Varina Staging Area.

OBJECTIVE #3
Demonstrate the capability to direct and control emergency operations.

STATE OF NORTH CAROLINA

The State will support direction and control with the Counties and assume direction and control upon request of the EPZ counties. The SERT Leader will assume responsibility for direction and control as well as decisions impacting protective actions when State assumes direction and control.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

The counties will provide direction and control with Wake County as the lead county until transferred to the state at Site Area Emergency. Each individual agency's EOC representative will direct Field activities from the County EOC. All direction and control for inter-county coordination will be demonstrated by working with other EPZ counties and the State EOC.

OBJECTIVE #4
Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

STATE OF NORTH CAROLINA

The EOC will maintain communications with the EPZ county EOC's, CP&L's Harris Plant EOF, Joint Information Center (JIC), State Warning Point, field survey teams, and the DRP mobile lab.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

Communications will be demonstrated using dedicated telephone lines, public service telephone lines, FAX machines, and computer modem, between county EOC's, the State EOC, the Joint Information Center (JIC), CP&L's Harris Plant EOF, and field response units.

OBJECTIVE #5
Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

Emergency responders working within the 10-mile EPZ will have 0-200 mR dosimeters, 0-20 R dosimeters, TLD's (simulated using clothespins or paperclips) and individual dose cards. Responders who conduct monitoring activities outside the 10-mile EPZ will have 0-200 mR dosimeters, TLD's (simulated using clothespins or paperclips) and individual dose cards. Respective county agencies will maintain exposure records for their responders. When turn-back exposure (5R) limit is reached, responders will call the EOC to receive additional protective action instructions

OBJECTIVE #7
Demonstrate the capability for dose projections and protective action recommendations regarding evacuation and sheltering.

RADIATION PROTECTION

As a member of SERT, the NC Division of Radiation Protection will establish an independent dose assessment and projection team at the State EOC. The team will communicate with the Utility EOF; the Mobile 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 #9
Demonstrate the capability to make timely and appropriate protective action decisions (PAD).

STATE OF NORTH CAROLINA

The Division of Radiation Protection SERT members 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 are in direction and control protective action recommendations will be discussed with the SERT Leader using the Decision Line. When the State is in direction and control, the SERT Leader will make the protective action decisions following discussions between all EPZ counties and the Utility using the decision line.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

Protective action recommendations from the utility will be discussed between all EPZ counties, State EOC, and the utility using the decision line. The County's will ultimately make decisions for their portion of the EPZ while they are in direction and control. After the State assumes direction and control, the same coordination will take place with the State being responsible for the final decision

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. The SERT at the State EOC will lend technical support to the Counties. Wake County, as "Lead County" will do coordination and development of messages and implementation of alert and notification activity. 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 Harris Plant support plan. Upon concurrence with the counties, North Carolina SERT will lead and conduct the countdown. The EAS Coordinator at the State will read the EAS message to the LP-1 station.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

At Site Area Emergency, the appropriate EAS pre-scripted message will be selected from the plan. The message will be discussed with the other EPZ counties. Once each county has concurred on the content, the time will be agreed upon for simulated countdown and activation of siren system and EAS. Wake County will be the lead and responsible for countdown to simulated siren activation and activation of EAS, based on FCC rules and regulations concerning EAS and latest FEMA guidance on EAS.

County Emergency Management agencies maintain a list of special needs people within the EPZ, the lists will be available for review. During the exercise, calls to special needs individuals **WILL NOT BE MADE**, to prevent raising undue concerns among residents due to exercise play.

Route-Alerting messages will be read to the Evaluator prior to running route, but WILL **NOT BE BROADCAST** during the drive along the designated route. This is to prevent raising undue concerns among residents due to exercise play.

Chatham County

Moncure Volunteer Fire Department will be available at the Moncure Fire Department, Station 8, for interview by the FEMA evaluator. Personnel will demonstrate back-up route alerting on a selected route in Zone K if desired by the evaluator. Interviews and driving of an actual route will be accomplished between **1800 to 1900 EDT.**

The NC Wildlife Commission will coordinate alert and warning for Jordan Lake. The NC Department of Parks and Recreation and the US Army Corps of Engineers will support this agency. Lake Warning Personnel and boats will be available for interview by the FEMA evaluator at the Crosswinds Boat Ramp, Highway 64. Personnel will demonstrate Lake Warning on their assigned areas of the lake following the interviews. The Federal evaluator may choose to accompany one boat. Interviews and demonstration will be accomplished between **1900 to 2000 EDT.**
(DUE TO FIRE DANGER THE ACTUAL FIRING OF FLARES WILL NOT BE ACCOMPLISHED)

Lee County

Deep River Volunteer Fire Department and the Lee County Sheriff's Department will be available at the Lee County EOC for interview by the FEMA evaluator. Personnel will demonstrate back-up route alerting on a selected route in Zone "J" if desired by the evaluator. Interviews and driving of an actual route will be accomplished between **1900 to 2100 EDT.**

Wake County

Units for back-up route alerting in Evacuation Zones "D" and "G" will be staged in Fuquay-Varina Staging Area. These units will be available for interview by the FEMA evaluator. Personnel will demonstrate back-up route alerting on a selected route in Zone "G" if desired by the evaluator. Interviews and driving of an actual route in Zone "G" will be accomplished between **1900 - 2100 EDT** from the Fuquay-Varina Staging Area.

Harnett County

Northwest Harnett Volunteer Fire Department will be available at the Northwest Harnett Fire Department Main Station for interview by the FEMA evaluator. Personnel will demonstrate back-up route alerting on a selected route in Zone "H" if desired by the evaluator. Interviews and driving of an actual route will be accomplished between **1900 – 2030 EDT.**

OBJECTIVE #11
Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

STATE OF NORTH CAROLINA

The State of North Carolina Emergency Alerting System Coordinator will coordinate the content of a message and activate the EAS message at Site Area Emergency and General Emergency. The message will be consistent with latest FEMA guidance on EAS in accordance with FCC Part 11. Upon reaching concurrence the State will conduct the countdown. The EAS coordinator at the State will contact the LP-1 and read the message. Public Information Officers in the JIC will follow up on the EAS activation with news releases containing additional information. Simulated activation of NOAA radios will also be conducted.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

County EOC's will be responsible for emergency public information and instructions. The EPZ counties and the State will coordinate and concur with the content of EAS messages. At Site Area Emergency, Wake County will be responsible for contacting the LP1station, through the EAS Coordinator. At General Emergency, the State of North Carolina will be responsible for contacting the LP1 station.

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

The State of NC Public Information Staff will serve as support staff to the County PIO during the activation of the JIC. State PIO staff will assist the county PIO's with the development of news releases and participate in media briefings to answer questions concerning State activities and resources. When the State assumes direction and control the State Lead PIO will take the lead role for off-site public Information. State PIO will develop and issue news releases and participate in media briefing at the JIC

CHATHAM, HARNETT, LEE and WAKE COUNTIES

The respective Counties will have public information officers in both the county EOC and the Joint Information Center (JIC). They will work together to develop news releases, obtain approval from appropriate county officials, and address the mock media during press briefings. Once the JIC is activated, all news releases will come from that location.

OBJECTIVE #13
Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

STATE OF NORTH CAROLINA

Rumor Control will be handled by the State Public Information Officers assigned to the State EOC, in Raleigh, until such time as the JIC is activated. At that time, the State will provide rumor control at the JIC. If a rumor control call comes in that needs to be clarified or suppressed, the PIO should develop a news release to directly suppress the rumor or address the rumor at a news conference. The Evaluator will be provided a copy of the news release that was issued to suppress the rumor.

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

The County Public Information staff in each county will handle rumor control calls until such time the JIC is activated. Following activation of the JIC, all rumor-control calls will be transferred to that location. News releases will be developed to address concerns from the rumor control calls.

OBJECTIVE #14
Demonstrate the capability to implement potassium iodide (KI) protective actions for emergency workers, institutionalized individuals, and if the State plan specifies the general public.

STATE OF NORTH CAROLINA

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

CHATHAM, HARNETT, LEE, and WAKE COUNTIES

Counties will discuss distribution actions and dose administration procedures with the Federal Evaluator at the County EOC's.

OBJECTIVE #16
Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency-planning zone.

WAKE COUNTY

Protective Actions – Schools

This objective will be demonstrated by discussion only, with appropriate Evacuation Zones "D" and "G" school officials. Interview by the evaluators will occur "off scenario" at Fuquay-Varina Senior High School, Thursday May 5, 2000 at 10:00 am.

- Fuquay-Varina Senior High School
- Fuquay-Varina Middle School
- Lincoln Heights Elementary School

The Transportation Supervisor for the Fuquay-Varina area will also be available for interview.

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 man assigned Traffic Control Points (TCP's) and Security Road Blocks (SRBs) in Chatham, Harnett and Lee Counties.

CHATHAM HARNETT, LEE AND WAKE COUNTIES

Traffic control points/security roadblocks will be demonstrated 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 of the locations demonstrated then the selected law enforcement officer will be available to go with the Federal Evaluator to a TCP/SRB during the hours indicated for the individual county during the evaluated exercise.

CHATHAM COUNTY

The NC State Highway Patrol will man the Chatham County traffic control points and security roadblocks. Once notified, the SHP will send representatives to the EOC. All personnel will be provided appropriate dosimetry and dose cards according to their assignments. Traffic control points and security roadblocks to be demonstrated are:

TCP #4 (US 15-501 at Northwood High School Road [SR 1599]) – Highway Patrol
TCP #7 (SR 1012 and SR 1952) – Highway Patrol
SRB #2 (US 1[New] and SR 1011) – Highway Patrol
SRB #5 (US 1 [New] and SR 1972) – Highway Patrol

Demonstrations will take place between **1700 to 1800 EDT.**

HARNETT COUNTY

In Harnett County, traffic control points and security roadblocks are manned by State Highway Patrol. Once notified, the SHP will send representatives to the County EOC, All personnel will be provided appropriate dosimetry and dose cards according to their assignments. Traffic control points and security roadblocks to be demonstrated are:

TCP #1 (SR 1415 at US Hwy 401) – Highway Patrol
TCP #4 (SR 1403 at US Hwy 401) – Highway Patrol
SRB#2 (SR 1412 at SR 1418) – Highway Patrol

Demonstrations will take place between **1700 to 1830 EDT.**

LEE COUNTY

In Lee County, the Sanford Police Department and State Highway Patrol will man traffic control points and security roadblocks. Once notified by the appropriate law enforcement agency representative in the County EOC, Highway Patrol State Troopers and Sanford Police officers will report to the EOC. All personnel will be provided appropriate dosimetry and dose cards, according to their assignments. Traffic control points and security roadblocks to be demonstrated are:

TCP#17 (NC 78 and SR 1160) – Sanford PD. (Field demonstrate to correct 1997 ARCA)
SRB#1 (SR 1466 and SR 1431) – Highway Patrol
SRB#2 (US1 and SR 1426) – Highway Patrol

Demonstrations will take place between the hours of **1700 to 1800 EDT.**

WAKE COUNTY

Traffic control points and security roadblocks will be coordinated by the Wake County Sheriff's Department (WCSO). Once notified by the WCSO representative in the County EOC, law enforcement personnel will report to the Fuquay-Varina Staging Area. Personnel will be provided appropriate dosimetry and dose cards according to their assignments. Traffic control points demonstrated in this exercise are:

TCP#31(NC 42 and SR 1104) - Wake County Sheriff's Department
TCP#32 (NC 55 and SR 1110) - Wake County Sheriff's Department
TCP#33 (NC 55 and 1113) - Wake County Sheriff's Department

Demonstrations will take place between **1830 and 2000 EDT.**

OBJECTIVE #18

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

Chatham County

Chatham County Department of Social Services and Red Cross will open Northwood High School for a reception center. Department of Social Service's staff will complete registration of 6 individuals. North Chatham VFD will be responsible for personnel monitoring and decontamination. Monitoring personnel will monitor six (6) evacuees. The process for decontamination will be simulated via a walk through. Two (2) general public vehicles will be monitored and decontaminated. Demonstration will take place between **1900 and 2000 EDT.**

Harnett County

Harnett Central High School will be opened for a reception center. Monitoring personnel will be present to monitor six (6) evacuees. The process of decontamination will be simulated via a walk through. Two (2) general public vehicles will be monitored and decontaminated. This demonstration will take place between **1900 and 2030 EDT.**

Lee County

Greenwood Elementary School will be opened as a reception center. Monitoring personnel will be present to monitor six (6) evacuees. The process of decontamination will be simulated via a walk through. Two (2) general public vehicles will be monitored and decontaminated. This demonstration will take place between **1900 and 2100 EDT.**

Wake County

North Garner Middle School will be opened as reception center. Monitoring personnel will be present to monitor six (6) evacuees. The process of decontamination will be simulated via a walk through. Discussion and demonstration will take place on Tuesday, June 27, 2000 from **0900 - 1100 EDT.**

Vehicle monitoring and decontamination of two (2) general public vehicles will be demonstrated near Wake Technical Community College Center. (Due to ongoing school activity the exact decontamination site as specified in the Wake County SOP will be occupied by student vehicles. If this area were needed for actual decontamination, classes would be interrupted and vehicles moved from the area by students or tow trucks.) This demonstration will take place Monday, June 27, 2000 from **1900 - 2030 EDT.**

OBJECTIVE #19
Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for the congregate care of evacuees.

CHATHAM, HARNETT, and LEE COUNTIES

Using established guidelines, the respective County Departments of Social Services and American Red Cross personnel will discuss and demonstrate the registration procedures for six (6) evacuees at congregate care facilities at the following locations:

Chatham County - Northwood High School between **1900** and **2000 EDT;**

Harnett County - Harnett Central High School between **1900** and **2030 EDT;**

Lee County - Greenwood Elementary School between **1900** and **2100 EDT;**

The Manager, registration personnel, and medical support staff will be available at the center for interviews.

WAKE COUNTY

Garner High School will be opened as a congregate care center. The Facility Manager, registration personnel, and medical support staff will be available for interviews and walkthrough of the center. This demonstration will take place between **1800 - 1900 EDT.**

OBJECTIVE #20
Demonstrate the adequacy of vehicles, equipment procedures, and personnel for transporting contaminated, injured, or exposed individuals.

WAKE COUNTY

Medical Services – Transportation

The Apex Rescue Squad and appropriate area fire department will respond to an accident scene. The Apex Rescue Squad will prepare the victim to prevent the spread of contamination and transport the contaminated, injured patient to Wake Medical Center. Field responders will monitor patient at the scene. Patient will be monitored at Wake Medical Center. Demonstration will occur on **Thursday, May 4, 2000** at **1800 EDT.** (In conjunction with Objectives #21 and #22.) (Apex Rescue Squad to correct an 1998 MS-1 ARCA)

OBJECTIVE #21
Demonstrate the adequacy of equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

WAKE COUNTY

Medical Services – Facility

The Wake Medical Center staff will demonstrate the ability to receive and treat an injured, contaminated patient in accordance with appropriate standards. Demonstration of this capability will occur on **Thursday, May 4, 2000**, beginning at approximately **1800 EDT.** (In conjunction with Objectives #20 and #22.)

OBJECTIVE #22
Demonstrate the adequacy of procedures for the monitoring and decontamination of emergency workers, equipment, and vehicles.

CHATHAM, HARNETT, and LEE COUNTIES

Each County will establish and demonstrate the functions of an Emergency Worker Decontamination Station. Monitors will be present for monitoring personnel, equipment, and vehicles. One (1) person and one (1) vehicle will be monitored. Decontamination of personnel will be simulated via a walk through and discussion. One vehicle will be decontaminated for demonstration purposes.

Chatham County - At the FirstHealth of the Carolina's base, located at 1456 US 64 East between **1930** and **2030 EDT** (To correct 1997 ARCA)

Harnett County- At the Angier Fire Department, 309 North Broad Street, Anger between **1930** and **2100 EDT**

Lee County - At the Northview Fire Department, 104 Perkenson Road, Sanford between **1900** and **2100 EDT.**

WAKE COUNTY

To correct a previous ARCA, Emergency Worker decontamination will be demonstrated at Raleigh Fire Department Station #12. (NOTE: The ARCA is for Fire Station #12, not #2 as noted in FEMA documents. Both the State and Wake County have previously noted this inaccuracy in the 1997 Exercise Report response.) Firemen will monitor Apex Rescue Squad personnel and their ambulance. The firemen will demonstrate their ability to monitor and decontaminate the ambulance. This objective will be demonstrated on **Thursday, May 4, 2000,** in conjunction with the MS-1 Drill Objectives #20 and #21.

OBJECTIVE #23
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

DRP and NCEM will demonstrate objective with appropriate requests for resources from the private sector, federal government and other states as determined by the exercise scenario.

CHATHAM, HARNETT and LEE COUNTIES

The Counties will demonstrate this objective by requesting assistance from NCSHP to man the traffic control points and security roadblocks.

WAKE COUNTY

Wake County will demonstrate this objective by requesting additional assistance from the NCSHP in the performance of traffic control point operations. The request will be made from the Wake County EOC to the NC State EOC to have a number of troopers and their patrol vehicles report to the Fuquay-Varina Staging Area for assignment to field locations.

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events, Exercise Scenario, which was used as the basis for invoking emergency response actions by OROs in the Shearon Harris Nuclear Power Plant exercise on June 27, 2000.

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

00-FEMA TIME LINE (15:00 - 22:00)	
15:00	Start of drill related activities at the Harris Site.
15:07	Loss of Control Room Annunciators (alarm indications).
15:22	**Unusual Event** for extended (>15 min.) loss of annunciators.
16:00	Loss of a Main Feed Water Pump, Turbine Run Back (automatic power reduction transient), extended loss of annunciators with a transient in progress = **Alert.**
16:15	Reactor Coolant activity level increase is detected. Fuel Fission Product Barrier (FPB) is classified as "Breached."
16:56	A Control Bank Rod will become physically bound as a result of fuel rod bowing within the associated region of the reactor core.
17:23	Steam Generator tube leakage occurs.
17:34	The Reactor Coolant System to Steam Generator leak rate will exceed the requirements to classify the RCS FPB as breached. Two (2) FPBs breached (Fuel & RCS) results in a **Site Area Emergency.** The activity which enters the secondary system will be processed and release from the plant's Turbine Building Vent Stack. There will be a slight Noble Gas release which will result in detectable (µR/hr) off-site doses. Notification to off-site authorities should include the fact that an "Emergency Release" is in progress (filtered). The release, other than Noble Gases, will be at or near "normal release limits."
19:10	The controlled shutdown of the reactor is anticipated to be complete at approximately this time.
20:08	The plant cool down/pressure decrease is in progress when an unanticipated opening of one of the affected Steam Generator Safety Relief Valves. This will result in classification of the Containment FPB as breached and declaration of a **General Emergency.** The open safety valve results in a more significant off-site radiological release. This release contains some Iodine and Particulate activity contribution with measured doses off-site in the mR/hr range. Notification to off-site authorities should include PARs for 2 mile radius and 5 miles downwind (Evacuate "A" & "K"). Dose assessment results will confirm the adequacy of the plant condition based PARs (no need to evacuate any further than 2/5).
21:10	Release from the S/G safety valve is stopped by local manual action.
21:30 - 22:00	Anticipated Drill Termination.

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NOT FOR DISTRIBUTION TO EXERCISE PLAYERS

2008 hrs	The plant cooldown/pressure decrease is in progress when an unanticipated opening of one of the affected Steam Generator Safety Relief Valves occurs. This will result in classification of the Containment FPB as breached and **DECLARATION OF A GENERAL EMERGENCY.** This event also results in a more significant off-site radiological release. This release also contains some iodine and particulate activity contribution with measured doses off-site in the mR/hr range. Notification to off-site authorities should include PARs for a 2-mile radius and 5-miles downwind (evacuate Zones "A" and "K").
2020 hrs	Notification of a General Emergency made to State and County EOCs. The State and Counties will use the Decision Line to discuss and agree upon protection action decisions. They will select an appropriate EAS message and the State will take the lead role in coordinating activation of the sirens (simulated) and request to the EAS station and the NWS for activation of the EAS message (simulated).
2110 hrs	Release from the Steam Generator safety valve is stopped by local manual action.
2130 – 2200 hrs	Exercise is terminated upon completion of all exercise demonstration criteria as identified in the Harris Exercise Extent of Play.