



# After Action Report

Harris Nuclear Plant

Radiological Emergency Preparedness Exercise

Exercise Date: April 26, 2017

*October 26, 2017*



**FEMA**



# After Action Report

Harris Nuclear Plant

Radiological Emergency Preparedness Exercise

Exercise Date: April 26, 2017

*October 26, 2017*



**FEMA**

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

This page is intentionally blank

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Table of Contents**

	<b>Page</b>
Table of Contents.....	3
Executive Summary.....	5
Section 1: Exercise Overview.....	7
1.1 Exercise Details .....	7
1.2 Exercise Planning Team Leadership .....	8
1.3 Participating Organizations .....	9
Section 2: Exercise Design Summary.....	13
2.1 Exercise Purpose and Design.....	13
2.2 Exercise Core Capabilities and Objectives .....	13
2.3 Exercise Scenario.....	15
Section 3: Analysis of Capabilities.....	17
3.1 Exercise Evaluation and Results.....	17
3.2 Summary Results of Exercise Evaluation.....	17
3.3 Jurisdictional Summary Results of Exercise Evaluation .....	19
3.3.1 State of North Carolina .....	19
3.3.1.1 State Emergency Operations Center .....	19
3.3.1.2 Central Branch Office .....	22
3.3.1.3 Dose Assessment .....	23
3.3.1.4 Emergency Operations Facility .....	24
3.3.1.5 Joint Information Center .....	25
3.3.1.6 Waterway Warning- Lakes Harris and Jordan.....	26
3.3.2 Risk Jurisdictions.....	27
3.3.2.1 Wake County, North Carolina .....	27
3.3.2.1.1 Emergency Operations Center .....	27
3.3.2.1.2 Apex Area Command Post.....	29
3.3.2.1.3 Traffic Control Points .....	29
3.3.2.1.4 Protective Actions for Schools.....	30
3.3.2.1.5 Emergency Worker Decontamination.....	30
3.3.2.1.6 Reception and Congregate Care Center .....	31
3.3.2.2 Chatham County, North Carolina .....	32
3.3.2.2.1 Emergency Operations Center .....	32
3.3.2.2.2 Backup Route Alerting.....	33
3.3.2.2.3 Emergency Worker Decontamination.....	34
3.3.2.3 Harnett County, North Carolina .....	34
3.3.2.3.1 Emergency Operations Center .....	34
3.3.2.4 Lee County, North Carolina .....	35
3.3.2.4.1 Emergency Operations Center .....	35
Section 4: Conclusion.....	37
Appendix A: Exercise Timeline .....	39
Appendix B: Exercise Evaluators and Team Leaders .....	41
Appendix C: Exercise Extent of Play Agreement .....	43

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

This page is intentionally blank

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

## **Executive Summary**

On April 26, 2017, the U.S. Department of Homeland Security, Federal Emergency Management Agency Region IV, Radiological Emergency Preparedness Program staff evaluated a plume exposure pathway exercise for the 10-mile emergency planning zone of the Harris Nuclear Plant. The evaluations of out of sequence activities conducted the week of April 10-14, 2017 are also included in this report.

The Harris Nuclear Plant is located in New Hill, North Carolina near the city of Raleigh. The 10-mile emergency planning zone is divided into 14 subzones designated A through N, and encompasses portions of the risk counties of Wake, Chatham, Harnett, and Lee. The plant is operated by Duke Energy.

The purpose of the exercise was to assess the level of state and local preparedness in responding to an incident at the Harris Nuclear Plant. It was conducted in accordance with Federal Emergency Management Agency policies and guidance concerning the exercise of state and local radiological emergency response plans and procedures. The previous Federally evaluated exercise at this site was conducted on October 27, 2015. The qualifying emergency preparedness exercise was conducted on February 28, 1987.

Officials and representatives from participating agencies and organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them during the exercise. The evaluation of out of sequence activities during the week of April 10-14 is included in this report. The activities included: traffic control points; backup route alerting, protective actions for schools; reception and congregate care centers; emergency worker and vehicle monitoring and decontamination; and waterway warning. All jurisdictions met their exercise objectives and successfully demonstrated the corresponding core capabilities identified in Section 2.2 of this report. Federal Emergency Management Agency staff did not identify any level 1 or level 2 findings during this exercise.

It was apparent during the exercise that a great deal of training and practice was conducted by the offsite response organizations to successfully demonstrate the ability to provide support and resources as necessary.

The Federal Emergency Management Agency staff wishes to acknowledge the efforts of the many individuals who participated in the exercise and made it a success. The professionalism and teamwork of the participants was evident throughout all phases of the exercise.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

This page is intentionally blank

## **Section 1: Exercise Overview**

### **1.1 Exercise Details**

**Exercise Name**

2017 Harris Nuclear Plant Radiological Emergency Preparedness Exercise

**Type of Exercise**

Full-Scale Exercise

**Exercise Date**

April 26, 2017

**Exercise Off Scenario/Out of Sequence Dates**

April 10-14, 2017

**Locations**

See the extent of play agreement in Appendix C for exercise locations.

**Sponsors**

Duke Energy Harris Nuclear Plant  
5421 Shearon Harris Road  
New Hill, North Carolina 27562

North Carolina Emergency Management  
1636 Gold Star Drive  
Raleigh, North Carolina 27607

**Program**

United States Department of Homeland Security, Federal Emergency Management Agency, Radiological Emergency Preparedness Program

**Mission**

Response

**Scenario Type**

Partial Plume-Phase Radiological Emergency Preparedness Exercise

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**1.2 Exercise Planning Team Leadership**

Kevin Keyes  
North Section Chief  
FEMA Region IV  
3003 Chamblee-Tucker Road  
Atlanta, Georgia 30341

John (J.T.) Ackermann  
Sr. Emergency Management Specialist  
FEMA Region IV  
3003 Chamblee-Tucker Road  
Atlanta, Georgia 30341

Mr. Robert Nash  
HNP Site Specialist  
FEMA Region IV  
3003 Chamblee Tucker Road  
Atlanta, Georgia 30341

Mr. Jamey Sharlow  
HNP Emergency Preparedness Supervisor  
Harris Nuclear Plant  
5421 Shearon Harris Road  
New Hill, North Carolina 28078

Mr. James Young  
REP Program Manager  
North Carolina Emergency Management  
1636 Gold Star Drive  
Raleigh, North Carolina 27607

Mr. Gregory Weavil  
State Exercise Officer  
North Carolina Emergency Management  
1636 Gold Star Drive  
Raleigh, North Carolina 27607

Mr. Joshua Creighton  
Emergency Services Coordinator  
Wake County  
337 South Salisbury Street  
Raleigh, North Carolina 27601

Mrs. Janet Scott  
Emergency Management Director  
Chatham County  
297 West Street  
Pittsboro, North Carolina 27312

Mr. Jimmy Riddle  
Emergency Services Director  
Harnett County  
1005 Edwards Drive  
Lillington, North Carolina 27546

Mr. Shane Seagrove  
Emergency Management Director  
Lee County  
204 West Courtland Drive  
Sanford, North Carolina 27330

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**1.3 Participating Organizations**

Agencies and organizations of the following jurisdictions participated in the 2017 Harris Nuclear Plant exercise.

State Jurisdictions:

- North Carolina Department of Public Safety, Division of Emergency Management
- North Carolina Department of Public Safety, Public Affairs Office
- North Carolina Department of Public Safety, North Carolina State Highway Patrol
- North Carolina Department of Health and Human Services, Division of Public Health, Office of Public Health
- North Carolina Department of Health and Human Services, Division of Facility Services
- North Carolina Department of Environmental Quality, Division of Health Service Regulation, Radiation Protection Section
- North Carolina Department of Environment and Natural Resources, Wildlife Resources Commission, Division of Enforcement

Risk Jurisdictions:

Wake County

- Wake County Division of Emergency Management
- Wake County Fire Division Service
- Wake County Public Affairs Office
- Wake County Public Schools
- Wake County Emergency Medical Services System
- Wake County Human Services
- Wake County Health Services and Clinics
- Wake County Animal Control and Adoption Center
- Wake County Geographic Information System
- Wake County Sheriff's Office
- Apex Town Mangement
- Apex Police Department
- Cary Fire Department

Chatham County

- Chatham County Emergency Management Office
- Chatham Department of Social Services
- Chatham County Emergency Medical Service
- Chatham County Fire Marshal
- Chatham County Schools

**Unclassified**

Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

Chatham County Police Department  
Chatham County Sheriff's Office  
Chatham County Environmental Health Department  
Chatham County Public Health Department  
Chatham Fire Department  
Chatham County Attorney  
Chatham Management Information Systems Department  
Amateur Radio Emergency Services

Harnett County

Harnett County Emergency Management Office  
Harnett County Department of Social Services  
Harnett County Emergency Medical Service  
Harnett County Fire Marshal  
Harnett County Sheriff's Office  
Harnett County Transportation Department  
Harnett County Health Department  
Harnett County Transportation Department  
Harnett County Communication Department  
Harnett County Board of Education

Lee County

Lee County Emergency Management Office  
Lee County Department of Social Services  
Lee County Emergency Medical Service  
Lee County Fire Marshal  
Lee County Sheriff's Office  
Lee County Public Health Department  
Sanford Police Department  
Sanford Fire Department  
Lee County Transit System  
Airport Office  
Lee County Damage Assessment  
Lee County General Services  
Lee County Public Works

Private Organizations:

Central Carolina Hospital  
American Red Cross  
Amateur Radio Emergency Services  
Duke Energy

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

U.S. Nuclear Regulatory Commission Region II  
U.S. Department of Commerce, National Oceanic and Atmosphere  
Administration,  
National Weather Service- Raleigh

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

This page is intentionally blank

## **Section 2: Exercise Design Summary**

### **2.1 Exercise Purpose and Design**

The Federal Emergency Management Agency administers the Radiological Emergency Preparedness Program pursuant to the regulations found in Title 44 Code of Federal Regulations parts 350, 351, 352, 353 and 354. Title 44 Code of Federal Regulations 350 codifies sixteen planning standards that form the basis for radiological emergency response planning for state, tribal, and local governments impacted by the emergency planning zones established for each nuclear power plant site in the United States. United States Nuclear Regulatory Commission regulations also codify the sixteen planning standards for the licensee. Title 44 Code of Federal Regulations 350 sets forth the mechanisms for the formal review and approval of state, tribal, and local government radiological emergency response plans and procedures by the Federal Emergency Management Agency. One of the Radiological Emergency Preparedness Program cornerstones established by these regulations is the biennial exercise of offsite response capabilities. During these exercises, affected state, tribal, and local governments demonstrate their abilities to implement their plans and procedures to protect the health and safety of the public in the event of a radiological emergency at the nuclear plant.

The results of this exercise, together with review of the radiological emergency response plans, and verification of the periodic requirements set forth in NUREG-0654/FEMA-REP-1, along with supplements through the annual letter of certification and staff assistance visits, enabled the Federal Emergency Management Agency to provide a statement with the transmission of this final after action report to the United States Nuclear Regulatory Commission, that the affected state, and local plans and preparedness are: (1) adequate to protect the health and safety of the public living in the vicinity of the nuclear power facility by providing reasonable assurance that appropriate protective measures can be taken offsite in the event of a radiological emergency; and (2) capable of being implemented.

The federal approval of the formal submission of the radiological emergency response procedures for the Harris Nuclear Plant by the State of North Carolina was granted on March 28, 1989 and the qualifying emergency preparedness exercise was conducted on February 28, 1987.

### **2.2 Exercise Core Capabilities and Objectives**

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items that were derived from the National Preparedness Goal's Core Capabilities. These core capabilities, when successfully demonstrated, meet the exercise objectives. The following eight core capabilities listed below form the foundation of FEMA Region IV REP Program objectives and observations for this exercise:

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Operational Coordination:** Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

**Operational Communications:** Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

**Public Information and Warning:** Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.

**Situational Assessment:** Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

**Environmental Response/Health and Safety:** Ensure the availability of guidance and resources to address all hazards including hazardous materials, acts of terrorism, and natural disasters in support of the responder operations and the affected communities.

**On-Scene Security, Protection and Law Enforcement:** Ensure a safe and secure environment through law enforcement and related security and protection operations for people and communities located within affected areas, and also for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.

**Critical Transportation:** Provide transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.

**Mass Care:** Provide life-sustaining services to the affected population with a focus on hydration, feeding, and sheltering to those who have the most need, as well as support for reunifying families.

These core capabilities, when successfully demonstrated, meet the exercise objectives.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

The objectives for this exercise were as follows:

Objective 1: Demonstrate the ability to provide direction and control and make protective action decisions through the state emergency operations centers, county emergency operations centers, and field activities by exercise play and discussion of plans and procedures.

Objective 2: Demonstrate the ability to provide protective action decisions affecting state and county emergency workers and public through exercise play and discussions of plans and procedures.

Objective 3: Demonstrate the ability to implement protective actions for state and county emergency workers and public through exercise demonstration.

Objective 4: Demonstrate the ability to activate the prompt alert and notification system utilizing the primary notification system and the emergency alert system through exercise play.

Objective 5: Demonstrate the effectiveness of plans, policies, and procedures in the joint information center for public and private sector emergency information communications.

Objective 6: Demonstrate the ability to monitor, decontaminate, register, and shelter evacuees.

Objective 7: Demonstrate the ability to provide dose projection and protective action decision making for the plume phase.

### **2.3 Exercise Scenario**

The following is a summary of the scenario developed by Duke Energy to drive exercise play.

The times for the events were approximate as the Nuclear Regulatory Commission licensee's operations crew on the reactor training simulator were provided opportunity for free play. All scenario events were simulated.

On April 26, 2017 at 0800, the plume exercise started in the control room simulator. Unit 1 was at 100 percent power. Initial conditions were a small leak in the fuel clad. Several radiation monitors (plant vent stack, containment radiation monitors, auxiliary building radiation monitors) were out of service owing to equipment malfunction. Wind direction was from 135 degrees (southwest) at 2 miles per hour with atmospheric stability class D. The weather forecast was for the wind direction to continue from 135 degrees at 2 mph with a 0 percent chance of precipitation.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

At 0804, the Metal Impact Monitoring System alarmed indicating a loose part in the reactor cooling system. By 0808, Harris may or may not declare a Notification of an Unusual Event based on emergency action level SU 4.2, valid failed fuel detector alarm.

Chemistry sampling determined a concentration of iodine in the reactor coolant system that corresponded to a 2 percent fuel clad damage. By 0838, Harris declared an Alert based on emergency action level FA1.1, potential loss of fuel cladding.

At 0935, there was a loss of coolant accident of 300 gallons per minute into the reactor containment. At 0938, the reactor was shut down. One of the two emergency diesel generators failed to start. By 1005, a Site Area Emergency was declared based on emergency action level FS1.1, loss or potential loss of any two barriers (fuel cladding and reactor coolant system barriers).

At 1057, the size of the loss of cooling increased and additional fuel clad damage occurred due to thermal shock. Also, there was a release of radioactive gas to the environment from a breach in the containment ducting going through the Auxiliary Building exhaust into the environment. The Control Room was unaware of this as the Auxiliary Building radiation monitors were out of service. At 1102, plant personnel reported a large air flow and high radiation levels of 25 R/hr near Auxiliary Building exhaust. By 1132, a General Emergency was declared based on emergency action level FG1.1, loss of two fission product barriers, and the potential loss of a third barrier (reactor containment barrier).

By 1132, Harris issued a Protective Action Recommendation to evacuate subzones A, B, L; and shelter subzones C, D, E, F, G, H, I, J, K, M, N. The basis was the plant conditions with an unmonitored radiological release in progress.

At 1159, at 0.5 miles from the point of release (off-site), the Harris field teams observed a closed window reading of greater than 1000 mR/hr and an iodine concentration of 1.2E-05 microcuries per cubic centimeter. The Harris dose assessment team did not have release rate data to work with as the effluent radiation monitors were out of service. Hence, using the field team data as a basis Harris dose assessment team calculated the total effective dose equivalent level was exceeded out to 0.7 miles off-site, and the thyroid dose was exceeded at 2 miles off-site.

At 1214, Harris issued an upgraded recommendation to administer potassium iodide to the public.

By 1400, the evaluated exercise would end if all objectives were met.

## **Section 3: Analysis of Capabilities**

### **3.1 Exercise Evaluation and Results**

This section contains the results and findings of the evaluation of all jurisdictions and functional entities that participated in the April 26, 2017 partial participation plume exposure pathway exercise and out of sequence activities of April 10-14, 2017.

Each jurisdiction and functional entity was evaluated based on the demonstration of core capabilities, capability targets and critical tasks and the underlying Radiological Emergency Preparedness criteria as delineated in the FEMA REP Program Manual dated January 2016. Exercise criteria are listed by number, and the demonstration status of those criteria are indicated by the use of the following terms:

- M: Met (no unresolved level 1 or level 2 findings assessed and no unresolved findings from prior exercises)
- 1: Level 1 finding assessed
- 2: Level 2 finding assessed or an unresolved level 2 finding(s) from a prior exercise
- P: Plan issue
- N: Not demonstrated

### **3.2 Summary Results of Exercise Evaluation**

The Homeland Security Exercise and Evaluation Program evaluation methodology is an analytical process used to assess the demonstration of specific capabilities during an exercise. A capability provides a means to perform one or more critical tasks under specified conditions and to specific performance standards. Core capabilities form the foundation of the Federal Emergency Management Agency Region IV Radiological Emergency Preparedness Program evaluations. The core capability summaries below provide an overall combined assessment of state and local jurisdictions based upon their collective demonstrated performance as it relates to the specific core capability. Each jurisdiction's standalone capability summaries are listed in Section 3.3 of this report.

**Operational Coordination:** Key leadership personnel from different agencies established and maintained a unified and coordinated operational structure which provided effective direction and control. The facilities which were activated contained ample working space, equipment, and communications capabilities to allow responders to perform their respective roles. The overall decision making process appropriately integrated all critical stakeholders and enabled the implementation of these decisions in a timely manner.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Operational Communications:** The facilities that were activated contained ample communications capabilities to allow responders to perform their respective roles. Communications in support of situational awareness and operations were performed with one communication system failure in Chatham County when the Duke Emergency Management Network Decision Line experienced static during a discussion. The failed system was seamlessly replaced by one of the backup systems. The system failure had no observed impact on the operations.

**Public Information and Warning:** The risk jurisdictions aided by the State of North Carolina effectively demonstrated the activation of the primary alert and notification system. This system uses a series of 83 fixed sirens, followed by the issuance of emergency alert system messages and waterway boater notification to alert the public in the event of an emergency at the Harris Nuclear Plant. In addition, specific hazard instructions were provided to the public and media using supplemental news releases and formal media briefings in the joint information center. The public information officers operated within a joint information system structure which was defined and supported by each jurisdiction's emergency operations center. The combined effort of these agencies led to the successful demonstration of this core capability.

**Situational Assessment:** State personnel successfully demonstrated the ability to independently assess radiological and plant conditions. The staff made well-reasoned recommendations to the decision makers concerning the possible radiological impacts off-site. This assessment helped the leadership validate their precautionary and protective action decisions.

**Environmental Response/Health and Safety:** During out of sequence activities Wake County and Chatham County emergency workers demonstrated the ability to perform radiological monitoring and decontamination of evacuees at their designated reception centers. Additionally, both counties conducted emergency worker decontamination operations and implemented radiological exposure control procedures. Appropriate procedures were used to ensure the protection of the health and safety of the public and local responders. The other risk counties were not required to demonstrate this capability during this exercise

**On-Scene Security, Protection and Law Enforcement:** State and county law enforcement agencies demonstrated the ability to coordinate and implement appropriate traffic and access control operations. The simulated establishment of these traffic control points supported the protective action decisions to ensure a safe and secure environment of the affected population and communities.

**Critical Transportation:** Wake County school officials accomplished through interview that protective actions can be implemented relative to the endangered schools in the Harris Nuclear Plant 10-mile emergency planning zone. The officials verified that the school districts maintain procedures and have ample transportation assets to safely

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

relocate students, staff and faculty. Chatham County was not required to demonstrate schools during this exercise, and the other risk counties of Harnett and Lee do not have schools inside the emergency planning zone.

**Mass Care:** Wake County demonstrated the ability to provide shelter and support services consistent with planning guidelines. During the county's annual shelter drill, they activated Sanderson High School, a pet friendly all hazard shelter. Utilizing the support of multiple county agencies and the regional American Red Cross, Wake County demonstrated they were capable of providing life-sustaining and sheltering services to the affected populations. The other risk counties were not required to demonstrate during this exercise.

### **3.3 Jurisdictional Summary Results of Exercise Evaluation**

#### **3.3.1 State of North Carolina**

##### **3.3.1.1 State Emergency Operations Center**

###### **Operational Coordination Capability Summary:**

The North Carolina State Emergency Response Team staff and team partners successfully demonstrated the ability to establish and maintain a unified operational process to support a coordinated response to a simulated radiological incident at the Harris Nuclear Plant. They successfully coordinated actions with Wake, Chatham, Harnett, and Lee counties. Notional contact with the adjacent States of Georgia, Kentucky, South Carolina, Tennessee and Virginia, and the Federal Emergency Management Agency, Region IV was established and maintained. The U.S. Nuclear Regulatory Commission participated as a player in this exercise.

Initial notification of an emergency at the Harris Nuclear Plant was received by the state warning point over the Duke Emergency Management Network electronic notification system. State Emergency Response Team staff were notified and responded to the North Carolina state emergency operations center. Notifications to the Governor and other key leaders were also completed in a timely manner.

Communications systems were modern and redundant. One communication system failed and was replaced between the State and Chatham County, which was accomplished seamlessly by one of the backup systems. The system failure had no observed impact on the operations. The North Carolina state emergency operations center was a spacious and secure facility with adequate supplies and equipment to support 24-hour emergency operations.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

In the early stages of the simulated emergency, the State Emergency Response Team acted in a supporting role. The State Emergency Response Team leader maintained direction and control of his team in support of the four risk counties. He participated in conference calls with the risk counties, concurred with decisions made by the lead risk county director, and coordinated the release of emergency alert system messages. One of his major roles was coordinating activities and requesting support from other states and Federal agencies. Periodic briefings with the team throughout the exercise enhanced situation awareness and coordination among responding agencies.

When the risk counties requested the State of North Carolina assume direction and control of the simulated emergency the Governor accepted and the State Emergency Response Team leader became the incident commander for the remainder of the simulated emergency. In this role he continued the established joint decision making process for the protective action decisions for the general population. The joint process considered relevant factors and conditions at the time the protective action decisions were made.

Following briefings from the Public Health and the Radiation Protection Section directors, the State Emergency Response Team leader made the decisions to have emergency workers and general public ingest potassium iodide. Coordination to issue potassium iodide and the required documentation was made with the risk counties. He continued to keep the public informed, continued to support the needs of the risk counties, and continued coordination with other states and Federal agencies.

For this capability the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.e.1, 2.a.1, 2.b.2., 3.d.1, 3.d.2.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Operational Communications Capability Summary:**

The State Emergency Response Team members demonstrated numerous communications platforms during the simulated emergency response. Commercial and government communications systems along with web based incident management software enabled multiple jurisdictions to maintain a unified coordinated response. Collectively these systems enhanced the communication capability, facilitating timely uninterrupted communications in support of all response agencies.

For this capability the following Radiological Emergency Preparedness criterion was MET: 1.d.1.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

**Public Information and Warning Capability Summary:**

State emergency operations center personnel demonstrated the ability to activate the prompt notification system and provide accurate emergency information and instructions to the public and the news media in a timely manner.

Emergency management directors from the state and Wake, Chatham, Harnett, and Lee Counties frequently participated in decision line conference calls to discuss implementation of precautionary actions, protective actions, and activation of the prompt alert and notification system.

Emergency alert system messages were coordinated on the conference call line for concurrence from all parties. Three emergency alert system messages were broadcast and the messages were then re-broadcast by the National Weather Service. All emergency alert system messages contained the minimum required elements. Wake County served as the lead county for siren activation.

Three public information officers were mobilized to the state emergency operations center. One served as the state lead public information officer and two operated the public inquiry line. The state lead public information officer and the joint information center lead public information officer maintained frequent communication. Within the state emergency operations center the state lead public information officer maintained

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

frequent communication with the State Emergency Response Team leader, plans chief, and other key leadership personnel.

No news releases were generated from the state emergency operations center during this exercise. Initial messages were generated and distributed to the public and media by the counties. Media messaging was later coordinated at the joint information center upon its activation. The State Emergency Response Team leader maintained approval authority of all five news releases generated by the joint information center. The State had access to Spanish and sign language interpreters, if required.

Public inquiry staff responded to public inquiry calls and provided accurate information to the public in a timely manner. Staff utilized the emergency information calendar, a public inquiry binder, emergency alert system messages, news releases, and media briefing information to provide accurate information to the public. Trends regarding agriculture and livestock were identified by public inquiry staff. Questions between staff members were openly discussed with the state lead public information officer.

For this capability the following Radiological Emergency Preparedness criteria were MET: 5.a.1, 5.b.1.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

### 3.3.1.2 Central Branch Office

#### **Operational Coordination Capability Summary:**

Central Branch Office personnel demonstrated the capability to effectively activate and manage the Regional Coordination Center- Central. The branch manager provided timely staff updates and briefings and considered their input in decision making. In accordance with incident command system methodology, an Incident Action Plan was developed and implemented. Communication systems were redundant and functional. The center was well equipped with supplies to facilitate emergency response. The branch manager successfully provided direction and control and made timely decisions throughout the exercise. The Regional Coordination Center- Central staff kept the counties in the 50-mile ingestion pathway emergency planning zone informed of the status of the emergency response.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

### 3.3.1.3 Dose Assessment

#### **Situation Assessment Capability Summary:**

North Carolina Department of Environmental Quality, Division of Health Service Regulation, Radiation Protection Section staff responding to the state emergency operations center successfully demonstrated the ability to assess radiological and plant conditions and to provide appropriate recommendations to decision makers.

In accordance with the extent of play agreement, Radiation Protection Section staff were prepositioned and prepared to perform technical assessment functions promptly upon being notified of the emergency at the plant.

Dose assessment personnel demonstrated proficiency in the use of dose assessment software to calculate dose projections. Prior to the start of the radiological release, the staff calculated several hypothetical dose projections based on plant conditions and possible release scenarios. Following the start of the release, the staff first calculated dose projections based on plant conditions and the release pathway. When field team monitoring and sampling data became available, the staff used that data for calculations. Radiation Protection Section personnel also effectively utilized the U.S. Nuclear Regulatory Commission's Emergency Response Data System to stay current with changing plant conditions and to monitor trends.

The Radiation Protection Section director frequently obtained updated information from his staff and proactively discussed potential protective actions with the state emergency response team leader and Division of Public Health director. The Radiation Protection Section director participated in all decision making conference calls and provided technically sound recommendations to decision makers.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following Radiological Emergency Preparedness criterion was MET: 2.a.1, 2.b.1, 2.b.2.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

### 3.3.1.4 Emergency Operations Facility

#### **Operation Coordination Capability Summary:**

Personnel from North Carolina emergency management and the Radiological Protection Section successfully demonstrated the ability to assist in maintaining a unified and coordinated operational process that appropriately integrated critical stakeholders.

In accordance with the extent of play the personnel were prepositioned in the area. All personnel were knowledgeable of their alert and notification process to respond to an emergency. Sufficient and appropriate computer and voice communication equipment were available and worked throughout the exercise. All personnel had proper dosimetry and radiation survey instruments and were aware of their proper use and dose limits.

The North Carolina emergency management and Radiation Protection Section liaisons were proactive throughout the exercise in passing information to the state emergency operations center, and from the state to Duke Energy management. The field team liaison kept the state informed of where the Duke Energy field teams were located and what dose rates they were observing. The emergency management liaison would inform the Duke Energy emergency manager whenever the state or counties were taking protective actions and kept the state and county emergency managers informed of changes in plant conditions. The dose assessment and radiation protection liaisons also relayed information as soon as they had the approved information.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following Radiological Emergency Preparedness criteria were MET: 3.a.1, 2.b.2.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

### 3.3.1.5 Joint Information Center

#### **Public Information and Warning Capability Summary:**

Public information officers and support staff from the offsite response organizations of the Harris Nuclear Plant 10-mile emergency planning zone successfully integrated into an effective team. The collaboration and coordination of the participants enabled all to develop and disseminate accurate, timely and useful emergency public information. The U.S. Nuclear Regulatory Commission participated as a player in the exercise.

The joint information system, and subsequently, the joint information center, was activated in accordance with established procedures following the Alert emergency classification level declaration. In accordance with the extent of play agreement, state and county personnel were prepositioned in the area and entered the facility after receiving their prescribed notifications.

Redundant communication capabilities and supplies to support emergency operations were readily available and sufficient to support the response. An electronic emergency management and tracking system, cell phone, texts, and emails were all used as the primary means of communication. All operated without fail during the exercise.

Collectively, the joint information center generated 29 news releases. All published products contained accurate, timely, and useful information containing the essential elements required by prescribing directives. They also conducted two formal media briefings following the Alert and General Emergency classification levels.

Public inquiry was completed by Duke Energy staff in the joint information center and the State of North Carolina from the state emergency operations center. The spokespersons were aware of the calls received and addressed trends and rumors during the media briefings. Information approved to be released on social media was posted on the bottom of several news releases.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.d.1, 1.e.1, 5.b.1.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

**3.3.1.6 Waterway Warning- Lakes Harris and Jordan**

**On-Scene Security, Protection and Law Enforcement Capability Summary:**

Emergency management officials demonstrated the alert, notification, and evacuation of Lake Harris, Lake Jordan, and the associated portions of the Cape Fear, Haw and Deep Rivers in a multi-agency task force operating at multiple locations. The Wake County Sheriff's Office, responsible for Lake Harris, would normally use one command boat and one patrol boat (one boat demonstrated). Officers of the North Carolina Wildlife Resources Commission, North Carolina State Parks Police, North Carolina State Highway Patrol, and the Chatham County Sheriff's Office cleared Lake Jordan and the surrounding recreation land area. The incident commander established an incident command post at the Chatham County emergency operations center, where he and the operations section staff effectively oversaw clearance operations while ensuring the safety of the officers. Four patrol boats would normally be employed, with two demonstrated (one by the North Carolina Wildlife Resources Commission and one by the Chatham County Sheriff's Office). The North Carolina State Highway Patrol Special Operations/Aviation Unit provided rotary aviation support (simulated), and the State Parks officers performed evacuation of the visitor center, campgrounds, boat ramps, and other public access areas on land. All personnel were well versed on emergency worker dosimetry use, their mission requirements, and demonstrated their ability to warn the public. The emergency management officials and law enforcement officers of this multi-agency task force demonstrated commendable professionalism and expertise.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following Radiological Emergency Preparedness criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 5.a.3.

- a. **Level 1 Finding:** None
- b. **Level 2 Finding:** None
- c. **Not Demonstrated:** None
- d. **Prior Level 2 Findings – Resolved:** None
- e. **Prior Level 2 Findings - Unresolved:** None

### 3.3.2 Risk Jurisdictions

#### 3.3.2.1 Wake County, North Carolina

##### 3.3.2.1.1 Emergency Operations Center

###### **Operational Coordination Capability Summary:**

The Wake County emergency management manager and his deputy effectively demonstrated the capability to establish and maintain a unified and coordinated command structure in response to an incident at the Harris Nuclear Plant. As the lead agency for direction and control for most of this event, the manager and his staff directed the coordination and concurrence of protective action decision making with critical stakeholders. Clear guidance, direction, and mission tasking ensured situational awareness throughout the event.

Effective procedures and communication systems were employed to promptly alert, notify, and mobilize key staff to activate the emergency operations center in a timely manner. There were no communication failures. There were sufficient equipment and supplies to support emergency operations. Procedures and resources were in place to activate, establish, and manage the area command post, traffic and access control points, relocation of students and evacuation of at risk populations to county reception and congregate care centers.

With one exception, as discussed in the public information and warning capability summary, the coordination and concurrence on the implementation of protective action decisions for the general public and emergency workers was in accordance with their plans and procedures. All staff were professional and knowledgeable.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

For this capability the following REP criteria were MET: 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.

**Public Information and Warning Capability Summary:**

The Wake County emergency management and public affairs staffs effectively demonstrated the ability to inform and warn the public during this exercise from the Wake County emergency operations center. This included primary alerting and notification of the public through activation of the alert and notification system, the ability to provide backup alerting in case of siren failure, and the ability to provide accurate emergency information and instructions to the public and news media in a timely manner.

Wake County demonstrated the procedures for activating the alert and notification system while it retained direction and control of the response. After receiving declaration of a Site Area Emergency the emergency management manager coordinated the decision to activate the siren system and issue an emergency alert message with the other risk counties and the state. During the call the EAS message broadcast time was incorrectly stated as 15 minutes after the siren sounding time and all of the participants agreed to that time on the call. When the State assumed direction and control from Wake county they exercised coordination of the alert and notification system and the following two EAS messages were broadcast in a timely manner.

Through interview, the Wake County Sheriff's Office representative described how backup route alerting would be accomplished by law enforcement personnel should siren failures occur.

Under the direction of the Wake County emergency operations center manager, the public information officer and his assistant developed accurate and timely news releases using pre-scripted messages from their procedures. While Wake County was the lead for direction and control, the emergency operations center manager coordinated news releases with Lee, Chatham, and Harnett Counties, and the state. When the state assumed direction and control, Wake County news releases were written at the joint information center for inclusion in their informational products. Public inquiry and rumor control capabilities were demonstrated through the activation and staffing of the call center at the emergency operations center.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.b.1.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

### 3.3.2.1.2 Apex Area Command Post

#### **Operational Coordination Capability Summary:**

Wake County successfully demonstrated the ability to conduct the operational coordination core capability by establishing an area command post near the town of Apex, North Carolina. Command post staff (pre-staged according to the extent of play agreement) explained appropriate procedures to alert, notify, and mobilize personnel to staff the command post. They demonstrated their primary (commercial phone lines) and backup communications (cellular phones and radio) and displayed maps, status boards, communication logs, and the Wake County information system throughout the exercise.

The Incident Commander, using incident command system procedures, demonstrated effective direction and control throughout the exercise. He ensured procedures were in place to provide necessary information, dosimetry, potassium iodide, and records for any personnel sent inside the 10-mile emergency planning zone. Appropriate procedures for traffic and access control staffing, alerting citizens, assisting in evacuations, and clearing or re-routing traffic around impediments were all described to the evaluator. A liaison from the Wake County emergency operation center played an important role in answering questions, providing resources, and providing the protective action decisions to the Incident Commander.

For this capability the following REP criteria were MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.a.1, 3.d.1, 3.d.2.

### 3.3.2.1.3 Traffic Control Points

#### **On-Scene Security, Protection and Law Enforcement Capability Summary:**

The Apex Police Department successfully demonstrated the ability to effectively establish and maintain traffic control points. They were well versed in the law enforcement aspects related to traffic control point establishment and management. The officers were well trained and exhibited sufficient knowledge of dosimetry, personal protective measures, and pertinent aspects related to the ingestion of potassium iodide. They similarly were equipped with information that could assist them in responding to queries from evacuees regarding reception and congregate care centers.

Apex police officers were interviewed regarding identifying and resolving traffic impediments during an evacuation. They stated they would remove the impediment by whatever means necessary. They would call their supervisor and report the nature of the impediment and ask that appropriate operators and equipment be dispatched to the site, such as a tow truck, fire truck, or ambulance. If the impediment was one that could be cleared by an evacuee with a truck, or other vehicle that could assist, they would request assistance from the public in order to keep the flow of traffic moving.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 3.d.1, 3.d.2.

#### **3.3.2.1.4 Protective Actions for Schools**

##### **Critical Transportation Capability Summary:**

The Wake County Public School System successfully demonstrated its ability to execute protective measures for schools through interviews with staff from Lufkin Road Middle School. Additionally, there were representatives from Wake County Public School System Transportation Division, Risk Management and Wake County Emergency Management. They were knowledgeable of their procedures and had a system for recall of busses and drivers. They sufficiently demonstrated the county school system is prepared to safeguard students, staff, and faculty of at risk schools in the event of a nuclear incident at the Harris Nuclear Plant.

For this capability the following REP criteria were MET: 3.c.2.

#### **3.3.2.1.5 Emergency Worker Decontamination**

##### **Environmental Response and Health and Safety Capability Summary:**

City of Raleigh Fire Department and Wake County Emergency Management personnel successfully demonstrated the ability to perform radiological monitoring and decontamination of emergency workers and vehicles at the PNC Arena emergency worker and vehicle decontamination station. Effective signage was placed to assist personnel processing through the site, resulting in a setup that was very functional, but simple to follow and understand, minimizing the chance for cross contamination. The radiological officer gave a good safety and radiological briefing to the entire monitoring and decontamination team. Emergency workers wore appropriate protective clothing and dosimetry, were familiar with dosimeter reading and recording requirements, and were knowledgeable of administrative dose limits. Workers properly set up and used a portal monitor and handheld instruments to detect radiological contamination, were knowledgeable of contamination action levels and decontamination procedures, and provided appropriate information and instructions to emergency workers arriving at the station.

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 6.b.1.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**3.3.2.1.6 Reception and Congregate Care Center**

**Environmental Response/Health and Safety Capability Summary:**

Wake County successfully demonstrated the ability to assess radiological hazards through radiological monitoring and establishing contamination control. The county managed radiological exposure by providing radiological safety briefings, implementing radiation exposure limits and issuing personal dosimetry to all emergency workers. The emergency workers demonstrated good survey monitoring techniques and worked well as a team. The information flow between the emergency workers concerning the recorded status and condition of the contaminated individuals was good. Each emergency worker gave clear and concise directions to the surveyed individuals. All agencies involved in the monitoring and decontamination team exhibited outstanding team work, effective communication skills, a strong understanding of exposure control, and demonstrated thorough monitoring and decontamination techniques.

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 3.b.1, 6.a.1.

**Mass Care Core Capability:**

Wake County was prepared to provide evacuees immediate shelter, security, food, water, sleeping space, sanitation facilities, and medical care. Preparations to establish the Sanderson High School shelter for evacuees from the 10-mile emergency planning zone within the county would begin at the Alert emergency classification level. The Wake County Human Services, Division of Public Health was responsible for the coordination of all government and non-government agencies involved. An American Red Cross certified shelter with a capacity for 450 evacuees, the high school campus had adequate space, sufficient resources, and utilities to support the assigned mission. Contamination of the shelter was prevented by use of green colored armbands distributed by the monitoring and decontamination staff. Only evacuees with armbands who had processed through the monitoring station and reception desk were allowed inside the shelter facility. In accordance with county plans, potassium iodide is stored with the county health department and would be moved to the shelter and distributed by public health staff when ordered to do so.

For this capability the following REP criteria were MET: 1.e.1, 6.c.1.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

### **3.3.2.2 Chatham County, North Carolina**

#### **3.3.2.2.1 Emergency Operations Center**

##### **Operational Coordination Capability Summary:**

Chatham County emergency management officials successfully demonstrated the ability to respond to a radiological emergency. The emergency operations center staff, composed of a variety of supporting agencies, were capable of responding in a timely manner upon initial notification and rapidly assumed their duties. The director effectively gathered pertinent emergency information and analyzed it with county officials and staff. Appropriate decisions were based on feedback and concurrence from county stakeholders. Periodic staff briefings kept the staff informed of emergency conditions and plant status. The briefings were followed by round table discussions with emergency operations center staff to identify actions they were taking and encouraged proactive planning.

The emergency operations center had redundant means of communications, to include internet access, electronic mail, commercial land lines, cell phones, and other hand-held electronic devices. Backup communications also included facsimile machines, 800-megahertz radios, and satellite phones. An electronic incident management system was used to maintain situational awareness and track assistance requests. Status calls and discussions among the risk counties and the state concerning protective actions were coordinated using dedicated notification and conference bridge lines. As a result of continuous improvement of the facility, sufficient equipment and supplies ensured emergency operations could be sustained for extended operations as required.

Agency representatives were knowledgeable of appropriate dosimetry, potassium iodide, and procedures to ensure safe radiological exposure of emergency workers performing route alerting and waterway clearance operations. County health department representatives performed potassium iodide pre-distribution to general public and described immediate delivery to the three county shelters. Four persons with disabilities and access/functional needs were identified and relocated to a reception center through coordination with county transit and the county fire department. The school representative described procedures to implement protective actions to ensure the safety of the students and staff. All staff members were knowledgeable and effectively used county plans to ensure the safety of the public and emergency workers.

For this capability the following REP criteria were MET: 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.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Public Information and Warning Capability Summary:**

Chatham County public information staff successfully demonstrated the ability to accurately and efficiently coordinate and communicate with the public and media. The public information staff coordinated with public information officers from the school district as well as other agencies to ensure information relayed to the county representative in the joint information center was accurate and complete. Rumor control was effectively managed and logs were maintained. The staff ensured messages describing protective action decisions were made in a timely manner and without delay.

Waterway warning procedures were initiated following the declaration of an Alert at the plant. A simulated activation of the State's emergency alert system was done in conjunction with the sounding of the fixed siren system by Wake County. All messaging was in accordance with established plans and procedures.

The county Fire Marshal explained the process of coordinating personnel and equipment for backup route alerting in the event of a siren failure. Radiological equipment, potassium iodide, and pre-scripted messages, maps, and plans were available to all personnel conducting backup route alerting. Fire department personnel from the Moncure and North Chatham Fire Departments would use vehicles with public address systems.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.b.1.

**3.3.2.2 Backup Route Alerting**

**Public Information and Warning Capability Summary:**

The Moncure Fire Department successfully demonstrated the ability to perform backup route alerting in the event of a siren failure involving the Harris Nuclear Plant. Operating out of Moncure Fire Station #8, they completed backup route alerting and notification of the public, with a sense of urgency and without undue delay, following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation.

The Moncure Fire Department received initial notification of a possible emergency at the Harris Nuclear Plant, and the Fire Chief quickly assembled response notification teams. He briefed them on the situation and issued them radiological emergency worker kits. When the plant emergency escalated and emergency management officials activated the siren system, the Fire Chief was told that siren C11 had failed (simulated). The Fire Chief briefed the firefighters on the notification mission, using a prepared C11 route alerting map. Using the map and their extensive knowledge of the area, the response team broadcast a pre-recorded announcement over the vehicle public system to deliver prompt, reliable, and actionable information to the affected area. The announcement was

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

clear and consistent, and effectively relayed accurate information on the emergency.

For this capability the following REP criteria were MET: 1.a.1, 1.e.1, 3.a.1, 5.a.3.

### **3.3.2.2.3 Emergency Worker Decontamination**

#### **Environmental Response and Health and Safety Capability Summary:**

Chatham County Emergency Services and Pittsboro Fire/Rescue Department emergency workers successfully demonstrated the ability to perform radiological monitoring and decontamination of personnel, emergency vehicles, and equipment at Pittsboro Fire Station #3. The station had adequate space, resources, and personnel to provide monitoring and decontamination of emergency workers and emergency equipment. Control of contamination was facilitated by the use of personal protective equipment, and the monitoring and decontamination stations were set up in accordance with procedures. Signs, stanchions and ribbons were used for providing personnel flow directions and controlling area access. Receptacles were available to collect potentially contaminated waste. Emergency workers practiced good survey methods and used their job aids while processing potentially contaminated emergency workers and vehicles. Decontamination methods and procedures were in accordance with established plans and procedures and conducted in a timely manner.

For this capability the following REP criteria were MET: 1.e.1, 3.a.1, 6.b.1.

### **3.3.2.3 Harnett County, North Carolina**

#### **3.3.2.3.1 Emergency Operations Center**

##### **Operational Coordination Capability Summary:**

The Harnett County emergency manager demonstrated excellent direction and control of the county emergency operations center in response to a simulated radiological incident. One county commissioner and the county manager participated in the exercise. Support organizations received continuous information on the situation as it developed. The emergency operations center staff received a constant up-to-date flow of information from the emergency manager and assistant. Communications throughout the exercise worked well, and kept the leadership updated. There were redundant communication systems available to support the response and all operated without fail. Radio Amateur Civil Emergency Service/Amateur Radio Emergency Service personnel actively participated in the exercise.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

Support agencies were readily identifiable by placards above each grouping of tables, and all agencies had access to their portion of the plans. Flat screen televisions, electronic information boards, maps, and dry erase boards were located throughout the room, making it easy for all personnel to stay up-to-date. The facility had ample space, supplies, and equipment to support 24-hour emergency response.

For this capability the following REP criteria were MET: 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.

**Public Information and Warning Capability Summary:**

The emergency operations center staff was successful in their demonstration to coordinate the primary alert and notification information to the public in a timely manner. Through interview, the county radiological officer described all aspects of back-up route alerting and that it could be accomplished in a timely manner. The public information officers coordinated with their counterparts in the joint information center to ensure the public was notified of protective action decisions in a timely manner.

The public information officers successfully developed and distributed emergency information and instructions to the public. The public inquiry function was conducted at the county emergency operations center with two personnel answering the public inquiry phone lines. Media briefings were conducted at the joint information center. News releases were developed in the joint information center, and forwarded electronically to the emergency operations center for approval by the emergency director.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.b.1.

**3.3.2.4 Lee County, North Carolina**

**3.3.2.4.1 Emergency Operations Center**

**Operational Coordination Capability Summary:**

Lee County emergency services personnel and emergency operations center support staff successfully demonstrated the capability to establish and maintain a unified and coordinated operational structure and process while integrating all critical stakeholders.

Emergency operations center staff were notified and mobilized in an efficient manner using a reverse calling system. The emergency operations center had sufficient equipment and communication capabilities for conducting operations and coordinating response actions with stakeholders.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

Emergency operations center staff were familiar with their plans and responsibilities. They used their position specific workbooks to accomplish their missions. Law enforcement representatives established and managed traffic and access control during the emergency to support evacuation. Implementation of protective actions for school children, individuals with access and functional needs, and emergency workers were well coordinated to ensure appropriate resources were available to accomplish the mission.

The Lee County emergency services director provided clear guidance and direction throughout the exercise. Frequent briefings were provided to the emergency operations center staff as the situation dictated. The director coordinated with the state when tasking missions, and followed up with each agency to ensure actions were being worked and completed.

For this capability the following REP criteria were MET: 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.d.1, 3.d.2.

**Public Information and Warning Capability Summary:**

The Lee County emergency operations center staff successfully demonstrated the capability to develop and disseminate accurate and timely alerts and emergency information to the media and the public. Lee County emergency services director coordinated with the State, risk counties, and other responding agencies. The Lee County command staff concurred with the recommendation to sound the sirens and issue an emergency alert system message. A recommendation to not sound the sirens after the first was concurred upon.

The Lee County public information officer successfully demonstrated the ability to provide accurate information to the public through the joint information center. Public inquiries were quickly and accurately answered by rumor control staff.

For this capability the following REP criteria were MET: 5.a.1, 5.b.1.

### **Section 4: Conclusion**

Overall, the exercise was a success. Officials and representatives from the State of North Carolina; the risk counties of Wake, Chatham, Harnett and Lee; Duke Energy; and numerous other organizations participated in the exercise. The cooperation and teamwork of the participants was evident throughout all phases of the exercise. The Federal Emergency Management Agency wishes to acknowledge the efforts of the many individuals who participated and made this exercise a success. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still, others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. State and local emergency response organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them.

Highlights of the exercise included the accurate, and unified emergency information and instructions provided to the media, the coordination and consideration of protective action decisions. During the exercise there were examples of organizations going above and beyond the requirements of the exercise. Some of these examples included activation of the waterway clearance, Wake county's use of an incident action plan, and 12 hours shift changes. This demonstrated the commitment of the jurisdictions involved to always strive to improve their response.

All jurisdictions met their exercise objectives and successfully demonstrated the corresponding Core Capabilities identified in Section 2.2 of this report. The Federal Emergency Management Agency did not identify any level 1 or level 2 findings during this exercise.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

This page is intentionally blank.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

### Appendix A: Exercise Timeline

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken							
		SERT/SEOC	RPS Dose Assessment	Central Branch	JIC	Wake County	Chatham County	Harnett County	Lee County
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0817	0824	0827	0827	0840	0827	0827	0827	0827
Site Area Emergency	0922	0927	0928	0927	0928	0929	0927	0928	0928
General Emergency	1109	1123	1120	1125	1109	1124	1122	1122	1119
Simulated Rad. Release Started	1107	1123	1120	1125	1109	1124	1122	1122	1119
Simulated Rad. Release Ended	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational	0900	0835	0827	0830	0936	0834	0844	0850	0843
Exercise End*	1316	1308	1308	1319	1308	1305	1319	1322	1310
Transfer of Control to State of North Carolina		1004	1004	1004	1004	1004	1004	1004	1004
Declaration of State of Emergency Local						1003	0940	0952	0948
State		0947		0947	0947	0947	0947	0947	0947
<b>Precautionary Actions:</b> Early Release Schools: Chatham County, Wake County, Harnett County, Lee County Close Harnett County Park Waterway Clearing: Jordan Lake, Harris Lake Chatham County and Wake County – Prepare to evacuate special needs population		0934		0934		0934	0934	0934	0934
1st Protective Action Decision: Public Warning		0937		0937	0937	0937	0937	0937	0937
1st Siren Activation		0950		0950	0950	0950	0950	0950	0950
1st EAS Message (Stay Tuned) - #2		1005		1005	1005	1005	1005	1005	1005
1st NWS Message (Stay Tuned)		1015		1015	1015	1015	1015	1015	1015
<b>2nd Protective Action Decision:</b> Evacuate Zones: A, B, L, M, N Shelter in Place Zones: C, D, E, F, G, H, I, J, K		1130	1130	1132	1134	1128	1130	1132	1130
2nd Siren Activation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2nd EAS Message - #3		1140	1140	1140	1140	1140	1140	1140	1140
2nd NWS Message		1150		1150	1150	1150	1150	1150	1150
<b>3rd Protective Action Decision:</b> Evacuate Zones: A, B, L, M, N Shelter in Place Zones: C, D, E, F, G, H, I, J, K Evacuated Zones: Ingest KI		1225	1225	1225	1225	1225	1225	1225	1225
3rd Siren Activation		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3rd EAS Message - #4		1230	1230	1230	1230	1230	1230	1230	1230
3rd NWS Message		1240	1240	1240	1240	1240	1240	1240	1240
KI Decision: Emergency Workers Ingest		1128	1128	1128	1134	1128	1128	1128	1128

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

This page is intentionally blank.

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

## Appendix B: Exercise Evaluators and Team Leaders

**Regional Assistance Committee (RAC) Chair:** Kevin Keyes

**Section Chief:** J.T. Ackermann

**Site Specialist:** Robert Nash

Location/Venue	Evaluation Team	Core Capability Evaluated at each Venue
<b>State of North Carolina:</b> NCEM Director/SERT Leader: Mr. Mike Sprayberry		
SEOC	Walt Cushman* Alex Sera Glenda Bryson	Operational Coordination Operational Communications Public Information and Warning Situational Assessment
Central Branch Office	Robert Nash	Operational Coordination
Dose Assessment	Reggie Rogers	Environmental Response/Health and Safety
FMT Management	John Fill	Environmental Response/Health and Safety
FMT Operations (Red Team and Blue Team)	Michael Henry Keith Earnshaw	Environmental Response/Health and Safety
EOF	Joe Harworth	Operational Coordination
JIC	JT Ackerman* John Simpson Libby Adkins (OJT)	Public Information and Warning
<b>Wake County:</b> Director- Mr. Josh Creighton		
EOC	Ron Shaw* Roy Smith (ICF) Bruce Swiren	Operational Coordination Operational Communications Public Information and Warning
Apex Area Command Post	Robert Spence	Operational Coordination Public Information and Warning
Traffic Control Points	Robert Spence	On-Scene Security and Protection
Backup Route Alerting (interview)	Robert Spence	Public Information and Warning
Protective Actions for Schools (OOS 1400 April 11 Apex Friendship High School)	Lorenzo Lewis* Robert Nash	Critical Transportation
EWD (OOS 1000 April 13 @ PNC Arena)	Michael Dolder* Lorenzo Lewis Walt Cushman	Environmental Response/Health and Safety
Waterway Warning- Lake Harris (OOS 0800 April 12 @ Harris Lake)	J.T. Ackermann Robert Nash	Public Information and Warning
Reception and Congregate Care Center (OOS 1300 April 12 Sanderson High School)	J.T. Ackermann* Odis Spencer Robert Nash	Environmental Response/Health and Safety Mass Care
<b>Chatham County:</b> Director- Mrs. Janet Scott		
EOC	Michael Dolder Quintin Ivy	Operational Coordination Operational Communications Public Information and Warning
Backup Route Alerting	Michael Dolder	Public Information and Warning

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

Location/Venue	Evaluation Team	Core Capability Evaluated at each Venue
(OOS 1900 April 10 Moncure Station #8)		
EWD (OOS 1900 April 11 @ Pittsboro Fire Station #3)	Robert Nash* Lorenzo Lewis	Environmental Response/Health and Safety
Waterway Warning- Lake Jordan (OOS 1000 April 12 @ Jordan Lake Visitors Center and ICP @ EOC )	Michael Dolder* (ICP) Lorenzo Lewis (CCSO boat) Walt Cushman (NCWRC boat)	Public Information and Warning
<b>Harnett County:</b> EM Director - Mr. Jim Riddle		
EOC	Gerald Mclemore* Danny Loomis	Operational Coordination Operational Communications Public Information and Warning
Reception and Congregate Care Center (OOS 1900 April 11 @ Harnett Central Middle School)	J.T. Ackermann* Odis Spencer Michael Dolder Walt Cushman	Environmental Response/Health and Safety Mass Care
EWD (OOS 1900 April 10 @ Angier Fire Department)	Robert Nash* Lorenzo Lewis J.T. Ackermann Odis Spencer Walt Cushman	Environmental Response/Health and Safety
<b>Lee County:</b> EM Director- Mr. Shane Seagroves		
EOC	Lorenzo Lewis* Matthew Bradley	Operational Coordination Operational Communications Public Information and Warning

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Appendix C: Exercise Extent of Play Agreement**

**Harris Nuclear Power Plant Graded Evaluation Exercise**

**(Partial Plume Phase Exercise)**

**Extent-Of-Play Agreement (EOP)**

**2017 Full Participation Radiological Emergency Preparedness Exercise**

*All activities will be demonstrated fully in accordance with respective plans and procedures as they would be in an actual event. This extent of play agreement is written by exception. If it is not listed as an exception it will be demonstrated as described in the plans, standard or suggested operating guides (SOGs) and/or procedures (SOPs). Any issue or discrepancy arising during exercise play may be re-demonstrated if allowed by the RAC Chair or as listed herein. This allowance may be granted if it is not disruptive to exercise play and mutually agreed to by the NCEM lead controller and FEMA lead evaluator, as designated by the RAC Chair.*

*The State of North Carolina and Duke have prepared goals addressing respective obligations. Both reflect the necessary interactions between the State and local governments as well as Duke as set forth in the North Carolina Radiological Emergency Response Plan for Nuclear Plants.*

Exercise Date: April 26, 2017

Exercise Start Time: 0730

**Exercise Objectives**

**Objective 1:** Demonstrate the ability to provide Direction and Control and make protective action decisions through the State Emergency Operations Centers, County Emergency Operation Centers (EOC), by exercise play and discussion of plans and procedures.

**Mission Area/Core Capabilities – Response/Operational Coordination and Operational Communications**

**Objective 2:** Demonstrate the ability to physically implement protective actions for State and County emergency workers, access/functional needs, schools and the public through exercise demonstration.

**Mission Area/Core Capabilities – Response/Environmental Response Health & Safety; On-Scene Security, Protection & Law Enforcement; Critical Transportation**

**Objective 3:** Demonstrate the ability to conduct independent dose assessment, management of field teams, and mobile or fixed laboratory analysis in response to a radiological release.

**Mission Area/Core Capabilities – Response/Situational Assessment; Environmental**

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

*Response Health & Safety*

**Objective 4:** Demonstrate the ability to activate Prompt Alert and Notification System (PNS includes Sirens& EAS, Back-up Route Alerting) and Emergency Alert System (EAS) through exercise play.

*Mission Area/Core Capabilities – Response/Public Information & Warning*

**Objective 5:** Demonstrate the effectiveness of plans, policies and procedures in the Joint Information System (JIS) and the establishment of the Joint Information Center (JIC) for emergency information communications.

*Mission Area/Core Capabilities – Response/Public Information & Warning*

**Objective 6:** Demonstrate the ability to monitor, decontaminate and shelter of evacuees.

*Mission Area/Core Capabilities – Environmental Response Health & Safety & Mass Care*

**Exercise Evaluation Criteria**

**Capability: Operational Coordination**

Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

**Capability Target: Emergency Operations Management**

**Performance Measure:** Procedures to alert and notify personnel will be demonstrated and personnel will respond only upon notification. Identified communications will be operational. Key personnel with leadership roles will provide direction and control. A particular facility's equipment and supplies must be sufficient and consistent with that facility's assigned role in the ORO's emergency operations plans. Specific equipment and supplies that must be demonstrated under this criterion include KI inventories, dosimetry, and monitoring equipment.

**Participants:** *State, Wake, Chatham, Harnett, Lee Counties and Apex Command Post*

**Critical Task:** OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner (Criterion 1.a.1).

*Participants may be prepositioned in proximity to their assigned response locations. Participants will not be allowed to enter their assigned exercise location prior to receiving activation/notification in accordance with plans and procedures.*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Agree**

**Critical Task:** Key personnel with leadership roles for the Offsite Response Organizations (ORO) provide direction and control to that part of the overall response effort for which they are responsible (Criterion 1.c.1).

**Agree**

**Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

**Agree**

***State of North Carolina***

*Location: State EOC*

*1636 Gold Star Dr*

*Raleigh, NC 27607*

*Date: 10 Apr 17*

*Time: 3:00 pm*

*Location: Radiation Protection Service*

*5505 Creedmoor Rd., Suite 100*

*Raleigh, NC 27612*

*Date: 11 Apr 17*

*Time: 10:00 am*

***Chatham County***

*Location: Chatham EOC*

*297 West Street*

*Pittsboro, NC 27312*

*Date: 7 Feb 17*

*Time: TBD (Immediately following Dress Rehearsal)*

***Harnett County***

*Location: SAV Harnett County ESC*

*1005 Edwards Brothers Dr*

*Lillington, NC 27546*

*Date: 8 Feb 17*

*Time: 11:00 am*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

***Lee County***

Location: Lee County Emergency Services  
204 West Courtland Drive  
Sanford, NC 27330  
Date: 8 Feb 17  
Time: 9:00 am

***Wake County***

Location: WCEM 13th Floor  
337 S. Salisbury Street  
Raleigh, NC 27601  
Date: 7 Feb 17  
Time: TBD (Immediately following Dress Rehearsal)

***Apex Area Command Post***

Location: Cary Fire Station 5  
2101 High House Road  
Cary, NC 27519  
Date: 7 Feb 17  
Time: TBD (Immediately following Dress Rehearsal)

**Capability Target: Protective Action Decision Making**

**Performance Measure:** OROs demonstrate the capability to; assess and control the radiation exposure received by emergency workers; Radiological Assessment, Protective Action Recommendations, and Precautionary and/or Protective Action Decisions for the Plume Phase of the Emergency; and Precautionary and/or Protective Action Decision Consideration for the Protection of Persons with Disabilities and Access/Functional Needs.

**Participants:** *State, Wake, Chatham, Harnett and Lee Counties*

**Critical Task:** OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI (if appropriate), is in place for EWs including provisions to authorize radiation exposure in excess of administrative limits or PAGs (Criterion 2.a.1).

**Agree**

**Critical Task:** A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PADs for the general public (including the recommendation for the use of KI, if ORO policy) (Criterion 2.b.2).

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

Agree

**Critical Task:** Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs (Criterion 2.c.1).

Agree

**Capability Target: Protective Action Implementation**

**Performance Measure:** Demonstrate the capability to select, establish and staff traffic control and access points; identify and resolve impediments to evacuation; distribute dosimetry and KI; and implement and manage EW exposure control.

**Participants:** *State, Wake, Chatham, Harnett and Lee Counties*

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

Agree

**Critical Task:** Precautionary and/or protective action decisions are implemented or persons with disabilities and access/functional needs other than schools within areas subject to protective actions. (Criterion 3.c.1).

Agree

**Critical Task:** OROs/School officials implement protective actions and/or protective actions for schools (Criterion 3.c.2).

**Management Aspect/Counties Only**

Agree

**Critical Task:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (Criterion 3.d.1).

**Management Aspect Only**

Agree

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Critical Task:** Impediments to evacuation are identified and resolved (Criterion 3.d.2).

**Note: Management Aspect Only**

**Agree**

**Capability: Operational Communications**

Ensure the capacity for timely communications in support of security, situational awareness, and operations by any and all means available, among and between affected communities in the impact area and all response forces.

Capability Target: Interoperable Communications

**Performance Measure:** OROs must demonstrate that a primary system and at least one backup system are fully functional at all times.

**Participants:** *State, Wake, Chatham, Harnett and Lee Counties*

**Critical Task:** At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations (Criterion 1.d.1).

**Capability: Situational Assessment**

Provide all decision makers with decision-relevant information regarding the nature and extent of the hazard, any cascading effects, and the status of the response.

Capability Target: Protective Action Decision Making

**Performance Measure:** OROs demonstrate the capability to; assess and control the radiation exposure received by emergency workers; Radiological Assessment, Protective Action Recommendations, and Precautionary and/or Protective Action Decisions for the Plume Phase of the Emergency; and Precautionary and/or Protective Action Decision Consideration for the Protection of Persons with Disabilities and Access/Functional Needs.

**Participants:** *Dose Assessment*

**Critical Task:** OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for EWs including provisions to authorize radiation exposure in excess of administrative limits or PAGs (Criterion 2.a.1).

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

Agree

**Critical Task:** Appropriate PARs are based on available information on plant condition, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions (Criterion 2.b.1).

Agree

**Critical Task:** A decision-making process involving consideration of appropriate factors and necessary coordination is used to make PADs for the general public (including the recommendation for the use of KI, if ORO policy) (Criterion 2.b.2).

Agree

**Capability: Public Information and Warning**

Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.

**Capability Target: Emergency Notification and Public Information**

**Performance Measure:** Sirens and the EAS System will be activated if needed in a timely manner to alert the general public along with waterway warning. Back up route alerting will take place in case of failure of the primary alert and notification system.

**Participants:** *State, Wake, Chatham, Harnett and Lee Counties*

**Critical Task:** 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, as a minimum, the elements required by current FEMA REP Guidance (Timely: The responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay) (Criterion 5.a.1).

*Per the Combined SOG, Wake County will activate the sirens for all four counties. Chatham, Harnett and Lee counties will discuss activation procedures with evaluators.*

*LPI station staff along with the State Emergency Information Director or designee will discuss procedures for the formulation, approval, release, receipt, acknowledgment/validation and broadcast of an EAS message. EAS message will not*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

be broadcasted.

As part of the graded evaluation, the initial activation of the PNS to include EAS will be simulated by the State Emergency Information Director or designee as applicable. Applicable EAS message formulation(s) and approval(s) will be demonstrated. EAS message(s) will not be given to the watch point. EAS messages will be provided to the LPI. The LPI will exercise EAS message release procedures up to the point actual release. EAS message will not be release to the public.

This can be completed during out-of-sequence.

Agree

**Capability Target: Backup Route Alerting**

**Critical Task:** Backup alert notification of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system (Criterion 5.a.3).

*Backup route alerting will be demonstrated during out of sequence. Controller will advise the counties of the route at the time of the demonstration.*

**Chatham County** (Will run one route for demonstration)

Location: Moncure Station #8

2389 Old US 1

Moncure, NC 27559

Date: 10 Apr 17

Time: 7:00-9:00 pm

Agree

**Capability Target: Public Information**

**Critical Task:** Ensure OROs provide accurate emergency information and instructions to the public and the news media in a timely manner (The responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay) (Criterion 5.b.1).

*Public messaging will not be released to the media or the public. Once the News Release is provided to FEMA, it is considered release. Procedure for the release will be discussed and determined.*

Agree

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Capability: Environmental Response/Health and Safety**

Ensure the availability of guidance and resources to address all hazards including hazardous materials, acts of terrorism, and natural disasters in support of the responder operations and the affected communities.

Capability Target: Field Team Management

**Performance Measure:** OROs have the capability to deploy and use FMTs with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume.

**Participants:** *Radiation Protection (Training only)*

**Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

*Agree*

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

*Agree*

**Critical Task:** Field teams (two or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure (Criterion 4.a.2).

*Agree*

Capability Target: Field Team Measurement and Analysis

**Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

Agree

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

Agree

**Critical Task:** Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will 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 (Criterion 4.a.3).

Agree

Capability Target: Laboratory Operations

**Critical Task:** Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (Criterion 4 C.1)

*Mobile Laboratory staging area:*

*Location: 5505 Creedmoor Rd., Suite 100*

*Raleigh, NC 27612*

*Date: 11 Apr 17*

*Time: 10:30 am*

Capability Target: Emergency Worker Decontamination

**Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

Agree

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

**Agree**

***Critical Task:*** The facility/ORO had adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles (Criteria 6.b.1).

**Agree**

***Harnett County (Training Only)***

Location: *Angier Fire Department*  
309 North Broad Street  
Angier, NC 27501  
Date: 10 Apr 17  
Time: 7:00 pm

***Harnett Note: No flowing of water for decontamination demonstration***

***Chatham County***

Location: *Pittsboro Fire Station #3 (Asbury Community)*  
60 Walter Bright Road  
Sanford, NC 27330  
Date: 11 Apr 17  
Time: 7:00-9:00 pm

***Chatham Note: Baseline Inspection-Full evaluation, water will be used outside on one vehicle only***

***Wake County***

Location: *PNC Arena*  
1400 Edwards Mill Rd  
Raleigh, NC 27607  
Date: 13 Apr 17  
Time: 12:00-5:00 pm

Capability Target: Reception Center

**Participants:** ***Wake and Harnett Counties***

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

***Harnett County (Training Only)***

Location: *Harnett Central Middle School*  
*2529 Harnett Central School Road*  
*Angier, NC 27501*  
Date: *11 Apr 17*  
Time: *7:00 pm*

***Wake County***

Location: *Sanderson High School*  
*5500 Dixon Dr.*  
*Raleigh, NC 27609*  
Date: *12 Apr 17*  
Time: *1:00-4:00 pm*

***Critical Task:*** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

***Agree***

***Critical Task:*** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

***Agree***

***Critical Task:*** KI and appropriate instructions are made available in case a decision to recommend use of KI is made. Appropriate record keeping of the administration of KI for institutionalized individuals and the general public is maintained (Criterion 3.b.1).

***KI will not be issued to evacuees***

***Agree***

***Critical Task:*** The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees (Criterion 6.a.1).

***Water will not be used for demonstration***

***Agree***

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

**Capability: Critical Transportation**

Provide transportation (including infrastructure access and accessible transportation services) for response priority objectives, including the evacuation of people and animals, and the delivery of vital response personnel, equipment, and services into the affected areas.

Capability Target: Protective Action Implementation

**Performance Measure:** Demonstrate the ability to implement precautionary and/or protective action decisions for students

**Participants:** *Wake, Chatham, Harnett, and Lee Counties*

**Critical Task:** OROs/School officials implement protective actions and/or protective actions for schools (Criterion 3.c.2).

*Include public and private schools, kindergartens, and preschools.*

*Agree*

**Wake County**

*Location: Apex Friendship High School*

*Humie Olive Road*

*Apex, NC 27502*

*Date: 11 Apr 17*

*Time: 2:00-4:00 pm*

**Capability: On-Scene Security, Protection and Law Enforcement**

Ensure a safe and secure environment through law enforcement and related security and protection operations for people and communities located within affected areas and also for all traditional and atypical response personnel engaged in lifesaving and life-sustaining operations.

**Capability Target: Access Control / Waterway Clearance**

**Performance Measure:** Demonstrate the capability to select, establish and staff traffic control and access points; identify and resolve impediments to evacuation; distribute dosimetry and KI; and implement and manage EW exposure control.

**Participants:** *State, Wake and Chatham Counties*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Wake County (Harris Lake)**

*Location: Holleman's Crossing Boat Launch  
4420 Bartley-Holleman Rd  
Holly Springs, NC 27562  
Date: 12 Apr 17  
Time: 8:00-10:00 am*

**Chatham County (Waterway Demonstration Training)**

*Location: Chatham County EOC  
297 West Street  
Pittsboro, NC 27312  
Date: 12 Apr 17  
Time: 9:00 am -11:00 am*

**Chatham County (Waterway Demonstration/Jordan Lake)**

*Location (Incident Command Post): Chatham County EOC  
297 West St  
Pittsboro, NC 27312*

***The following exercise activities may be evaluated by FEMA based on Evaluator staffing and availability.***

*Location (Waterway Demonstration-Chatham County Sheriff's Office): USACE office  
2080 Jordan Dam Rd.  
Moncure, NC 27559*

*Location (Waterway Demonstration-Possible NC WRC): Jordan Lake Visitor's Center  
280 State Park Rd  
Apex, NC 27523  
Date: 12 Apr 17  
Time: 1:00-3:00 pm*

***Chatham Note: SHP aviation support will not be used. NC Wildlife will demonstrate one boat on the water. State Parks will demonstrate one vehicle in the park of their choice. No agency back-up activities will be performed during this evaluation. Communications with Wake County will be simulated due to difference in evaluation times.***

***Critical Task:*** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

**Agree**

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

**Agree**

**Critical Task:** Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel (Criterion 3.d.1).

**Agree**

**Critical Task:** Impediments to evacuation are identified and resolved (Criterion 3.d.2).

**Agree**

**Critical Task:** Waterway warning of the public is completed within a reasonable time following the detection by the ORO of a failure of the primary alert and notification system (Criterion 5.a.3).

**Agree**

**Capability: Mass Care**

Provide life-sustaining services to the affected population with a focus on hydration, feeding and sheltering to those who have the most need as well as support for reunifying families.

**Capability Target: Support Operations and Facilities**

**Performance Measure:** Demonstrate the capability to transport contaminated injured individuals to medical facilities and provide medical services.

**Participants:** *Wake and Harnett Counties*

**Critical Task:** Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (Criterion 1.e.1).

*A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.*

**Unclassified**  
Radiological Emergency Preparedness Program

After Action Report

2017 Harris Nuclear Plant

---

**Agree**

**Critical Task:** OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to EWs in accordance with the plans/procedures. EWs periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record keeping of the administration of KI to EWs (Criterion 3.a.1).

***A prop will be utilized for Permanent Record Dosimetry and KI issuance throughout the exercise.***

**Agree**

**Critical Task:** KI and appropriate instructions are made available in case a decision to recommend use of KI is made. Appropriate record keeping of the administration of KI for institutionalized individuals and the general public is maintained (Criterion 3.b.1).

**Agree**

**Critical Task:** The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees (Criterion 6.a.1).

**Agree**

***Wake County***

***Location: Sanderson High School***

***5500 Dixon Dr.***

***Raleigh, NC 27609***

***Date: 12 Apr 17***

***Time: 1:00-4:00 pm***

**Critical Task:** Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate before entering congregate care facilities (Criterion 6.c.1).

**Agree**