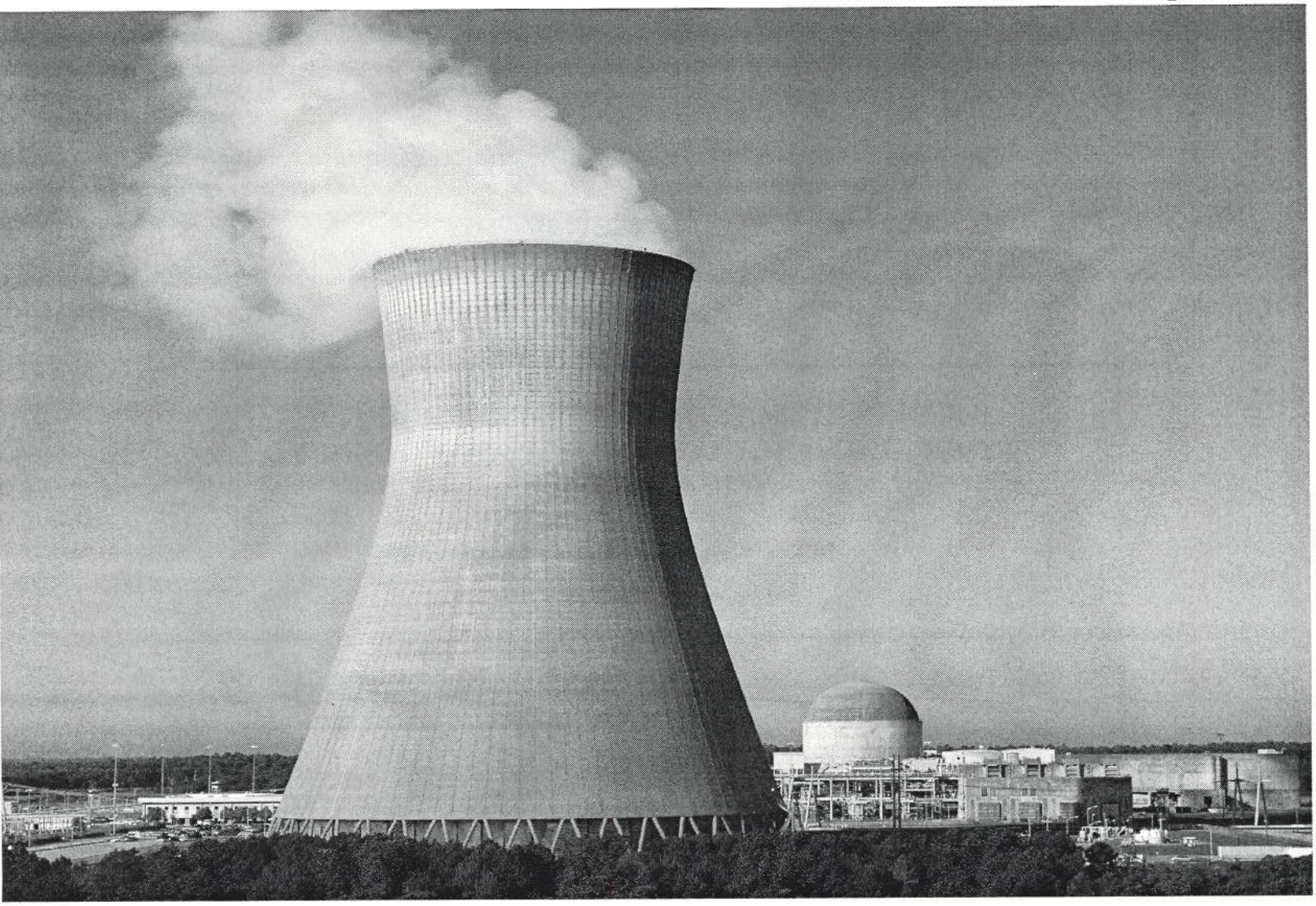
Harris Nuclear Plant Exercise
April 10, 2007
Final Report - Radiological Emergency Preparedness Program

July 17, 2007

FEMA

FEMA Region IV



FEMA

Final Exercise Report

Harris Nuclear Plant

Licensee:	**Progress Energy**
Exercise Date:	**April 10, 2007**
Report Date:	**July 17, 2007**

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION IV

3003 Chamblee-Tucker Road
Atlanta, Georgia 30341

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I. EXECUTIVE SUMMARY

On April 10, 2007 the Department of Homeland Security, Federal Emergency Management Agency (FEMA), Region IV, Radiological Emergency Preparedness (REP) Program staff evaluated a plume exposure pathway exercise in the emergency planning zone (EPZ) around the Harris Nuclear Plant. The evaluation of out-of-sequence activities during the week of March 19 is included in this report. The activities included: protective actions for schools; waterway warning; backup route alerting; emergency worker decontamination stations; and reception and congregate care centers.

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 and procedures. The previous Federally evaluated exercise was conducted on April 5, 2005. The qualifying emergency preparedness exercise was conducted February 28, 1987.

Officials and representatives from the State of North Carolina, Chatham, Harnett, Lee and Wake Counties, the Nuclear Regulatory Commission, Region II, and Progress Energy as well as numerous volunteers participated in this exercise. The cooperation and teamwork of the participants were evident throughout all the phases of the exercise. Particularly worthy of note was the high quality and consistency of the risk county standard operating guides (SOG), which were very concise and clear. FEMA wishes to acknowledge the efforts of the many individuals who participated and made the exercise a success.

State and local organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. Two Areas Requiring Corrective Actions (ARCA) were identified. The first ARCA concerned the need for better coordination and training of State and county staffs at the Joint Information Center (JIC). The second ARCA concerned Lee County's initial siren activation and a lack of sufficient training on the siren activation procedures for Lee County by 911 communications center personnel. The Emergency Management director provided on the spot training and all other siren activations were successfully demonstrated, thereby correcting the identified ARCA.

II. INTRODUCTION

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume the lead responsibility for all offsite nuclear planning and response. FEMA became a part of the Department of Homeland Security with its creation in 2002. The Radiological Emergency Preparedness (REP) Program conducts its activities pursuant to Title 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the REP Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

Title 44 CFR 350 establishes the policies and procedures for the REP Program'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 (FNF) include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of radiological emergency response plans (RERP) 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 from the Nuclear Regulatory Commission (NRC) to the REP Program pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, September 14, 1993).

- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:

    - Department of Agriculture
    - Department of Commerce
    - Department of Energy
    - Department of Health and Human Services
    - Department of Homeland Security
    - Department of the Interior
    - Department of Transportation
    - Environmental Protection Agency
    - Food and Drug Administration and
    - Nuclear Regulatory Commission.

Field 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 Harris Nuclear Plant to FEMA 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 evaluated on April 10, 2007, and included evaluations of the following out-of-sequence activities held from March 19 through 22, 2007:

- Chatham County: Backup route alerting at Moncure Fire Department on March 21, 2007; protective actions for schools at Moncure Elementary School on March 22, 2007; emergency worker and vehicle decontamination at Pittsboro Fire Department Station 12 on March 21, 2007; reception and congregate care at Jordan Matthews High School; and waterway warning at Jordan Lake on March 22, 2007.

- Harnett County: Backup route alerting at Northwest Harnett Fire Department on March 20, 2007; emergency worker and vehicle decontamination at Angier Black River Fire Department on March 19, 2007; and reception and congregate care at Harnett Central Middle School on March 20, 2007.

- Lee County: Backup route alerting at Deep River Fire Department on March 19, 2007; emergency worker and vehicle decontamination at Northview Fire Department on March 19, 2007; and reception and congregate care at Southern Lee High School on March 20, 2007.

- Wake County: Backup route alerting at the Apex Fire Department Station on March 20, 2007; protective actions for schools at Apex High School on March 21, 2007; emergency worker and vehicle decontamination at Raleigh Fire Station 14 on March 22, 2007; reception and congregate care at Sanderson High School on March 21, 2007; and waterway warning at Harris Lake on March 20, 2007.

FEMA assessed the capabilities of State and local emergency preparedness organizations to implement their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Harris Nuclear Plant. This report presents the results of the exercise and findings on the performance by offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented are based on the evaluations of the Federal evaluator team, with final determinations being made by the RAC Chair and final approval by the FEMA Region IV Regional Administrator.

The criteria used in the 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 "Interim Radiological Emergency Preparedness Manual," dated August 2002.

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

Section IV, entitled "Exercise Evaluation and Results," presents summary information on the demonstration of applicable exercise criteria at each jurisdiction or functional entity evaluated in a results only format.

III. EXERCISE OVERVIEW

This section contains data and basic information relevant to the April 10, 2007, exercise and out-of-sequence activities that occurred during the week of March 19-22, 2007. The purpose of the exercise was to test Federal, State and local response capabilities in the area surrounding the Harris Nuclear Plant.

A. Plume Emergency Planning Zone Description

The Harris Nuclear Plant, operated by Progress Energy, is located in the Southwest corner of Wake County, approximately 22 miles southwest of Raleigh, North Carolina and 22 miles northeast of Sanford, North Carolina. The 10-mile EPZ encompasses portions of Chatham, Harnett, Lee, and Wake Counties. Approximately 61,845 people live within the 10-mile EPZ. The primary land use around the plant is agricultural with some light manufacturing. The Jordan Lake and Harris Lake recreational areas fall within the 10-mile EPZ. US 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 Chessie Seaboard (CSX) railroads. The EPZ is sub-divided into 14 protective action zones lettered A through N.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the Harris Nuclear Plant exercise on April 10, 2007.

STATE OF NORTH CAROLINA

Governor's Office
- Public Information
- Office of Citizen's Affairs

Department of Crime Control and Public Safety
- Division of Emergency Management
- State Highway Patrol
- National Guard
- Public Affairs Office

Department of Environment and Natural Resources
- Division of Environmental Health,
  - Radiation Protection Section
- Division of State Parks
- Wildlife Resources Commission

Department of Health and Human Services
- Division of Public Health,
  - Office of Public Health and Response
- Division of Facility Services

FEDERAL AGENCIES

Nuclear Regulatory Commission, Region II
U.S. Army Corps of Engineers

RISK JURISDICTIONS

Chatham County
- Emergency Management
- Emergency Medical Services
- Fire/Rescue
- Sheriff's Office
- Moncure Elementary School
- Social Services
- Health Department
- Mental Health Department

Harnett County
- Emergency Management
- Emergency Medical Services
- Fire/Rescue
- Sheriff's Office
- Social Services
- Health Department
- Mental Health Department

Lee County
- Emergency Management
- Emergency Medical Services
- Fire/Rescue
- Sheriff's Office
- Social Services
- Health Department
- Sanford City Police
- Sanford Fire Department

Wake County
- Emergency Management
- Emergency Medical Services
- Fire/Rescue
- Sheriff's Office
- Human Services
- Health Department
- Environmental Services
- Public School System
- General Services
- Geographical Information Services (GIS)
- Community Services
- Fuquay-Varina Police Department
- Fuquay-Varina Fire Department
- Apex Fire Department

Apex Police Department
Raleigh Fire Department

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross (All County Chapters)
Amateur Radio Emergency Services (All County Chapters)
Harnett County
- Angier/Black River Volunteer Fire Department
- Buies Creek Volunteer Fire Department
- Coats-Grove Fire and Rescue Department
- Northwest Harnett Volunteer Fire Department
- Summerville Volunteer Fire Department

Chatham County
- Chatham County Chapter of the First Carolinas
- Moncure Volunteer Fire Department
- North Chatham Volunteer Fire Department
- Pittsboro Volunteer Fire Department
- Siler City Volunteer Fire Department

Lee County
- Northview Fire Department
- Lemon Springs Fire Department
- Deep River Volunteer Fire Department

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Harris Nuclear Plant exercise on April 10, 2007. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

DATE AND SITE: April 10, 2007 - Harris Nuclear Plant

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken							
		SERT/ SEOC	Central Branch	RPS	JIC	Chatham County	Harnett County	Lee County	Wake County
Notice of Unusual Event									
Alert	0836	0856	0859	0859	n/a	0853	0849	0850	0913
Site Area Emergency	1008	1023	1010	1022	1014	1013	1017	1020	1022
General Emergency	1234	1252	1256	1238	1234	1253	1252	1248	1244
Simulated Rad Release Started	1315	1320	1320	1320	1325	1314	1334	1334	1315
Simulated Rad Release Ended	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing	ongoing
Facility Declared Operational		0905	0915	0907	1023	0912	0900	0930	0955
Declaration of State of Emergency									
State		1105	1120		1145	1245	1203	1105	1105
Local					1110H	1322	1110	1059	
Exercise Terminated	1510	1513	1510	1518	1520	1513	1513	1514	1510
Early Precautionary Actions:									
Evacuate Schools/Special Needs Facilities						0944	0915	1051/1125	1030
Clear Lake Jordan						0944			
Clear Lake Harris and Park						0944			1030
Clear Rivers							0913	1038	
1st Protective Action Decision: Public Warning		1025	1025			1025	1025	1025	1025
1st Siren Activation		1035	1035			1035	1035	1118	1035
1st EAS Message		1040	1040			1040	1045	1040	1040
1st NWS Message		1048	1048			1048	1048	1048	1048
2nd Protective Action Decision:		1310	1310	1310	1310	1310	1310	1310	1310
Evacuate Zones: A, B, C and D									
Shelter in Place Zones: E through N									
2nd Siren Activation		1315	1315	1315	1315	1315	1315	1315	1315
2nd EAS Message		1320	1320	1320	1320	1320	1320	1320	1320
2nd NWS Message		1325	1325	1325	1325	1325	1325	1325	1325
3rd Protective Action Decision: *		1335	1335	1335	1335	1335	1335	1335	1335
Evacuate Zones: A, B, C and D									
Shelter in Place Zones: E through N									
3rd Siren Activation		1340	1340	1340	1340	1340	1340	1340	1340
3rd EAS Message		1345	1345	1345	1345	1345	1345	1345	1345
3rd NWS Message		1350	1350	1350	1350	1350	1350	1350	1350
KI Ingestion Decision:									
Emergency Workers		1310	1310	1255		1330	1409	1320	1335
General Public									

* Change in EAS/NWS Message only concerning release of radioactive material from the plant.

IV. EXERCISE EVALUATION AND RESULTS

This section contains the results and preliminary findings of the evaluation for all jurisdictions and functional entities that participated in the exercise on April 10, 2007 and out of sequence activities during the exercise week. The exercise tested the offsite emergency response capabilities of State and local governments within the 10-mile EPZ around the Harris Nuclear Plant.

Each jurisdiction and functional entity was evaluated based on their demonstration of criteria as delineated in FEMA "Interim Radiological Emergency Preparedness Manual," dated August 2002. Detailed information on the exercise criteria and the extent-of-play agreement used are found in Appendix 3 of this report.

A. Table 2: Summary of Results of Exercise Evaluation -

The matrix presented in Table 2, on the following page, presents the status of all exercise criteria that were scheduled for demonstration during this exercise, by all participating jurisdictions and functional entities. Exercise criteria are listed by number. The demonstration status of those criteria 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: April 10, 2007 - Harris Nuclear Plant

ELEMENT/Sub-Element	STATE SERT/ SEOC	Dose Assess RPS	Central Branch Office	JIC	EOF	Chatham County	Harnett County	Lee County	Wake County
1. EMERGENCY OPERATIONS MANAGEMENT									
1.a.1. Mobilization	M	M	M	M	M	M	M	M	M
1.b.1. Facilities									
1.c.1. Direction and Control	M	M	M		M	M	M	M	M
1.d.1. Communications Equipment	M	M	M		M	M	M	M	M
1.e.1. Equipment & Supplies to Support Operations	M	M	M	M	M	M	M	M	M
2. PROTECTIVE ACTION DECISION MAKING									
2.a.1. Emergency Worker Exposure Control	M	M				M	M	M	M
2.b.1. Rad Assessment & PARs Based on Available Information		M							
2.b.2. Rad Assessment & PADs for the General Public	M	M				M	M	M	M
2.c.1. Protective Action Decisions for Special Populations						M	M	M	M
2.d.1. Rad Assessment & Decision Making for Ingestion Exposure									
2.e.1. Rad Assessment & Decision Making for Relocation, Re-entry & Return									
3. PROTECTIVE ACTION IMPLEMENTATION									
3.a.1. Implementation of Emergency Worker Control		M			M	M	M	M	M
3.b.1. Implementation of KI Decisions					M	M	M	M	M
3.c.1. Implementation of PADs for Special Populations						M	M	M	M
3.c.2. Implementation of PADs for Schools						M			M
3.d.1. Implementation of Traffic & Access Control						M	M	M	M
3.d.2. Impediments to Evacuation & Traffic & Access Control						M	M	M	M
3.e.1. Implementation of Ingestion Decisions Using Adequate Info									
3.e.2. Implementation of IP Decisions Showing Strategies & Instr. Materials									
3.f.1. Implementation of Relocation, Re-entry & Return Decisions									
4. FIELD MEASUREMENT & ANALYSIS									
4.a.1. Plume Phase Field Measurement & Analysis Equipment									
4.a.2. Plume Phase Field Measurement & Analysis Management		M							
4.a.3. Plume Phase Field Measurements & Analysis Procedures									
4.b.1. Post Plume Field Measurement & Analysis									
4.c.1. Laboratory Operations									
5. EMERGENCY NOTIFICATION & PUBLIC INFO									
5.a.1. Activation of Prompt Alert & Notification	M					M	M	M*	M
5.a.2. Activation of Prompt Alert & Notification 15-Minute (Fast Breaker)									
5.a.3. Activation of Prompt Alert & Notification Backup Alert & Notification						M	M	M	M
5.b.1. Emergency Info & Instructions for the Public & the Media	M			A		M	M	M	M
6. SUPPORT OPERATIONS/FACILITIES									
6.a.1. Monitoring & Decon of Evacuees & EWs & Registration of Evacuees						M	M	M	M
6.b.1. Monitoring & Decon of Emergency Worker Equipment						M	M	M	M
6.c.1. Temporary Care of Evacuees						M	M	M	M
6.d.1. Transport & Treatment of Contaminated Injured Individuals									

LEGEND: M = Met **A** = ARCA **D** = Deficiency

*** ARCA identified and corrected through remedial training and re-demonstration.**

B. Status of Jurisdictions Evaluated

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

- **Met** - Listing of the demonstrated exercise criteria 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 criteria 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 criteria under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises that remain unresolved. Included is a description of the ARCA 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 criteria, which were not demonstrated as scheduled during this exercise and the reason, they were not demonstrated.

- **Prior ARCAs - Resolved** – Description(s) of ARCA(s) assessed during previous exercises, which were resolved in this exercise and the corrective actions demonstrated.

- **Prior ARCAs - Unresolved** – Description(s) of ARCA(s) 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 may be discussed in this report.

- A **Deficiency** is defined in the REP Manual 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 the REP Manual 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."

1. STATE OF NORTH CAROLINA

1.1 State Emergency Operations Center

The North Carolina State Emergency Response Team (SERT) Director effectively led the State's emergency response actions in the state emergency operations center (SEOC). The SERT Director announced significant developments and periodically kept the SEOC staff informed of key events and critical decisions. SERT personnel were knowledgeable of their responsibilities and smoothly coordinated necessary actions with the four risk counties and other State and Federal agencies.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 5.a.1 and 5.b.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs – RESOLVED:** NONE

f. **PRIOR ARCAs – UNRESOLVED:** NONE

1.2 Dose Assessment

The North Carolina Department of Environment and Natural Resources, Radiation Protection Section (RPS) personnel were well trained. Dose Assessment staff performed 16 computer runs to determine the projected dose rates to individuals downwind of the plant and what protective actions would be necessary to prevent exceeding protective action guide levels. The RPS Director made effective use of the dose projections to assist her in making protective action recommendations (PAR) to the SERT Leader. The RPS Director communicated with her staff and other organizations to keep field team emergency worker exposure as low as reasonably achievable. The RPS staff interfaced with the Director of Health representative to determine if it was necessary to issue potassium iodide (KI) to the general public. These activities resulted in timely decisions to protect the health and safety of the general public and emergency workers.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 3.a.1 and 4.a.2

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 Central Branch

The Central Branch Office Regional Coordination Center (CBO-RCC) participated in the response to a simulated emergency at the Harris Nuclear Plant by monitoring the events and providing support and assistance as required. The staff proactively prepared to provide assistance, anticipating the information requests from the SEOC, and provided their expertise during conference calls conducted over the Decision Line. The CBO-RCC staff was thorough and professional in executing their responsibilities.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1 and 1.e.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs – RESOLVED:** NONE

f. **PRIOR ARCAs – UNRESOLVED:** NONE

1.4 Emergency Operations Facility

The Harris Nuclear Plant 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 between and among the State officials deployed to the EOF, and with the utility operator and the State Emergency Operations Center (SEOC), were outstanding.

All officials deployed to the EOF were well trained, knowledgeable, followed applicable procedures and overall performed their respective responsibilities in an efficient and professional manner.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.1, 3.a.1, 3.b.1 and 5.a.3

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

1.5 Joint Information Center

The Progress Energy, State of North Carolina, Chatham, Harnett, Lee and Wake County staffed Joint Information Center (JIC) was established within 83 minutes of the first utility staff member arriving in the facility. State and county coordination did not lead to an effective JIC operation. After the JIC was established four media briefings were conducted and total of 44 messages were developed.

a. **MET:** Criteria 1.a.1 and 1.e.1

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** 5.b.1

Issue No.: 030-07-A-5.b.1-01

Condition: State and local representatives staffing the JIC failed to follow established plans and procedures that would have enabled effective JIC function. State and local public information officers (PIO) did not effectively coordinate their actions. County news releases were not processed through the system quickly, resulting in a minimal flow of county news releases to the media. State and county PIOs did not effectively coordinate with rumor control personnel, and the process for reviewing messages prior to release from the JIC was ineffectual. Progress Energy personnel were unaware of State and local procedures that impacted their mission to effectively communicate emergency information to the public.

Possible Cause(s):

During this exercise many of the JIC representatives from State and local governments were new and had not received an adequate level of joint training to effectively carry out their duties. They did not understand the concept of the joint information system and the procedures used to effectively carry out the JIC mission of providing accurate and timely emergency instructions and information to the media and public.

Although the JIC is a joint Progress Energy and State and local government operation each organization in the JIC had separate procedures that were not examined by all parties prior to the exercise to ensure understanding of each others' operation and how they would interface.

Reference: NUREG-0654/FEMA-REP-1, Rev. 1: G. 4.

Effect: The lack of familiarity with procedures resulted in the following major problems:

a. The media representatives at the JIC were not provided copies of the news releases developed by the counties, which precluded the media from providing a valuable service in the transfer of information to the public.

b. The limited sharing of inter-jurisdictional government and utility information precluded an effective review of messages generated in the EOCs for accuracy and timeliness.

c. Rumor control personnel were not provided sufficient information to enable them to effectively and accurately respond to queries from the public.

d. Emergency alert system (EAS) follow-up emergency information messages did not meet the timeline prescribed in the North Carolina radiological emergency response plan (RERP) ("no later than 20 minutes following EAS activation"- Annex D, page D-3).

e. Incorrect/incomplete information was provided pertaining to cost recovery for members of the public.

Recommendation(s):

a. Compare the JIC SOG against the State and county plans and procedures.

b. Develop compatible JIC operational procedures/guides for the State, Chatham, Harnett, Lee and Wake Counties, and Progress Energy.

c. Develop a training program for State and county PIOs and support personnel. Include in the training program a schedule for regular participation in joint drills with the utility focused on emergency public information.

Schedule of Corrective Action: The North Carolina Department of Crime Control and Public Safety (CCPS) Public Affairs Office (PAO) Director reviewed in detail the exercise activity with the FEMA JIC Lead Evaluator. Following that review the Director initiated discussions and facilitated meetings with State and county public information officers and emergency management staff to identify specific communi8cations breakdowns in the JIC during the exercise and to develop a plan to address and remediate the challenges identified during the exercise and subsequent discussions. Corrective actions include the following:

a. Conduct a special half-day training session on June 7, 2007 geared toward REP JIC operations associated with Progress Energy.

b. Conduct a review of State Standard Operating Procedures review and correlation with County and Progress Energy SOP/SOGs from May 18 to June 15, 2007.

c. Review and revise pre-scripted news releases, JIC status boards and maps for nuclear drills/incidents by June 25, 2007.

d. Conduct two Basic Public Information Officer courses for State and county PIOs that work during nuclear drills/events on June 5-7, 2007 and June 18-19, 2007.

d. NOT DEMONSTRATED: NONE

e. PRIOR ARCAs - RESOLVED: NONE

f. PRIOR ARCAs - UNRESOLVED: NONE

2. RISK JURISDICTIONS

2.1 CHATHAM COUNTY

2.1.1 Emergency Operations Center

The emergency operations center (EOC) was well staffed and highly organized, enabling the Emergency Operations Director to effectively lead the emergency response. The EOC staff universally displayed a proactive approach to problem solving and mission accomplishment. The Director held frequent briefings and actively solicited input from all the represented agencies. The Chatham County Manager and the Mayor of Pittsboro both actively participated in the decision making process during the exercise.

a. MET: Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3 and 5.b.1

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 Protective Actions for Schools

The Moncure Elementary School successfully demonstrated, by interview at the school, its ability to safeguard students, staff and faculty during a radiological emergency. The school principal and his key staff were very well trained on evacuation procedures and routes. The administrative assistant was diligent in maintaining close contact with the County School Superintendent at the EOC to assure the appropriate decisions and necessary information were communicated in a timely and efficient manner. School bus drivers were classified as emergency workers and demonstrated excellent knowledge of dosimetry operation and the use of KI.

a. **MET:** Criteria 1.a.1, 3.a.1, 3.b.1 and 3.c.2

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 Traffic Control Points

State Highway Patrol troopers were very knowledgeable of their plans and procedures for establishing and maintaining traffic control points (TCP) including the use of barricades, signs and traffic cones to block off portions of the roadways. They also coordinated well with officers from Pittsboro and Siler City in accomplishing their mission. They explained the procedures for removing potential impediments to evacuation. The troopers were well trained in the use of dosimetry and KI.

a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1 and 3.d.2

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 and Vehicle Decontamination

The Pittsboro Fire Department successfully demonstrated emergency worker and equipment monitoring and decontamination procedures at Pittsboro Fire Department Station 12. The Incident Commander provided clear and effective commands. The firefighters successfully assembled portable decontamination tents, set up operations and monitored and/or decontaminated emergency workers and vehicles. All personnel were well trained and had the appropriate equipment.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.b.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.1.5 Reception and Congregate Care

A multi-disciplinary team conducted evacuee monitoring, decontamination, registration, and temporary care functions at Jordan Matthews High School in Siler City. The team was composed of representatives from the County Emergency Management, Sheriff's Office, Department of Social Services (DSS), Siler City Volunteer Fire Department, and Randolph/Chatham Chapter of the American Red Cross (ARC). Fire department personnel displayed good monitoring and decontamination procedures, and the Fire Chief made good use of the Department's Command Post vehicle to monitor overall operations and implement emergency worker exposure control measures. The DSS facility manager was well versed on the layout of the facility and made the maximum use of the available space. Each agency successfully and professionally implemented their responsibilities in setting up operations to process evacuees and provide temporary care.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.1.6 Backup Route Alerting

The Moncure Fire Department successfully conducted backup route alerting procedures for emergency notification of the public in the event of siren failure. The Operations Director provided a very thorough briefing on radiation safety, personal dosimetry, KI and communication practices. Prior to being deployed, firefighters were issued personal dosimetry and briefed on their specific tasks. Fire department personnel displayed in-depth understanding of their area alerting procedures, their assigned sub-zones and the routes they would follow.

a. **MET:** Criteria 3.a.1, 3.b.1 and 5.a.3

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.1.7 Waterway Warning

Waterway warning and notification for the Jordan Lake portion of the EPZ was jointly performed by the North Carolina Wildlife Resources Commission (lead agency), the North Carolina State Parks and the U.S. Army Corps of Engineers. The Incident Commander, a North Carolina Wildlife Resources Commission Sergeant, provided effective direction and control throughout the exercise. He ensured the five boat teams were operated safely, had the boat operators radio in their dosimetry readings, and successfully performed the mission within the time standards. All personnel demonstrated excellent knowledge of dosimetry and their roles in the waterway warning mission.

a. **MET:** Criteria 1.d.1, 3.a.1, 3.b.1 and 5.a.3

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

The activation of the EOC was effectively executed in accordance with published plans and procedures. Upon attaining operational status the active participation and leadership demonstrated by the EOC Director, Assistant Director, and Radiation Officer set the tone for a highly professional EOC demonstration. The staff was briefed on a recurring and timely basis, and the energetic and enthusiastic coordination and interface between EOC representatives enabled protective action decisions (PAD) to be prepared for and carried out in a highly efficient manner. Discussions within the EOC were excellent and forward looking. This was indicative of the proactive mindset among both the leadership and response agencies. All members of the EOC staff displayed a positive attitude as they carried out their functions.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.1, 3.d.1, 3.d.2, 5.a.1, 5.a.3 and 5.b.1

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

The State Highway Patrol successfully demonstrated the establishment of TCPs. A trooper at the EOC was interviewed and was knowledgeable about traffic control responsibilities. He accurately described the proper use of dosimetry, was aware of administrative limits and turn back values, and had a basic knowledge of procedures for ingesting and recording the use of KI.

a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1 and 3.d.2

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 and Vehicle Decontamination

The Angier Black River Fire Department successfully demonstrated emergency worker and equipment monitoring and decontamination procedures at the Angier Fire Station. The facility was well set up with signs, barriers and plastic cones which clearly identified areas for entering, vehicle registration, monitoring and decontamination. Clear and effective IC was in place. The emergency workers performed excellent monitoring and decontamination procedures, and were well trained and competent.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.b.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.2.4 Reception and Congregate Care

Harnett County demonstrated evacuee monitoring, decontamination, reception and temporary care functions at Harnett Central Middle School. This was an excellent team effort, composed of representatives from the Buies Creek Fire Department, Coats-Grove Fire and Rescue Department, County Emergency Services, Sheriff's Office, Emergency Medical Services, Department of Health, Department of Mental Health, Department of Social Services, Board of Education, and the Johnson/Harnett Chapter of the ARC. Each agency successfully and professionally implemented their responsibilities in setting up the facility to process evacuees and provide temporary care if needed. Emergency workers displayed excellent monitoring and decontamination procedures, and prevented any cross contamination in the facility.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.2.5 Backup Route Alerting

The Northwest Harnett and Summerville Fire Departments successfully demonstrated backup route alerting procedures for emergency notification of the public at the Northwest Harnett Fire Department. Operations were conducted out of a new facility that was very well set up and organized. The radiological equipment coordinator was thorough in issuing dosimetry, exposure records, and other documents. Emergency management and fire department personnel displayed in-depth understanding of their equipment, alerting procedures, and their assigned tasks, and successfully performed the mission.

a. **MET:** Criteria 3.a.1, 3.b.1 and 5.a.3

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 was staffed with knowledgeable, professional and well trained individuals who successfully demonstrated their capabilities during the exercise. Although the Emergency Management Director had only been on the job for a few months he exhibited excellent command and control and successfully dealt with all situations that occurred during the exercise. The Director maintained communications with the state and other counties and effectively used the Decision Line to obtain information and relay information. Briefings were held on a regular basis and the Director used the knowledge and experience of his staff to ensure proper actions were taken and planning was done to prepare for potential future needs. The County Policy and Control Group (Chairman of the County Commissioners, County Manager, and Assistant County Manager) were present and participated in the decision process for precautionary actions and PADs.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.1, 3.d.1, 3.d.2, 5.a.3 and 5.b.1

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** 5.a.1

Issue No.: 030-07-A-5.a.1-02

Condition: At 1025 Wake County led a joint decision to sound sirens at 1035 and notify the public of the emergency at the Harris Nuclear Plant. Wake County would perform a countdown for activation. At 1035 Sanford 911 dispatcher was in position and waiting for the coordination sequence from Wake County. Wake County told the counties that they would synchronize clocks and countdown for activation. According to the Sanford 911 operator these actions did not occur, therefore, Lee County did not activate their sirens. Sanford 911 personnel continued to wait for further instructions from Wake County. After waiting for approximately 20 minutes for further instructions from Wake County they returned to their normal duties. The Emergency Management Director did not find out that the sirens were not activated until he came into the 911 Center at 1107. At that time he contacted the State and activated the sirens at 1118.

Possible Cause: The Selective Signaling System (SSS) experienced problems throughout the exercise and resulted in participants being unable to communicate. A problem with the SSS may have occurred during this activation process. In addition there was no verification process conducted after the activation was completed. Wake County polled the SSS line to insure all counties were on-line in preparation for activating the sirens but after performing the countdown there was no polling of counties to insure that sirens had actually been activated and had worked properly.

Reference: NUREG-0654 E.5, 6, 7

Effect: Lee County residents were not promptly alerted of the emergency at the Harris Nuclear Plant and therefore would not take the appropriate protective action.

Corrective Action Demonstrated: During the subsequent two siren activations the process worked smoothly and no problems occurred. The North Carolina SEOC conducted a post activation verification process during the second siren activation for a General Emergency (GE) and polled the online counties to verify all counties were successful. During the third siren activation the SEOC also ensured all counties were online in preparation for the siren activation and ensured the activation was successful.

d. **NOT DEMONSTRATED:** NONE

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

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

2.3.2 Traffic Control Points

Personnel from the Sheriff's Office, the State Highway Patrol and the City of Sanford Police Department successfully demonstrated their ability to establish and manage TCPs. The law enforcement officers were knowledgeable in the use of personal dosimetry and radiological exposure control. They had communications equipment and carried a field kit with dosimetry, maps and other appropriate documentation necessary to establish and maintain TCPs and to direct evacuees to shelters.

a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1 and 3.d.2

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.3.3 Emergency Worker and Vehicle Decontamination

The Northview Fire Department successfully demonstrated emergency worker and equipment monitoring and decontamination procedures at the Northview Fire Station in Sanford, North Carolina. The firefighters were knowledgeable of contamination limits, understood their responsibilities, and successfully demonstrated their ability to monitor and decontaminate emergency workers and vehicles. Fire department personnel displayed excellent teamwork throughout the evaluation.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.b.1

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 Reception and Congregate Care

Monitoring, decontamination, registration and congregate care functions were successfully demonstrated at the Southern Lee High School facility. This is a new facility with modern amenities, ample indoor space for activities, and a large parking lot capable of handling large numbers of evacuees and their vehicles. The various agencies involved included the County Emergency Management, Department of Health, Department of Social Services, Sanford Police Department, Sanford Fire Department, Lemon Springs Fire Department and the Lee County Chapter of the ARC. Each agency successfully and professionally implemented their responsibilities in setting up the facility to process evacuees and provide temporary care. Emergency workers displayed excellent monitoring and decontamination procedures, and prevented any cross contamination in the facility.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

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

2.3.5 Backup Route Alerting

The Deep River Fire Department successfully conducted backup route alerting procedures for emergency notification of the public at the Deep River Fire Department in Sanford. The Fire Chief had excellent command and control in place, and the fire department volunteers were all knowledgeable and well prepared. The radiological equipment coordinator was very through and complete in issuing dosimetry, exposure records and other documents. All five routes were completed on time, and the department leadership demonstrated flexibility and innovation when one vehicle became stuck. Although the backup vehicle was not needed when the stuck vehicle self-recovered, fire department leadership was ready to dispatch another vehicle mounted with a portable public address system if necessary. Fire department personnel successfully performed the mission in spite of the circumstances.

a. **MET:** Criteria 3.a.1, 3.b.1 and 5.a.3

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

Leadership in the EOC did an admirable job of managing the staff and workload. The Director held immediate briefings with time-critical updates and periodic briefings on a regular basis with input from the various agency representatives. Coordination was well managed with the other counties and the SERT for decisions regarding public safety. Direction and control was turned over to the SERT at 1043 after the utility declared the site area emergency (SAE) classification. Emergency support function representatives consistently looked forward to begin thinking of actions that would be required at the next classification level. The EOC staff displayed professional and enthusiastic attitudes while performing the required tasks.

a. **MET:** Criteria 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.1, 3.d.1, 3.d.2, 5.a.1, 5.a.3 and 5.b.1

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

The Wake County Public School System (WCPSS) successfully demonstrated its ability to execute protective measures for schools during an interview at Apex High School. Participants in the interview included the principals of Apex high School, Apex Middle School, Baucom Elementary School, Lufkin Road Middle School and from WCPSS Transportation, Risk Management and Communications/Customer Service Divisions. All personnel interviewed were knowledgeable of school district procedures, had individual school policies in place, and took actions to maintain staff, faculty, and parental awareness of evacuation policies and procedures. Procedures included actions to ensure that students with special needs were accommodated.

a. **MET:** Criteria 1.a.1, 3.a.1, 3.b.1 and 3.c.2

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

One officer from the Sheriff's Office successfully demonstrated TCPs. The officer had appropriate dosimetry and verified the correct usage of all dosimetry equipment. He was knowledgeable of general information to assist the public and supplemental information pertaining to emergency worker protection prior to and during TCP operations. The officer also effectively discussed the actions that would be taken to physically establish a TCP and how to obtain logistical backup (e.g. barricades), if required.

a. **MET:** Criteria 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1 and 3.d.2

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 Emergency Worker and Vehicle Decontamination

The Raleigh Fire Department Hazardous Materials (HAZMAT) Team successfully demonstrated emergency worker and equipment monitoring and decontamination procedures at Raleigh Fire Department Station 14. The HAZMAT Team is completely mobile, and can set up operations anywhere in the State of North Carolina, being one of seven designated State response teams. The HAZMAT Team was very well-equipped with personal protective equipment, decontamination supplies, and vehicles with trailers for movement. The HAZMAT Team Lieutenant served as the Incident Commander, and provided clear and effective instructions. HAZMAT Team emergency workers performed excellent monitoring and decontamination procedures, and were well trained and competent.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.b.1

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 Reception and Congregate Care

Wake County had a multiple-agency team conduct evacuee monitoring, decontamination, reception and temporary care functions. The Wake County Department of Human Services was in overall control, assisted by representatives from Emergency Management, Public School System, Department of Health Services, Raleigh Fire Department and Raleigh Police Department. Each agency was successful in implementing their responsibilities in setting up the facility to process evacuees and provide temporary care.

a. **MET:** Criteria 1.e.1, 3.a.1, 6.a.1 and 6.c.1

b. **DEFICIENCY:** NONE

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

d. **NOT DEMONSTRATED:** NONE

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

f. **PRIOR ARCAs – UNRESOLVED:** NONE

2.4.6 Waterway Warning

Waterway warning and notification for the Harris Lake portion of the EPZ was performed by the Sheriff's Office. A Sheriff's Office Lieutenant served as the Incident Commander, who provided effective direction and control throughout the exercise. Both boat teams operated safely. All personnel demonstrated excellent knowledge of dosimetry and KI, and all knew their roles to successfully perform the waterway warning mission.

a. **MET:** Criteria 1.d.1, 3.a.1, 3.b.1 and 5.a.3

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 Backup Route Alerting

The Apex Fire Department and Apex Police Department jointly conducted backup route alerting procedures for emergency notification of the public at the Apex Fire Station. There was an obvious level of teamwork and cooperation between the two departments at both the senior leadership and emergency worker levels that significantly contributed to the successful performance of the mission. The dosimetry equipment was issued by the radiological equipment coordinator. All personnel were knowledgeable about the equipment, their exposure rates, contamination control, and how to perform the backup route alerting mission.

a. **MET:** Criteria 3.a.1, 3.b.1 and 5.a.3

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 AREAS REQUIRING CORRECTIVE ACTION

3.1 2007 ARCAs

3.1.1 030-07-A-5.b.1-01 State of NC JIC

Condition: State and local representatives staffing the JIC failed to follow established plans and procedures that would have enabled effective JIC function. State and local public information officers (PIOs) did not effectively coordinate their actions. County news releases were not processed through the system quickly, resulting in a minimal flow of county news releases to the media. State and county PIOs did not effectively coordinate with rumor control personnel, and the process for reviewing messages prior to release from the JIC was ineffectual. Progress Energy personnel were unaware of State and local procedures that impacted their mission to effectively communicate emergency information to the public.

Possible Cause(s):

During this exercise many of the JIC representatives from State and local governments were new and had not received an adequate level of joint training to effectively carry out their duties. They did not understand the concept of the joint information system and the procedures used to effectively carry out the JIC mission of providing accurate and timely emergency instructions and information to the media and public.

Although the JIC is a joint Progress Energy and State and local government operation each organization in the JIC had separate procedures that were not examined by all parties prior to the exercise to ensure understanding of each others' operation and how they would interface.

Reference: NUREG-0654/FEMA-REP-1,Rev. 1: G. 4.

Effect: The lack of familiarity with procedures resulted in the following major problems:

a. The media representatives at the JIC were not provided copies of the news releases developed by the counties, which precluded the media from providing a valuable service in the transfer of information to the public.

b. The limited sharing of inter-jurisdictional government and utility information precluded an effective review of messages generated in the EOCs for accuracy and timeliness.

c. Rumor control personnel were not provided sufficient information to enable them to effectively and accurately respond to queries from the public

d. Emergency alert system (EAS) follow-up emergency information messages did not meet the timeline prescribed in the North Carolina radiological emergency response plan (RERP) ("no later than 20 minutes following EAS activation"- Annex D, page D-3).

d. Incorrect/incomplete information was provided pertaining to cost recovery for members of the public.

Recommendation(s):

a. Vet the JIC SOG against the State and county plans and procedures.

b. Develop compatible JIC operational procedures/guides for the State, Chatham, Harnett, Lee and Wake Counties, and Progress Energy.

c. Develop a training program for State and county PIOs and support personnel. Include in the training program a schedule for regular participation in joint drills with the utility focused on emergency public information.

Schedule of Corrective Action: The North Carolina Department of Crime Control and Public Safety (CCPS) Public Affairs Office (PAO) Director reviewed in detail the exercise activity with the FEMA JIC Lead Evaluator. Following that review the Director initiated discussions and facilitated meetings with State and county public information officers and emergency management staff to identify specific communi8cations breakdowns in the JIC during the exercise and to develop a plan to address and remediate the challenges identified during the exercise and subsequent discussions. Corrective actions include the following:

a. Conduct a special half-day training session on June 7, 2007 geared toward REP JIC operations associated with Progress Energy.

b. Conduct a review of State Standard Operating Procedures review and correlation with County and Progress Energy SOP/SOGs from May 18 to June 15, 2007.

c. Review and revise pre-scripted news releases, JIC status boards and maps for nuclear drills/incidents by June 25, 2007.

d. Conduct two Basic Public Information Officer courses for State and county PIOs that work during nuclear drills/events on June 5-7, 2007 and June 18-19, 2007.

3.1.2 030-07-A-5.a.1-02
Lee County
EOC

Condition: At 1025 Wake County led a joint decision to sound sirens at 1035 and notify the public of the emergency at the Harris Nuclear Power Plant. Wake County would perform a countdown for activation. At 1035 Sanford 911 dispatcher was in position and waiting for the coordination sequence from Wake County. Wake County told the counties that they would synchronize clocks and countdown for activation. According to the Sanford 911 operator these actions did not occur, therefore Lee County did not activate their sirens. Sanford 911 personnel continued to wait for further instructions from Wake County. After waiting for approximately 20 minutes for further instructions from Wake County they returned to their normal duties. The Emergency Management Director did not find out that the sirens were not activated until he came into the 911 Center at 1107. At that time he contacted the State and activated the sirens at 1118.

Possible Cause: The Selective Signaling System (SSS) experienced problems throughout the exercise and resulted in participants being unable to communicate. A problem with the SSS may have occurred during this activation process. In addition there was no verification process conducted after the activation was completed. Wake County polled the SSS line to insure all counties were on-line in preparation for activating the sirens but after performing the countdown there was no polling of counties to insure that sirens had actually been activated and they had worked properly.

Reference: NUREG-0654 E.5, 6, 7

Effect: Lee County residents were not promptly alerted of the emergency at the Harris Nuclear Plant and therefore would not take the appropriate protective action.

Corrective Action Demonstrated: During the subsequent two siren activations the process worked smoothly and no problems occurred. The North Carolina SEOC conducted a post activation verification process during the second siren activation for a General Emergency (GE) and polled the online counties to verify all counties were successful. During the third siren activation the SEOC also ensured all counties were online in preparation for the siren activation and ensured the activation was successful.

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

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

ARC	American Red Cross
ARCA	Area Requiring Corrective Action
EAS	Emergency Alert System
ECL	Emergency Classification Level
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPZ	Emergency Planning Zone
EW	Emergency Worker
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
GE	General Emergency
IC	Incident Command
JIC	Joint Information Center
KI	Potassium Iodide
NRC	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*
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PIO	Public Information Officer
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RPS	North Carolina Department of Environment and Natural Resources, Radiation Protection Section

SAE	Site Area Emergency
SEOC	State Emergency Operations Center
SERT	State Emergency Response Team
TCP	Traffic Control Point
USDA	U.S. Department of Agriculture

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

Following is a list of personnel evaluating the Harris Nuclear Plant exercise on April 10, 2007. The organizations represented are indicated by the following abbreviations:

FDA	- Food and Drug Administration
FEMA	- Federal Emergency Management Agency
ICF	- ICF Consulting Incorporated
NRC	- Nuclear Regulatory Commission

EVALUATION SITE	EVALUATOR	ORGANIZATION
RAC Chair	Conrad Burnside	FEMA
Senior Site Specialist	Lawrence Robertson	FEMA
Senior Site Specialist	Kevin Keyes	FEMA
JOINT OPERATIONS		
Emergency Operations Facility	Robert Trojanowski	NRC
Joint Information Center	Bill Larrabee	ICF
	Jill Leatherman	ICF
STATE OF NORTH CAROLINA		
State Emergency Operations Center	Michael Dolder	FEMA
	Dave White	ICF
NCEM- Central Branch Office	Gary Goldberg	ICF
Dose Assessment (SEOC)	Kevin Keyes	FEMA
CHATHAM COUNTY		
Emergency Operations Center	Obhie Robinson	FEMA
	Keith Earnshaw	ICF
Traffic Control Points	Keith Earnshaw	ICF
Backup Route Alerting	Keith Earnshaw	ICF
Protective Actions for Schools	Michael Dolder	FEMA
Emergency Worker (EW) and Vehicle Decontamination	Keith Earnshaw	ICF

Reception/Congregate Care Center	Bill Larrabee	ICF
Waterway Warning	Michael Dolder	FEMA

HARNETT COUNTY

Emergency Operations Center	Tom Trout Gary Bolender	FDA ICF
Traffic Control Points	Gary Bolender	ICF
Backup Route Alerting	Bill Larrabee	ICF
EW and Vehicle Decontamination	Michael Dolder	FEMA
Reception/Congregate Care Center	Bill Larrabee	ICF

LEE COUNTY

Emergency Operations Center	Joe Harworth Mike Meshenberg	FEMA ICF
Traffic Control Points	Mike Meshenberg	ICF
Backup Route Alerting	Bill Larrabee	ICF
EW and Vehicle Decontamination	Keith Earnshaw	ICF
Reception/Congregate Care Center	Keith Earnshaw	ICF

WAKE COUNTY – Mr. Martin Crisca

Emergency Operations Center	Helen Wilgus Wendy Swygert Sarah Everidge	FEMA ICF ICF
Traffic Control Points	Wendy Swygert	ICF
Backup Route Alerting	Michael Dolder	FEMA
Protective Actions for Schools	Bill Larrabee	ICF
EW and Vehicle Decontamination	Keith Earnshaw	ICF
Reception/Congregate Care Center	Bill Larrabee	ICF
Waterway Warning	Michael Dolder	FEMA

APPENDIX 3

EXERCISE CRITERIA AND EXTENT-OF-PLAY AGREEMENT

This appendix contains the criteria and the extent-of-play agreement which were demonstrated in the Harris Nuclear Plant exercise on April 10, 2007. The State of North Carolina submitted and FEMA Region IV approved the extent-of-play agreement on the following pages.

Harris Nuclear Power Plant Exercise
2007 Extent of Play Agreement

A. General Information

- Activities will begin at approximately 8:00 a.m. on Tuesday, April 10, 2007, and will conclude when all objectives have been met.
- Sirens will be simulated at Site Area Emergency and General Emergency
- State and county participants may be pre-positioned at exercise locations.
- Utility will provide a liaison to State EOC, Chatham, Harnett, Lee, & Wake County EOCs
- A state or county escort will accompany Federal Evaluators to out-of-sequence demonstrations.
- A State Controller will be located in the State EOC, Chatham County EOC, Harnett County EOC, Lee County EOC, Wake County EOC, and the JIC.
- Federal Evaluators and a SERT Representative will be located in each of the EPZ counties.
- Exercise participants will have the opportunity to remediate and re-demonstrate exercise criterion immediately upon identifying any error/s with the approval of the federal evaluator.
- All demonstrations will be in accordance with the approved Extent of Play Agreement.

B. Scenario

- Scenario was developed by the Utility in consultation with the State using FEMA guidelines.
- At least one wind shift is built into the scenario for the PAD making process.
- A communication failure will be discussed at the County and State EOCs.
    - Evaluation Area 4 - Field Measurement and Analysis activity is for Training only.

C. Meeting Times

I. Federal Evaluator Briefing:

Harris Plant Energy and Environmental Center, HEEC Boardroom
New Hill-Holleman Road (SR 1127)
New Hill, North Carolina

Date & Time: 2:00 p.m., Monday, April 9, 2007

II. State & County Internal Critique:

State Emergency Operations Center
116 West Jones Street
Raleigh, NC

Date & Time: 1:00 p.m., Wednesday, April 11, 2007

This meeting will only take place if needed.

III. Participant's Out Briefing:

Harris Plant Energy and Environmental Center, HEEC Boardroom
New Hill-Holleman Road (SR 1127)
New Hill, North Carolina

Date & Time: 10:00 a.m. Thursday, April 12, 2007

IV. Public Briefing:

Harris Plant Energy and Environmental Center, HEEC Boardroom
New Hill-Holleman Road (SR 1127)
New Hill, North Carolina

Date & Time: 11:00 a.m. Thursday, April 12, 2007

1. EMERGENCY OPERATIONS MANAGEMENT

1.a. – Mobilization

Criterion 1.a.1
OROs will use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.
(NUREG-0654, A.4.,D.3.,4., E.1.,2., H.4.)

EXTENT OF PLAY:

- **Participants**: NC SERT, Chatham, Harnett, Lee & Wake Counties

- State and local response personnel may be pre-positioned. Federal evaluators will need a walk-through explanation of the EOC activation process, to include the notification process for key staff.

- Notification rosters will be provided to FEMA evaluators. Emergency management personnel will discuss alert notification procedures with the evaluator.

- Discussion of mobilization will be at the EOC when demonstrating call down procedures. Some personnel may be called-up for "Training Only" to activate facilities, but not for evaluation.

1.b. – Facilities

Criterion 1.b.1
Facilities are sufficient to support the Emergency Response.
(NUREG-0654, H.)

EXTENT OF PLAY:

Participants: Chatham, Harnett, Lee & Wake Counties

- State EOC was demonstrated during Brunswick 2006 exercise

1.c – Direction and Control:

Criterion 1.c.1:
Key personnel with leadership roles for the ORO provide Direction and Control to that part of the overall response effort for which they are responsible.
(NUREG-0654, A.1.d.,2.a.,b.)

EXTENT OF PLAY:

- **Participants**: NC SERT, Chatham, Harnett, Lee & Wake Counties

  Wake County will be the lead-coordinating county for the Harris Counties until Site Area Emergency. Following the simulated sounding of sirens and issuance

of the first PAD recommendations to the public, Wake County will request the State assume direction and control.

1.d – Communications Equipment:

Criterion 1.d.1:
At least two communication systems are available and operate properly, and communication links are established with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1,2.)

EXENT OF PLAY:

Participants: NC SERT, Chatham, Harnett, Lee & Wake Counties

- Communication breakdown/failures will be discussed with the federal evaluators during the exercise at state and county EOCs.

- WebEOC will be demonstrated during this exercise.

1.e – Equipment and Supplies to Support Operation:

Criterion 1.e.1:
Equipment, maps, displays, dosimeters, potassium iodide (KI), and other supplies are sufficient to support emergency operations.
(NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)

EXTENT OF PLAY:

Participants: Chatham, Harnett, Lee & Wake Counties

- Availability and currency of emergency worker KI will be verified by a FEMA Staff Assistance Visit to the EPZ Counties prior to or during the exercise.

- Dosimeters will be inspected by FEMA during the Staff Assistance Visit to the EPZ Counties prior to or during the exercise.

Chatham County:

- Staff Assistance Visit will take place off-scenario, March 22, 2007 at 10:30 a.m., at the Chatham County Emergency Operations Center, located at 297 West St. Pittsboro, NC.

Harnett County:

- Staff Assistance Visit will take place off-scenario, on March 19th at 1:00 p.m. at the Harnett County Emergency Operations Center, 1005 Edwards Drive, Lillington, NC

Lee County:

- Staff Assistance Visit will take place off-scenario, March 21, at 10:00 a.m. at the Lee County Emergency Operations Center, 225 East Weatherspoon Street, Sanford, NC 27331

Wake County:

- Staff Assistance Visit will take place off-scenario, March 20, 2007 at 10:00 a.m. at the Wake County Emergency Operations Center in Raleigh, NC.

2. PROTECTIVE ACTION DECISION MAKING

2.a – Emergency Worker Exposure Control:

Criterion 2.a.1:
OROs use a decision making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.
(NUREG-0654, K.4).

EXTENT OF PLAY:

- **Participants:** NC SERT, Chatham, Harnett, Lee & Wake Counties
- No distribution of actual or simulated KI will be accomplished during the exercise.

2.b - Radiological assessment and protective action recommendations and Decisions for the Plume Phase of the Emergency:

Criterion 2.b.1:
Appropriate protective action recommendations are based on available information on plant conditions, field-monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions.
(NUREG-0654, I.8.,10.,11., & Supplement 3.)

EXTENT OF PLAY:

- **Participants:** NC SERT
- Radiation Protection will establish an independent dose assessment and projection team at the State EOC. This team will communicate with the Utility EOF, State Mobile Lab and deployed field survey teams to obtain data for developing dose projections.
- Back-up dose assessment will be demonstrated at State EOC.

- Federal resources available to assist the state in tracking the radioactive plume will be identified.

Criterion 2.b.2:
A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy).
(NUREG-0654, J.9.,10.m.)

EXTENT OF PLAY:

- **Participants:** NC SERT, Chatham, Harnett, Lee & Wake Counties

- Radiation Protection will analyze technical data and make recommendations to SERT Leader who in turn will make recommendations to the County EM Coordinators.

- Weather data will be pre-determined and will include a wind shift during the exercise in order to demonstrate OROs capability to adapt to changes requiring protective actions.

- Evaluated counties will participate in the decision making process for PARS.

  Demonstration of KI distribution for the General Public will be accomplished during Off-Scenario activity by local Public Health officials through discussion and with presentation of distribution documentation to the Federal Evaluator. (Demonstration times and locations are in the Off-Scenario Event Matrix)

2.c – Protective Action Decisions for Protection of Special Populations:

Criterion 2.c.1:
Protective action decisions are made, as appropriate, for special population groups.
(NUREG-0654, J.9.,10.c.d.e.g.)

EXTENT OF PLAY:

- **Participants:** Chatham, Harnett, Lee & Wake Counties

- Counties will demonstrate their procedures through discussion with the Federal Evaluator, by using a special populations list.

- Distribution of KI to institutionalized individuals, who cannot be evacuated, will be discussed with the Federal Evaluator.

3. PROTECTIVE ACTION IMPLEMENTATION

3.a – Implementation of Emergency Worker Exposure Control:

Criterion 3.a.1:
The OROs issue appropriate dosimeters and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart.
(NUREG-0654, K.3.)

EXTENT OF PLAY:

- **Participants:** NC SERT, Chatham, Harnett, Lee & Wake Counties
- Chatham, Lee, Harnett and Wake Counties will demonstrate their process during out-of-sequence activities.
- Radiation Protection will provide technical advice and assistance to the state and counties.

3.b – Implementation of KI Decision:

Criterion 3.b.1:
KI and appropriate instructions are available should a decision to recommend Use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained.
(NUREG-0654, E.7., J.10. e, f.)

EXTENT OF PLAY:

- **Participants :** NC SERT, Chatham, Harnett, Lee & Wake Counties
- Demonstration of KI will be through "Discussion Only" at State and County EOCs.
- No distribution of actual or simulated KI will be accomplished during the exercise.

  Demonstration of KI distribution for the General Public will be accomplished during Off-Scenario activity by local Public Health officials through discussion and with presentation of distribution documentation to the Federal Evaluator. (Demonstration times and locations are in the Off-Scenario Event Matrix)

3.c – Implementation of Protective Actions for Special Populations.

Criterion 3.c.1:
Protective action decisions are implemented for special population groups within areas subject to protective actions.
(NUREG-0654, E.7.,J.9.,10.c.d.e.g.)

EXTENT OF PLAY:

- **Participants:** Chatham, Harnett, Lee & Wake Counties
- A current list of Special Needs Populations will be provided to the Federal Evaluator for review.
- Evacuation/relocation requirements will be demonstrated through discussions at the EOCs, based on the scenario and county implementation procedures.
- Distribution of KI to institutionalized individuals, who cannot be evacuated, will be discussed with the Federal Evaluator.
- Contact via telephone with special population groups for PADs and transportation resources will be simulated. However, one actual phone call can be made to a special population facility at the request of the evaluator for demonstration purposes.

Criterion 3.c.2:
OROs/School officials decide upon and implement protective actions for schools.
(NUREG-0654, J.10.c.,d.,g.)

EXTENT OF PLAY:

- **Participants:** Chatham & Wake Counties
- School evacuation procedures and interviews will be demonstrated via discussion with key school staff members, including school bus drivers, *off* scenario at County EOCs.
- Law enforcement agencies will discuss school bus escort procedures during their traffic and access control interviews as described in 3.d.

Chatham Schools for evaluation include:

Moncure Elementary School
600 Moncure School Road,
Moncure, NC

Time: Off-Scenario, **March 22, 2007 at 9:00 a.m.**

Wake Schools for evaluation include:

Apex Senior High School
Holly Springs High School
Holly Grove Elementary School

New Hope Montessori

Location: Apex Senior High School
1501 Laura Duncan Rd.
Apex, NC 27502

Time: Off-Scenario, **March 21, 2007 at 10:00 a.m.**

3.d – Implementation of Traffic and Access Control.

Criterion 3.d.1:
Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.
(NUREG-0654, J.10.g, j, k.)

EXTENT OF PLAY:

- **Participants:** SERT, Chatham, Harnett, Lee & Wake Counties

- Traffic control points will be discussed with the Federal Evaluator at each County EOC. Law enforcement personnel will discuss proper procedures, equipment and turn back values. At least one agency representative will be available for interview.

- When State is in direction & control the SERT Leader will determine appropriate access control measures to restrict access to contaminated areas.

Chatham County representatives available for interview include:

NC State Highway Patrol

Time: On-scenario, April 10, 2007

Harnett County Representatives available for interview include:

Harnett County Sheriff's Department
NC State Highway Patrol

Time: On-scenario, Tuesday, April 10, 2007

Lee County Representatives available for interview include:

Sanford Police Department
Lee County Sheriff's Department
NC State Highway Patrol

Time: On-scenario, Tuesday, April 10, 2007

Wake County Representatives available for interview include:

Wake County Sheriff's Department

Time: On-scenario, Tuesday, April 10, 2007

Criterion 3.d.2:
Impediments to evacuation are identified and resolved
(NUREG-0654, J.10.,j.,k.)

EXTENT OF PLAY:

- Participants: NC SERT, Chatham, Harnett, Lee & Wake Counties
- During the interview process, as scheduled in 3.d.1 above, officers will identify impediments to evacuation based on a simulated set of circumstances and questions posed by the federal evaluator.

4. FIELD MEASUREMENT AND ANALYSIS

4.a – Plume Phase Field Measurement & Analysis

Criterion 4.a.1:
The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9.,11.)

EXTENT OF PLAY:

- **Participants:** NC SERT, Radiation Protection
- Radiation Protection will demonstrate this criterion using three field survey teams.
- This criterion will be demonstrated for "Training Only" as part of the joint federal/state partnership agreement.

Criterion 4.a.2:
Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure.
(NUREG-0654, I.8., 11., J.10.a).

EXTENT OF PLAY:

- **Participants:** NC SERT, Radiation Protection
- Radiation Protection will demonstrate this criterion using Three field survey teams.
- This criterion will be demonstrated for "Training Only" as part of the joint federal/state partnership agreement.

Criterion 4.a.3:
Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams must move to an

appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media.
(NUREG-0654, I.8., 9., 11.)

EXTENT OF PLAY:

- **Participants:** NC SERT, Radiation Protection
- This criterion will be demonstrated for "Training Only" as part of the joint federal/state partnership agreement.

5. EMERGENCY NOTIFICATION AND PUBLIC NOTIFICATION

5.a – Activation of the Prompt Alert and Notification System:

Criterion 5.a.1:
Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include: (1) identification of the State or local government organization and the official with the authority for providing the alert signal and instructional message; (2) identification of the commercial nuclear power plant and a statement that an emergency situation exists at the plant; (3) reference to REP-specific emergency information (e.g., brochures and information in telephone books) for use by the general public during an emergency; and (4) a closing statement asking the affected and potentially affected population to stay tuned for additional information.
(NUREG 10 CFR Part 50, Appendix E & NUREG-0654, E.1.,4.,5.,6.,7)

EXTENT OF PLAY:

- **Participants:** NC SERT, Chatham, Harnett, Lee & Wake Counties
- At Site Area Emergency North Carolina's counties will be in Direction and Control. Following the sounding of the sirens (simulated) and the first PAD recommendations to the public, Wake County will request the state to take over direction & control.
- Wake County will be the "Lead County", and will coordinate and conduct the countdown for simulated siren activation. An actual silent test will be conducted to simulate the sounding of sirens.
- EAS messages will be in accordance with Part 11 of FCC Rules and Regulations, previously approved for North Carolina by FEMA.
- PAD messages and news releases will be coordinated by the states and counties.

Criterion 5.a.3:
Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E.6., Appendix 3.B.2.c.)

EXTENT OF PLAY:

- **Participants**: NC SERT, Chatham, Harnett, Lee & Wake Counties

- **An actual silent test will be conducted and sounding of the sirens simulated. A feedback sheet will show if a siren has failed and if backup route alerting around the failed siren would be necessary.**

- **If a siren is deemed to have failed, back-up alerting will be discussed with the federal evaluator for a pre-determined zone (siren failure simulated).**

- **Lake Warning will be accomplished through discussion only at Jordan Lake (Off-scenario.) NC Wildlife, NC Park Service, and US Army Corps of Engineers will have one boat available to take a federal evaluator out on the lake if requested.**

- **Harnett County has a new requirement for River Warning and will demonstrate this for Training Purposes Only during this exercise.**

  Chatham County will demonstrate at:

  Moncure Fire Department
  1310 Old Highway 1
  Moncure, NC

  Date and Time: Off-scenario, **March 21, 2007 at 6:00 p.m.**

  Harnett County will demonstrate at:

  Northwest Harnett Fire Department and
  Summerville Fire Department
  6056 Christian Light Road
  Fuquay Varina, NC

  Date and Time: Off-scenario, **March 20, 2007 at 6:00 p.m.**

  Cape Fear River Warning (**New Requirement, Training Only)**

  Northwest Harnett Fire Department and
  Summerville Fire Department
  6056 Christian Light Road
  Fuquay Varina, NC

Date and Time: Off-scenario, **March 21, 2007 at 1:00 p.m.**
***Participants and Evaluators will assemble at the Fire Department and then travel to the site.**

Lee County will demonstrate at:

Deep River Fire Department
5107 Deep River Rd
Sanford, NC 27330

Date and Time: Off-scenario, **March 19, 2007 at 7:30 p.m.**

Wake County will demonstrate at Apex Staging Area

Location: Davis Drive Middle School

Date and Time: On Scenario

- Harris Lake notifications will be evaluated on the lake.

Agency: Wake County Sheriff's Office
Location: Boat Storage Shelter
Harris Visitors Center
New Hill, NC

Date and Time: Off-scenario, **March 20, 2007 at 1:00 p.m.**

The Evaluator will be escorted from the Wake County EOC to the demonstration site.

5.b – Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1:
OROs provide accurate emergency information and instructions to the public and the news media in a timely manner.
(NUREG-0654, E.5.,7., G.3.a., G.4.a.,b.,c.)

EXTENT OF PLAY:

- **Participants**: NC SERT, Chatham, Harnett, Lee & Wake Counties

- PIOs or designated staff will receive rumor control calls at the JIC once it is activated. Approximately six calls per hour will be made to each state and county PIO represented at the JIC.

- Counties will receive three or four calls per hour prior to the activation of the JIC and will prepare "one" news release. News releases shall be coordinated between counties prior to JIC activation.

- Once JIC is operational two rumors will be identified as well as any trends and appropriate actions taken to address them.

6. SUPPORT OPERATION/FACILITIES

6.a – Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees

Criterion 6.a.1:
The reception center/emergency worker facility has adequate space, resources, and trained personnel to provide monitoring, decontamination and registration of emergency workers and evacuees.
(NUREG-0654, J.10.h; K.5.b.)

EXTENT OF PLAY:

- **Participants:** Chatham, Harnett, Lee & Wake Counties
- One portal monitor will be demonstrated at reception centers.
- Six evacuees will be monitored; two (1 male and 1 female) will be found to be contaminated.
- Evacuee decontamination procedures will be via discussion and walk through of facilities (No actual or simulated decontamination of evacuees).
- Two emergency workers will be monitored.
- Emergency Worker decontamination procedures will be via discussion and walk through of facilities (No actual decontamination of workers).
- One emergency vehicle will be decontaminated (simulated using water)

Chatham County:

Public Reception Center, Monitoring and Decontamination:

Jordan Matthews High School
910 E. Cardinal St.
Siler City, NC

Date & Time: Off-scenario, March 22, 2007 at 7:00 p.m.

Emergency Worker and Vehicle Decontamination:

Pittsboro Fire Department will demonstrate at:

First Health of the Carolina's Base (New Facility)
US 64 East
Pittsboro, NC

Date & Time: Off-scenario, March 21, 2007 at 8:00 p.m.

Harnett County:

Public Reception Center:

Harnett Central Middle School
2529 Harnett Central School Road
Angier, NC

Date & Time: Off-scenario, March 20, 2007 at 8:00 p.m.

Emergency Worker Decontamination
Angier Fire Department
309 North Broad Street
Angier, NC

Date & Time: Off-scenario, March 19, 2007 at 8:00 p.m.

Lee County:

Emergency Worker Decontamination:

Northview Fire Department
104 Perkinson Road
Sanford, NC

Date & Time: Off-scenario, March 19, 2007 at 7:00 p.m.

Public Reception Center:

Southern Lee High School
2301 Tramway Road
Sanford, NC

Lemon Springs Fire Department is demonstrating

Date & Time: Off Scenario, March 20, 2007 at 7:00 p.m.

Wake County:

Emergency Worker and Vehicle Decontamination:

Raleigh Fire Department will demonstrate at:

Raleigh Fire Station #14
4220 Lake Boone Tr.
Raleigh, NC 27607

Date & Time: Off-scenario, March 22, 2007 at 10:00 a.m.

Public Reception Center:

Sanderson High School
5500 Dixon Dr.
Raleigh, NC 27609

Date & Time: Off-scenario, March 21, 2007 at 7:00 p.m.

Public Vehicle Decontamination/Isolation

Sanderson High School
5500 Dixon Dr.
Raleigh, NC 27609

Date & Time: Off-scenario, March 21, 2007 at 7:00 p.m.

6.b – Monitoring and Decontamination of Emergency Worker Equipment:

Criterion 6.b.1:
The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.
(NUREG-0654, K.5.b.)

EXTENT OF PLAY:

- **Participants:** Chatham, Harnett, Lee & Wake County.
- Two vehicles will be monitored and decontaminated using water at the following times and locations (dependant upon weather conditions):

Chatham County:

Pittsboro Fire Department will demonstrate at:

Pittsboro Fire Station #12
150 Sanford Street
Pittsboro, NC

Date & Time: Off-scenario, March 21, 2007 at 8:00 p.m.

Harnett County:

Angier Fire Department will demonstrate at:

Angier Fire Department
309 Broad Street
Angier, NC

Date & Time: Off-scenario, March 19, 2007 at 8:00 p.m.

Lee County:

Emergency Vehicle Decontamination:

North View Fire Department
104 Perkinson Road
Sanford

Date & Time: Off-scenario, March 19, 2007 at 7:00 p.m.

Public Vehicle Decontamination:

Lemon Springs Fire Department will demonstrate at

Southern Lee High School
2301 Tramway Road
Sanford, NC

Date & Time: Off-scenario, March 20, 2007 at 7:00 p.m.

Wake County:

Raleigh Fire Department will demonstrate at:

Fire Station #14
4220 Lake Boone Tr.
Raleigh, NC 27607

Date & Time: Off-scenario, March 22, 2007 at 10:00 a.m.

6.c – Temporary Care of Evacuees:

Criterion 6.c.1:
Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities.
(NUREG-0654, J.10.h.,12.)

EXTENT OF PLAY:

- **Participants:** Chatham, Harnett, Lee & Wake Counties

Six individuals per monitoring site will be demonstrated.

Chatham County:

American Red Cross will demonstrate at:

Jordan Matthews High School
910 East Cardinal Street
Siler City, NC

Date & Time: Off-scenario, March 22, 2007 at 7:00 p.m.

Harnett County:

American Red Cross, DSS & Public Health will demonstrate at:

Harnett Central Middle School
2529 Harnett Central School Road
Angier, NC

Date & Time: Off-scenario, March 20, 2007 at 8:00 p.m.

Lee County:

American Red Cross & Lee County DSS will demonstrate at:

Southern Lee High School
2301 Tramway Road
Sanford, NC

Date & Time: Off-scenario, March 20, 2007 at 7:00 p.m.

Wake County:

Wake County Human Services will demonstrate at

Sanderson High School
5500 Dixon Dr.
Raleigh, NC 27609

Date & Time: Off-scenario, March 21, 2007 at 7:00 p.m.

6.d – Transportation and Treatment of Contaminated Injured Individuals:

Criterion 6.d.1:
The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2., H.10., K.5.a.,b., L.1.,4.)

EXTENT OF PLAY:

WakeMed Hospital will demonstrate this activity at a later date.

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events (Exercise Scenario) used as the basis for invoking emergency response actions by OROs in the Harris Nuclear Plant exercise on April 10, 2007.

This State of North Carolina and Progress Energy submitted the scenario and it was approved by FEMA Region IV

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SCENARIO 07-02 TIME LINE (07:30 – 16:00)

An Operations crew will be prestaged at 06:30 to perform turnover and operations in the simulator. AOs and on-shift I & C, RP, mechanical and chemistry technicians will be prestaged at 07:30. The Dialogics will page/call all other ERO members to report to their Facilities. All Emergency Response Facilities will participate. Off-site authorities will participate. All players must be ready to respond to pagers and announcements by 07:45.

07:30	**Initial Conditions** **Core Burnup: 469 EFPD (EOL)** **Reactor Power: 100 %** **ΔI Target - 1.46 @ 100%** **RCS Boron: 178 ppm Pzr Boron: 178 ppm** **Required Shutdown Boron Concentrations (from MCR Status Board):** **1075 ppm @ 70°F; 894 ppm @ 300°F; 401 ppm @ 557°F** **"A" Train in service, "A" Train protected** All Major Equipment is Operable with the following exceptions: NI-32, Source Range reactor power instrumentation has short in detector pre-amp cable leading in to nuclear Instrumentation (NI) cabinet. The cable is scheduled to be replaced at 16:00 today. (Clearance hung and fuses pulled) · Severe thunderstorm watch in effect. AP-300, Severe Weather Response, Attachment 5 review of procedures completed. · Accountability card readers out of service.
07:30	Operations Crew begins drill related activities from the Training Simulator.
07:35	A 20 gpm leak from RCS into Containment begins. Evaluation of leak source and size will be initiated.
07:45	Failure of ERFIS (stops updating)
07:55	Lightning strike results in Loss of Annunciators.
~08:35 15-min clock time starts when >75% loss of annunciators could be determined as lost.	An **ALERT** should be declared based on: **EAL 6-1-2, loss of >75% of annunciators with loss of ERFIS (w/ no transient in progress).**

~08:35	Operations crew may elect to begin shutdown (not expected).
08:40	Recovery of ERFIS.
~09:45	Shutdown expected to be completed with preparations for cooldown (if performed).
09:50	Recovery of annunciators.
09:55	RCS leak size suddenly and significantly increases to 600 gpm. Reactor trip (if not previously shutdown) and SI.
09:57	Upon initiation of Safety Injection (SI), the "B" Emergency Diesel Generator fails to start (off-site power remains available).
~09:58	Containment pressure exceeds 3 psig.
10:13 or sooner	A **Site Emergency** should be declared based on: **EAL 2-1-3, two fission product barriers are breached/jeopardized due to RCS leakage greater than 50 GPM and Containment Pressure >3 psig.** **(Loss of RCS FPB, Cnmt FPB in Jeopardy, loss of fuel FPB)**
10:18	Trip of "B" CSIP Pump.
10:25	NI-31, Source Range reactor power instrumentation fails to energize after shutdown.
~12:00	The Refueling Water Storage Tank is depleted at approximately this time and Containment Spray and RHR Systems are aligned to draw suction off of the Containment Sumps. Reactor Auxiliary building (RAB) radiation levels increase in the vicinity of RHR and Containment Spray System piping.
12:37	The Reactor Coolant System piping leak suddenly increases to a DBA LOCA. The RCS is suddenly depressurized and fuel failure begins. Within minutes Containment radiation monitors indicate that the Fuel Fission Product Barrier has been breached.
12:38	Containment Post LOCA RMS >17.5 R/hr.
12:53 or sooner	A **General Emergency** should be declared based on: **EAL 2-1-4, three fission product barriers are breached/jeopardized due to RCS leakage greater than 50 GPM, Containment Pressure >3 psig and containment rad monitor >17.5 R/hr.** **(Loss of RCS FPB, Cnmt FPB in Jeopardy, loss of fuel FPB)**
12:53 or sooner	Wind direction is from 270°. PAR – evacuate all 2 miles and downwind 5 miles, A, C. Shelter B, D, E, F, G, H, I, J, K, L, M, N. Stability "D".
13:14	A break in the "B" RHR heat exchanger bypass line releases radioactive water into the RAB.
13:20	WRGM vent stack rad monitor goes into alarm. Release confirmed.
14:15	Wind shift changes PAR. Wind direction is from 200°. New PAR – evacuate all 2 miles and downwind 5 miles, A, B, C. Shelter D, E, F, G, H, I, J, K, L, M, N. [Add B, but do not remove C because plume already went over it.] Stability "D".
15:00	By this time, the radiological release from the plant is diminishing (leak has been isolated and drain down of RHR heat exchanger and piping has stopped), and reactor core conditions have been stabilized. Drill termination is expected.