



# **V.C. Summer Nuclear Station Final After Action Report**

**Exercise Date September 22, 2015**

**Radiological Emergency Preparedness Program**



**FEMA**

*Published January 15, 2016*

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## **Executive Summary**

On September 22, 2015, the Department of Homeland Security, Federal Emergency Management Agency (FEMA) Region IV Radiological Emergency Preparedness (REP) Program staff evaluated a partial participation plume exposure pathway exercise in the emergency planning zone (EPZ) for the V.C. Summer Nuclear Station (VCSNS). VCSNS is located in Fairfield County, approximately 26 miles north of Columbia, South Carolina and is operated by South Carolina Electric & Gas (SCE&G). The VCSNS EPZ is divided into 13 emergency response planning zones. The 10-mile EPZ encompasses parts of Fairfield, Lexington, Newberry and Richland Counties; with an EPZ population of approximately 14,175. The evaluation of out of sequence (OOS) activities for EPZ counties occurred March 31, April 1, August 11, and August 17–20. These OOS activities included: a medical service drill, protective actions for schools, reception and congregate care centers, emergency worker and evacuee decontamination and monitoring, vehicle decontamination and monitoring, water way warning, and traffic control. Richland County OOS activities, scheduled for October 8, 2015, were cancelled due to State and local emergency response to a Federally declared disaster caused by severe rain and flooding in Columbia and its surrounding areas.

FEMA's overall objective of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency at VCSNS. This exercise was conducted in accordance with FEMA's policies and guidance concerning the exercise of state and local radiological emergency response plans and procedures. The previous federally evaluated exercise at this site was conducted on November 20, 2013. The qualifying emergency preparedness exercise was conducted May 1981.

Officials and representatives from the State of South Carolina; Fairfield, Lexington, Newberry and Richland Counties, and SCE&G, as well as numerous volunteers participated in this exercise. These organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. FEMA did not identify any Level 1 or Level 2 Findings (formerly known as Deficiencies or Areas Requiring Corrective Action) during this exercise.

The State of South Carolina and the risk counties' emergency responders successfully demonstrated the assigned exercise objectives and corresponding Core Capabilities identified in Section 2.2 of this report. FEMA wishes to acknowledge the efforts of the many individuals who participated and made the exercise a success. The professionalism and teamwork of the participants was evident throughout all phases of the exercise.

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## **Section 1: Exercise Overview**

### **1.1 Exercise Details**

**Exercise Name**

2015 VCSNS REP Program Evaluated Exercise

**Type of Exercise**

Partial Participation Exercise

**Exercise Date(s)**

September 22, 2015

**Locations**

See the Extent of Play Agreement in Appendix D for a complete listing of locations.

**Sponsors**

South Carolina Emergency Management  
2779 Fish Hatchery Road  
West Columbia, SC 29172

V.C. Summer Nuclear Station  
1162 State Hwy 213  
Jenkinsville, SC 29065

**Program**

Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) REP Program

**Mission**

Response

**Scenario Type**

Plume Phase Partial Participation REP Exercise

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### **1.3 Participating Organizations**

The following agencies and organizations participated in the 2015 VCSNS exercise.

State Agencies:

1. South Carolina Emergency Management Division
2. South Carolina Department of Health and Environmental Control
3. South Carolina Department of Public Safety
4. South Carolina Department of Social Services
5. South Carolina Department of Natural Resources
6. South Carolina Department of Transportation



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Risk Agencies:

1. Fairfield County
    - a. Fairfield County Emergency Management Agency
    - b. Fairfield County Fire Services
    - c. Fairfield County Rescue Services
    - d. Fairfield County Public Works
    - e. Fairfield County Department of Transportation
    - f. Fairfield County Sheriff's Office
    - g. Fairfield County Department of Social Services
    - h. Fairfield County Health Department
  2. Lexington County
    - a. Lexington County Emergency Management Agency
    - b. Lexington County Fire Services
    - c. Lexington County Sheriff's Office
    - d. Town of Lexington County Police Department
    - e. Lexington County Department of Social Services
    - f. Lexington County Department of Public Works
    - g. Richland-Lexington School District
    - h. Lexington Emergency Medical Services
    - i. Lexington County Department of Transportation
    - j. Lexington Department of Health
    - k. Lexington County GIS and Mapping
  3. Newberry County
    - a. Newberry County Emergency Management Agency
    - b. Newberry County Fire Department
    - c. Newberry County Sheriff's Office
    - d. Newberry County Department of Social Services
    - e. Newberry County School District
    - f. Newberry County Department of Transportation
    - g. City of Newberry Fire Department
    - h. City of Newberry Police Department
    - i. Newberry County Department of Health
  4. Richland County
    - a. Richland County Emergency Management Agency
    - b. Richland County Emergency Medical Services
    - c. Richland County Sheriff's Office
    - d. Richland County Department of Social Services
    - e. Richland County Department of Health
    - f. Richland County Ombudsman's Office
    - g. Richland County Utilities
    - h. Richland County Coroner's Office
    - i. Richland County Assessor's Office
    - j. Richland-Lexington School District
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k. Richland County Department of Information Technology

Private Organizations:

1. American Red Cross
2. Lexington Medical Center
3. South Carolina Electric and Gas

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

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

The Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) administers the REP Program pursuant to the regulations found in Title 44 Code of Federal Regulation (CFR) parts 350, 351 and 352. Sixteen planning standards, codified in 44 CFR 350, form the basis for radiological emergency response planning for State, Tribal and local governments and the licensee, impacted by the EPZs established for each nuclear power plant site in the United States. 44 CFR 350 sets forth the mechanisms for the formal review and approval of State, Tribal and local government radiological emergency response plans (RERP) and procedures by DHS/FEMA. One of the REP 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 an emergency at the nuclear power plant.

The results of this exercise together with review of the RERPs and procedures and verification of the periodic requirements set forth in NUREG-0654/FEMA-REP-1 with supplements through the annual letter of certification and staff assistance visits enabled FEMA to provide a statement with the transmission of this final after action report (AAR) to the Nuclear Regulatory Commission (NRC) that the affected State, tribal 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.

Formal submission of the RERPs for the V. C. Summer Nuclear Station (VCSNS) to FEMA Region IV by the State of South Carolina and involved local jurisdictions occurred on March 31, 1981. Formal approval of the RERPs was granted by FEMA on November 13, 1981, under Title 44 CFR 350. A REP exercise was evaluated on September 22, 2015 and included evaluations of the OOS activities held in August, 2015. This Partial Participation Plume scenario exercise was held in accordance with FEMA's policies and guidance as specified by the REP Program Manual and the approved Extent of Play Agreement (XPA). The design incorporated exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance.

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## 2.2 FEMA Exercise Objectives and Core Capabilities

- a. **Objective 1:** Demonstrate the ability to provide emergency operations center (EOC) management including direction and control through the counties and State EOC (SEOC).
- b. **Objective 2:** Demonstrate the ability to make and implement protective action decisions (PADs) for State and county emergency workers (EWs) and the public through exercise play and discussion with EOC staff regarding their actions as governed by their plans and procedures.
- c. **Objective 3:** Demonstrate the ability to physically implement protective actions for State and county EWs and public through exercise demonstration.
- d. **Objective 4:** Demonstrate the ability to activate the Prompt Alert and Notification System (PNS) and Emergency Alert System (EAS) through exercise play and the effectiveness of plans, policies and procedures in the Joint Information Center (JIC) for public and private sector emergency information communications.
- e. **Objective 5:** Demonstrate the effectiveness of plans, policies and procedures in the Joint Information System (JIS) for public and private sector emergency information communications.

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 Homeland Security Exercise and Evaluation Program (HSEEP) Core Capabilities. The core capabilities listed below form the foundation of FEMA Region IV REP Program objectives and observations for this exercise.

- a. **Public Information and Warning:** Is the capability to 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.
- b. **Environmental Response/Health Safety:** Is the capability to ensure the availability of guidance and resources to address emergency response to all hazards including hazardous materials, acts of terrorism, and natural disasters in support of the response operations and the affected communities.
- c. **On-Scene Security and Protection:** Is the capability to 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.

- d. **Critical Transportation:** Is the capability to 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.
- e. **Mass Care:** Is the capability to 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.
- f. **Public Health and Medical Services:** Is the capability to provide lifesaving medical treatment via emergency medical services and related operations and avoid additional disease and injury by providing targeted public health and medical support and products to all people in need within the affected area.

### 2.3 Scenario Summary

The exercise commences at 0800. It is raining. The Operations Crew notices a higher than normal vibration on “A” Reactor Coolant Pump (RCP). At 0803, RM L-1 (primary coolant letdown monitor) readings increase over the next five minutes to 50,000 counts per unit (cpm), prompting a request to Chemistry for a Reactor Coolant System (RCS) sample and Health Physics for radiological surveys. Shift Manager should declare an UNUSUAL EVENT based upon EAL SU4.1, Reactor coolant activity greater than Technical Specification allowable limits (50,000 cpm). At 0840, Chemistry reports RCS activity at 2.0 microcuries per gram (2.0  $\mu\text{Ci/g}$ ) dose equivalent I-131 (DEI), indicating possible failed fuel.

At 0900, a lightning strike breaks an insulator on the 115 kV bus at the substation, taking out Engineered Safety Feature (ESF) transformer XTF 4 and 5. The 115kV bus bar falls onto bus #3 (230 kV). Bus #3 faults and de-energizes transformer XTF-31 and 32 (Emergency Auxiliary Transformers). Both emergency diesel generators (EDGs) start and load their respective ESF buses.

At 0920, “A” EDG trips (loss of “A” Bus). At 0930, Shift Manager should declare an **ALERT** based upon EAL SA 1.1, Loss of all but one AC power source to ESF buses for 15 minutes or longer.

At 1000, the rain has stopped. At 1020, the mechanical seal on “B” Spent Fuel Cooling Pump develops a 5-gallon-per-minute leak from the inboard seal, spraying water onto the motor and terminates operation. There is now no Spent Fuel Cooling since “A” Spent Fuel Cooling Pump was lost with the loss of “A” EDG.

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At 1050, “A” RCP vibrations increase. A Loose Parts Monitor System (LPMS) alarm occurs during RCP vibration for the “A” Steam Generator and the Reactor Vessel. At this time, a 50-gallon-per-minute tube leak occurs in the “A” Steam Generator. The Reactor and the “A” Steam Generator are tripped. Sample activity in the RCS remains at 2.0  $\mu\text{Ci/g}$  DEI. Main Steam Line monitor RM-G19A radiation levels are increasing (~6 mR/hr).

At 1110, a 600-gallon-per-minute tube rupture occurs in the “A” Steam Generator. Safety Injection is activated. Main Steam Line monitor RM-G19A radiation levels rise and exceed 53.5 mR/hr at 1125. The Emergency Director should declare a **SITE AREA EMERGENCY** based upon EAL RS1.1 Release of gaseous activity resulting in offsite dose greater than 100 mrem TEDE or 500 mrem thyroid CDE.

At 1135, Chemistry reports 18.91  $\mu\text{Ci/ml}$  activity in the “A” Steam Generator. At 1215, a steam leak occurs outside of containment. The faulted “A” Steam Generator is leaking out the MPV (safety relief valve). At 1230, RM-G19A readings exceed 535 mR/hr. Licensee Field Monitoring Teams confirm radiation levels at the Site Boundary. At 1240, the Emergency Director should declare **GENERAL EMERGENCY** based upon EAL RG1.1 Reading on ant Table R-1 effluent monitor > column “GE” for  $\geq 15$  minutes. At 1255, Licensee Protective Action Recommendations (PARs) will be developed based on a Rapidly Progressing Severe Accident and include EVACUATION of A-0, C-1, C-2, D-1, D-2, E-1; Shelter N/A; **consider KI** in accordance with State plans and policies.

## **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 September 22, 2015 plume exercise and OOS interviews and demonstrations conducted on August 11, 2015 and August 17-20, 2015.

Each jurisdiction and functional entity was evaluated based on their demonstration of capabilities and their equivalent REP criteria as delineated in the FEMA REP Program Manual dated January 2015. 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 level 1 or level 2 findings assessed and no unresolved findings from prior exercises)
- 1: Level 1 finding (formerly deficiency) assessed
- 2: Level 2 finding (formerly area requiring corrective action) 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 HSEEP 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. The previously described core capabilities form the foundation of the FEMA Region IV REP Program. 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 stand-alone capability summaries are listed in section 3.3 of this report.

Operational Coordination: Personnel in key leadership roles effectively demonstrated their ability to be responsive and make coordinated decisions in order to facilitate direction and control during a radiological emergency at VCSNS. Decisions were coordinated and implemented, between key leaders at the SEOC and VCSNS risk county's emergency response organizations, in a timely manner in order to maintain the safety and well-being of the general public and property. Implementation of protective actions was completed utilizing critical support and response assets and without undue delay.

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**Public Information and Warning:** SEOC and risk county leadership and staff successfully demonstrated the ability to coordinate prompt, reliable and actionable information using new releases, EAS messages and siren activation. Alert and notification of the public and media was completed in a timely manner by a “poll all” of sirens, a test EAS message broadcast through WCOS and through JIC distribution list, backup route alerting, waterway warning, news releases and press briefings. Accurate information and follow on instructions were made with the formulation of news releases and press briefings being reviewed from the JIC. Public information was consistent with protective action decisions (PAD) and contained applicable and specific instructions relative to those decisions.

**Environmental Response/Health and Safety:** State and county agencies within the VCSNS 10-mile EPZ utilized available guidance and resources effectively in order to mitigate the effects of radiological contamination to the general public and EWs. State and risk county EWs both discussed and demonstrated the issue, receipt, and utilization of the appropriate dosimetry, KI, monitoring equipment, and procedures. EWs properly managed their radiological exposure, and conducted proper reporting and documentation. The Department of Health and Environmental Control (DHEC) successfully accomplished its mission to make recommendations to protect the public and demonstrated the ability to provide dose projection. The EOF staff communicated well with the SEOC and the various Emergency Operations Facility representatives to ensure that State and County responses and PARs were coordinated properly.

**On-Scene Security and Protection:** State and local law enforcement agencies successfully demonstrated the capability to ensure the safety and security of the general public through the establishment of traffic control points (TCPs) and the discussion of removal of impediments to evacuation. The implementation of TCPs was correctly assessed and established using the appropriate equipment, resources and procedures, in a timely manner.

**Critical Transportation:** School officials from Lexington and Richland School District Five successfully discussed the implementation of protective actions for their local schools within the 10-mile EPZ. Coordination for notification of parents and guardians, transportation assets, and appropriate security in order to safeguard students and school staff, in the event of a radiological emergency, were effective.

**Public Health and Medical Services:** Medical staff of Lexington Medical Center and paramedics from Lexington County Emergency Medical Services (EMS) sufficiently demonstrated providing transportation and lifesaving medical treatment to an injured contaminated patient. They effectively mitigated additional contamination and injury to the patient and provided timely monitoring and decontamination.



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**Table 3.2 - Summary of Exercise Evaluation**

DATE: 2015-9-22 SITE: V.C. Summer Nuclear Station, SC M: Met, 1: Level 1 Finding, 2: Level 2 Finding, P: Plan Issue, N: Not Demonstrated		SC/Dose	EOF	JIC	Fairfield County	Lexington	Newberry	Richland
<b>Emergency Operations Management</b>								
Mobilization	1a1	M		M	M	M	M	M
Facilities	1b1					M	M	
Direction and Control	1c1	M			M	M	M	M
Communications Equipment	1d1	M		M	M	M	M	M
Equipment and Supplies to Support Operations	1e1	M		M	M	M	M	M
<b>Protective Action Decision Making</b>								
Emergency Worker Exposure Control	2a1				M	M	M	M
Dose Assessment & PARs & PADs for the Emergency Event	2b1	M	M					
Dose Assessment & PARs & PADs for the Emergency Event	2b2	M			M	M	M	M
PADs for the Protection of persons with disabilities and access/functional needs	2c1				M	M	M	M
Radiological Assessment & Decision-making for the Ingestion Exposure Pathway	2d1							
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1							
<b>Protective Action Implementation</b>								
Implementation of Emergency Worker Exposure Control	3a1	M			M	M	M	M
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1	M			M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1				M	M	M	M
Implementation of Protective Actions for persons with disabilities and	3c2					M	M	M
Implementation of Traffic and Access Control	3d1	M			M	M	M	M
Implementation of Traffic and Access Control	3d2	M			M	M	M	M
Implementation of Ingestion Pathway Decisions	3e1							
Implementation of Ingestion Pathway Decisions	3e2							
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1							
<b>Field Measurement and Analysis</b>								
RESERVED	4a1							
Plume Phase Field Measurement and Analyses	4a2	M						
Plume Phase Field Measurement and Analyses	4a3							
Post Plume Phase Field Measurements and Sampling	4b1							
Laboratory Operations	4c1							
<b>Emergency Notification and Public Info</b>								
Activation of the Prompt Alert and Notification System	5a1	M			M	M	M	M
RESERVED	5a2							
Activation of the Prompt Alert and Notification System	5a3				M	M	M	M
Activation of the Prompt Alert and Notification System	5a4							
Emergency Information and Instructions for the Public and the Media	5b1	M		M	M	M	M	M
<b>Support Operations/ Facilities</b>								
Monitoring, Decontamination, and Registration of Evacuees	6a1							
Monitoring & Decontamination of EW Workers & their Equipment & Vehicles	6b1							
Temporary Care of Evacuees	6c1							
Transportation and Treatment of Contaminated Injured Individuals	6d1					M		

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

#### **3.3.1 State Of South Carolina**

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

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

South Carolina Emergency Management Division (SCEMD) personnel and various supporting State Emergency Response Team (SERT) members successfully demonstrated the capability to establish and maintain a unified and coordinated operational structure and process while integrating all critical stakeholders in the event of a nuclear accident at the VCSNS. The exercise included demonstration of the State Warning Point (SWP) receiving emergency notifications, SERT notification for SEOC activation and staffing, management, direction, control, and coordination of response activities. The SWP supervisor initiated the SERT notification procedures, and SEOC personnel responded in a timely manner after receiving their emergency notification from an automated reverse calling system.

The SEOC had sufficient communication capabilities for conducting operations and communicating with Federal, State, and risk county agencies. They were equipped with sufficient supplies, maps, displays, and equipment to support emergency response operations. During the exercise the SWP Communications Specialists successfully received and disseminated nine Nuclear Power Plant Emergency Notification Form (ENF) messages. The SERT leaders successfully demonstrated the first use of the Emergency Management Network (EMNet) telephone system for emergency notifications and conference calls to coordinate status and actions with the risk counties, during an exercise.

The Operations Chief kept staff aware of ongoing incident status through frequent staff briefings and round table discussions. PADs were made in a timely manner with concurrence from emergency support function leads and subject matter experts. The Technical Officer took a proactive approach to obtaining consensus for possible future protective actions. This allowed leadership to get emergency information to the public in an efficient manner. The SC Department of Transportation (SCDOT) representative and law enforcement (LE) officers demonstrated the ability to determine major traffic routes based on protective action decisions, and then plan and establish TCPs. Protective action implementation was rapid and effective by the SERT members.

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.d.1, 3.d.2

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**Public Information and Warning Capability Summary:**

The SCEMD staff successfully demonstrated the ability to deliver coordinated, prompt, reliable, and actionable information to the public through the use of clear, consistent, accessible methods to effectively relay information in response to an event at VCSNS. They provided the public current information about the response actions being taken and the emergency assistance being made available.

Following the Site Area Emergency (SAE) and General Emergency (GE) declarations, SCEMD, with concurrence from Fairfield, Lexington, Newberry and Richland counties made the decision to activate the fixed siren system. The siren system was activated from the EOF. It was reported that all sirens functioned properly. In addition, the SCEMD Public Information Officer (PIO) prepared EAS Messages and associated news releases for timely dissemination to the public through the JIC and WCOS-FM, Columbia.

The SCEMD PIO in the SEOC and the State Law Enforcement Division (SLED) PIO in the JIC informed one another of the events occurring at their respective locations, serving as an informational conduit between the EOC and JIC. In total the SCEMD PIO prepared and disseminated six news releases and four EAS messages to ensure residents within the VCSNS 10-mile EPZ received timely alerts and notifications. In addition, all messages were uploaded to WebEOC allowing the SERT to remain informed as to the emergency information being disseminated to the public.

Public inquiry and rumor control were demonstrated at the SEOC. Public inquiry staff relied on published public safety information, including the calendar, brochures, news releases and EAS Messages to answer all inquiries. The SCEMD PIO supported this effort and coordinated with the JIC to ensure that any rumors and/or trends were addressed in subsequent news releases and/or press conferences.

The Department of Natural Resources (DNR) demonstrated the capability to effectively deliver prompt, reliable and actionable information regarding an emergency at the VCSNS in a clear and timely manner during a waterway warning demonstration on August 18, 2015. The demonstration occurred on Lake Monticello at the west boat ramp and was facilitated by two DNR officers. The DNR officers were knowledgeable that they would receive notification from the LE liaison in the SEOC and that they would receive their safety and radiological brief, as well as equipment, from Fairfield County Emergency Management. The public would receive notification through the boat public address (PA) system and face to face interaction in the event of an incident at VCSNS and the order to evacuate Lake Monticello. The DNR officers were very familiar with the lake and key locations where the public would be located. They successfully demonstrated the ability to warn occupants of the lake in under 30 minutes using two boats. Both officers were professional and knowledgeable.

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

**On-Scene Security and Protection Capability Summary:**

South Carolina Highway Patrol (SCHP) successfully demonstrated TCPs as they relate to evacuating citizens from the 10-mile EPZ of VCSNS.

Supplies and equipment were adequate for LE personnel to perform their mission. Supplies such as barricades and signage too large to issue to officers were available for delivery through SCDOT. Adequate quantities of personal dosimetry were available for issue to workers. TCP instructional packages provided to law enforcement delivered exactly the types of information needed to protect them from radiological hazards and assist law enforcement in this critical time sensitive mission. SCHP understood the requirements for personal dosimetry use, reporting, and recording. SCHP was knowledgeable on issuing, consumption and documentation of potassium iodide (KI).

Two TCPs were discussed, assessed, and blueprinted. Major long term traffic impediments were injected into the scenario. Rerouting solutions were provided by SCHP. Innovative solutions included posting changes on electric sign boards on the routes and news releases by local radio stations.

The Troopers represented SCHP very well. SCHP effectively demonstrated TCP's that created a smooth flow of traffic and would provide a safe and secure corridor for the evacuation of citizens residing within the EPZ.

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

**3.3.1.2 Emergency Operations Facility**

**Operational Coordination Capability Summary:**

SCEMD and SC DHEC provided liaisons to the SCE&Gs EOF in Ballentine, South Carolina. The presence of State liaisons in the EOF enhanced the flow of information between SCE&G and the offsite response organizations (OROs), and facilitated discussions of plant conditions, field monitoring teams (FMT) operations, and utility recommendations. The SCEMD and DHEC liaisons followed applicable procedures and performed their respective duties in an efficient and professional manner, thereby ensuring that State and county decision makers were kept up to date with accurate and timely information.

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The SCEMD and DHEC liaisons worked closely with the SCE&G personnel in the EOF to obtain the current plant conditions at VCSNS and to provide that information on a timely basis to SEOC, and in turn to the risk counties. The SCEMD Liaison effectively facilitated the flow of information to various queries and requests between the utility and state and county agencies. For example, the SCEMD Liaison promptly coordinated an exchange of information between the utility and Newberry County on the impact of a simulated major traffic accident on potential evacuation routes. The DHEC liaison recognized early indications of degrading plant conditions and suggested a discussion of additional protective actions to personnel in the SEOC. These simulated plant conditions shortly thereafter manifested themselves into what the utility characterized as a rapidly escalating severe accident. Both liaisons provided substantive information to the SEOC, and in turn to the risk counties on the basis for the utility's Protective Action Recommendations (PARs). The DHEC Liaison provided monitoring results from VCSNS FMTs that were used by DHEC to back-calculate the magnitude of the simulated release and validate plume modeling. The monitoring results also assisted DHEC public information personnel in the JIC who were collocated in the same building as the EOF.

The SCEMD and the DHEC liaisons effectively dealt with environmental challenges in their work space within the EOF including failed overhead lighting (that was later restored) and intermittent problems with the PA system. Following a decision by the State, the siren system for the EPZ was successfully activated.

For this capability the following REP criteria were MET: 2.b.1

### **3.3.1.3 Dose Assessment**

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

SC DHEC personnel successfully demonstrated the ability to assess plant conditions and to provide sound recommendations to decision makers in response to a radiological incident at VCSNS.

DHEC staff members were pre-positioned near the SEOC in accordance with the XPA and responded promptly when notified of the incident, staffing emergency support functions (ESFs) 8 and 10. The emergency response coordinator (ERC) leading the ESF 10 team directed team members to gather the information necessary to understand changing plant conditions and to assess radiological releases. The ERC and other ESF 10 staff members frequently requested plant status information and clarifications from the utility liaison at the SEOC as well as from utility personnel at the EOF.

ESF 8 staff members ensured the DHEC Agency Coordination Center (ACC) was kept informed of the incident and helped coordinate the distribution of KI supplies. ESF 8 and ESF 10 staff members briefed the Public Health physician designated to make decisions on the use of KI, recommending the ingestion of KI by EWs and the general public in

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affected zones following the declaration of GE by VCSNS.

DHEC personnel participated in conference calls with State and county decision makers, providing appropriate technical information and advice during PAD discussions. ESF 10 staff members performed dose projections using Radiological Assessment Systems for Consequence Analysis (RASCAL) 4.3.1 which were consistent with utility dose projections.

For this capability the following REP criteria were MET: 2.a.1, 2.b.1, 2.b.2., 3.a.1, 3.b.1, 4.a.2

### **3.3.1.4 Joint Information Center**

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

The VCSNS JIC successfully demonstrated the ability to develop, coordinate, and disseminate accurate, timely, and useful emergency public information.

The JIC served as the central portal for media and as the best source of information regarding the emergency at VCSNS. It included official PIOs from SCEMD, the EPZ counties, and the SCE&G. It functioned as the central distribution point for all public information products. While the actual composition of public information and press releases at the JIC was limited, the JIC fulfilled its responsibility to ensure all external messaging was properly coordinated and disseminated to ensure consistency and avoid conflicts.

PIOs and support personnel from State and local government were pre-positioned to negate unnecessary delay in demonstrating their responsibilities within the JIC due to travel time. They were staged outside the facility in vehicles and/or in a waiting room until notification by their respective deployment authorities, then quickly entered the JIC and efficiently established their functions.

The JIC was well equipped with redundant conduits of communications, including traditional telephones, wireless telephones, facsimile machines, and internet connectivity. The primary means of communication for State and county personnel was WebEOC and e-mail, with both traditional and wireless telephones as backup. Equipment and supplies were sufficient to support JIC operations.

JIC personnel effectively received and coordinated public information products developed at their local jurisdictions. Internal coordination was efficient, but relied on the proactive participation of the members rather than any formal coordination process; nevertheless, the experience of the principle team members ensured all information was accurate and did not conflict within or between agencies. Public information products routinely contained the required components of effective messaging.

The three media briefings were exceptionally well delivered. All participants demonstrated good presence before the media, articulating their thoughts accurately and effectively while remaining clear and concise. Misinformation and rumors were effectively addressed during individual telephone conversations, and no trends required additional explanation during the media briefings or in written products.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.a.4, 5.b.1

### **3.3.1.5 LP-1 (WCOS)**

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

This capability was successfully demonstrated by WCOS-FM 97.5 and AM 1400 iHeartRadio/Clear Channel which served as the Local Primary (LP-1) source for EAS messages in the VCSNS area and also as the State Primary (SP-1). WCOS personnel received and authenticated an EAS message from SCEMD. They properly demonstrated procedures for recording the message and broadcasting it statewide over the EAS at the time coordinated by SCEMD and the risk counties. With new equipment installed they did not have to be at the station to send an EAS messages. The station was staffed twenty-four hours per day and was equipped with sufficient emergency generators to be capable of broadcasting an EAS message at any time.

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

### **3.3.2 Risk Jurisdictions**

#### **3.3.2.1 Fairfield County**

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

The Fairfield County Emergency Management Director (EMD) and support staff successfully demonstrated the capability to provide multi-agency coordination for an incident at the VCSNS. Fairfield EOC staff was prepositioned in accordance with the XPA, and notified using Twenty First Century Communications (TFCC) notification and alert system. Equipment and communications within the EOC were sufficient and available to support coordination of emergency response for the county. The Fairfield County Emergency Management leadership exhibited solid direction and control of the Fairfield County EOC; utilizing staff and resources efficiently to alert, notify, and mobilize EOC staff and key county officials in a timely manner.



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Multiple EOC briefings were held without delay to ensure support staff maintained situational awareness after receipt of emergency notification forms (ENFs) and EMNet conference calls with county and state decision makers. PADs were coordinated and agreed upon over the conference line and included the decision to activate the Prompt Notification System (PNS) and EAS, and ingest KI for the public and EWs. Appropriate protective actions for schools and evacuees with functional needs were also adequately implemented.

County LE personnel were able to adequately discuss the management and implementation of TCPs for the county. LE personnel were knowledgeable of all major roads and TCPs, and were able to explain the process of coordination for the removal of impediments. Issuance of equipment and dosimetry, and receipt of safety and radiological briefings were all effectively discussed by the LE representatives.

All personnel were consistently proactive in their response to the escalating incident, following their plans and performing assigned functions in an organized manner. County level support was evident at the EOC; as the County Chairman and Deputy Administrator observed operations and facilitated approval of key decisions for the duration of the exercises.

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 Fairfield County PIOs successfully demonstrated the capability to develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public during an incident at VCSNS. The EOC PIO worked to squelch rumors and the Fairfield County PIO at the JIC coordinated with the State and counties to develop appropriate news releases that were accurate, consistent and timely. Route alerting was discussed successfully with the EM Division Coordinator who stated that route alerting for each zone was assigned to warning teams who utilized pre-scripted messages to alert the public.

Primary alerting and notification to the public was completed without undue delay as a result of coordinated decisions between the SEOC and the other affected risk counties. The Fairfield County EMD participated in the coordination to sound sirens and activate the EAS while on the EMNet conference call. Siren activation was conducted at the VCSNS control room. The EMD confirmed that the sounding of sirens and transmittal of the EAS message to the general public was conducted over the EMNet as well.

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



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**On-Scene Security and Protection Capability Summary:**

Fairfield County LE successfully demonstrated the ability to setup a TCP in the event of an emergency at VCSNS. The demonstration was conducted via interview at Reception and Congregate Care Center (RCCC) located at White Oak Conference Center. The interview was conducted with two Fairfield County Sheriff's deputies. The Sheriff's deputies effectively demonstrated sufficient knowledge of exposure limits, permanent record dosimeter (PRD) and direct-reading dosimeter (DRD) use, and methods for the removal of impediments. The deputies were also knowledgeable on the issue of and authority to ingest KI. The deputies were equipped with the sufficient supplies, equipment, communications, and knowledge to handle evacuation and impediments from the 10-mile EPZ surrounding the VCSNS.

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

**3.3.2.2 Lexington County**

**Operational Coordination Capability Summary:**

The Lexington County Emergency Management Agency (EMA) staff successfully demonstrated the operational coordination and public information and warning core capabilities from the county EOC in response to a radiological incident at VCSNS. They established and maintained a unified, coordinated operational structure and process.

The EOC, a recently occupied new facility, housed several administrative offices including the County Department of Public Safety, 911 Dispatch/Warning Point, EMA, and several breakout rooms in the EOC for ESFs during emergency response activities. The EOC was suitable with sufficient space and backup power to support emergency response activities, and appropriately equipped with supplies and multiple redundant communications. All communications were tested regularly and functioned during this exercise.

The Dispatch/Warning Point staff was organized and efficiently performed their duties receiving and disseminating information in accordance with procedures.

The EOC staff was pre-positioned in the operational area, however they conducted no emergency response activities until alerted, as specified in the XPA. Staff was alerted, mobilized and the EOC activated in a timely manner. Key staff included the Director of Public Safety, EMD/Manager, Radiological Technical Specialist, PIO, Operations liaisons for County Fire, EMS and Sheriff's Office; an SCEMD State Liaison, DHEC representative, a county health department liaison, a Department of Social Services (DSS) representative, a Geographic Information Systems (GIS) specialist, and representation from the Planning Section, Logistics Section, Public Works, Finance Section, and the American Red Cross (ARC).

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Direction and control was established immediately and maintained throughout. The EMD/ Manager and Technical Specialist were assertive, decisive and effectively kept staff abreast of evolving conditions with reoccurring situation updates, guidance and detailed direction for occurring activities or in anticipation of potential actions. PADS were coordinated and approved through conference calls with SCEMD, DHEC, and all affected counties. Decisions were made in a timely manner and incorporated consideration of PARs from the plant.

The EOC staff was well trained, proactive and performed their duties in accordance with plans and procedures. Staff actions were defined and deliberate, and aided in carrying out coordinated responsibilities with internal and external agencies. Organizational activities were chronicled and archived and position binders and checklists served as quick reference job aids that ensured consistent, thorough procedural compliance. Informative displays and maps placed throughout the facility, projected on screens, chronicled in incident tracking systems and media monitoring helped staff remain aware of and interpret the impact of ongoing activities.

The VCSNS Liaison was especially effective in providing staff with periodic overviews of plant conditions, through illustrations of the VCSNS facility, and impacted areas. Briefs conducted by the VCSNS Liaison aided in the ability of the staff to understand what was occurring and develop an appropriate emergency response.

The establishment of TCPs was a collaborative effort between the Lexington County Sheriff's Office, Richland County Sheriff's Office, and the SCHP. LE officers in the EOC explained that patrol vehicles were equipped with sufficient safety equipment to aid in traffic direction and have multiple means of radio and computer aided dispatch technology to receive and transmit essential information. They demonstrated exceptional knowledge of their duties, including the removal of impediments to traffic and thorough knowledge of procedures for briefing responders of their responsibilities, exposure limits, and KI ingestion procedures.

For this capability the following REP criteria were MET: 1.a.1, 1.b.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 alternate Lexington County PIO deployed to the Lexington County EOC and successfully demonstrated the capability to support emergency public information and warning as well as provide factual responses to public inquiry/rumor control in response to an emergency at the VCSNS.

Alert and notification of the general public by siren and EAS activation was coordinated, approved, and verified via the EMNet call between leadership at the SEOC and the other

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risk county EOCs. The decision to activate sirens and EAS was conducted in a timely manner and without undue delay. Back-up route alerting was successfully accomplished by interview at the county EOC with the Lexington County Sheriff's Office. The officers were knowledgeable of the circumstances that initiate back-up route alerting, routes and the process of how they would clear designated areas and inform the public.

Information for release to the media and public was coordinated by the PIO in the EOC, reviewed, appropriately routed and approved in accordance with prescribed procedures and proper authorities prior to dissemination and without undue delay.

The lead Lexington County PIO deployed to the JIC as specified in plans. The alternate Lexington County PIO immediately established communications with the lead Lexington County PIO in the JIC and provided a facsimile number to receive generated news documents. No messages were composed by the alternate Lexington County PIO from the EOC during this exercise, however he did discuss his capability to compose messages regarding a situation if directed or needed. He provided timely briefings of approved messages to the EMD and staff. Any newsworthy radiological events occurring in Lexington County would be recorded and provided to the lead Lexington County PIO in the JIC for assessment and further development.

Public Inquiry/Rumor control calls were answered by the Lexington County EOC staff. Approved information was briefed to staff and placed on a white board in the EOC for staff reference. If the staff could not answer a particular question, the PIO researched the question and provided an answer, he then provided the new question and fact based answer to the county EOC staff to update their situational awareness.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.a.4, 5.b.1

**Critical Transportation Capability Summary:**

A successful interview was conducted with School District 5 of Richland and Lexington Counties. Positions and schools interviewed were School District 5 Superintendent, District 5 PIO, the District 5 Transportation Director and the principals of Chapin High School, Chapin Middle School, and Chapin Elementary School. District plans were consistent throughout all schools, yet contained relevant information specific to each school. Sufficient transportation assets were available to schools and educators exhibited intimate knowledge of shelter in place and evacuation procedures.

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

**On-Scene Security and Protection Capability Summary:**

Two Lexington County Sheriff's Office deputies successfully demonstrated the capability to provide On-Scene Security and Protection, through interview. They had received a

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radiological safety briefing and were knowledgeable of the proper use and wear of dosimetry, KI, exposure control call back and turn back limits/documentation and actions to take if dosimetry became contaminated. Deputies stated that if an evacuation impediment was encountered, the dispatch desk or EOC would be contacted for a wrecker or the officer would use their vehicle to remove the impediment, if possible.

Each officer was well equipped with the required KI (simulated), dosimetry TCP maps, and job aids. They knew that, when notified, they would report to the EOC to receive a radiological safety briefing and be issued dosimetry. They also knew to return the dosimetry and KI ingestion records to the EOC at the end of their shift. Communications equipment consisted of vehicle and handheld 800 Megahertz (MHz) radios and a cellular phone, which were shown to be operable.

The officers provided a sufficient and detailed explanation of the procedures to provide traffic and access control, to include provisions for accurate directions/instructions for the general public as well as procedures to maintain TCPs for an extended amount of time.

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

**Public Health and Medical Services Capability Summary:**

Lexington County EMS and Lexington Medical Center (LMC) staff conducted a medical service drill (MSD) on August 20, 2015, during OOS for the county. EMS paramedics and LMC nurses successfully demonstrated their capability to care for an injured, contaminated patient. The MSD began at Cross Roads Middle School and ended at LMC.

EMS paramedics followed their plans and procedures as they responded to the injured contaminated patient and avoided the spread of contamination. Paramedics wore the proper personal protective equipment (PPE) for treating a contaminated patient, including, dosimetry and gloves. Paramedics employed proper surveying techniques and conducted dosimetry readings every 15 minutes. Paramedics were also knowledgeable of their administrative dose limits.

LMC staff followed appropriate plans and procedures as they treated a contaminated patient and controlled the spread of contamination. Hospital staff wore proper PPE and dosimetry, and placed barriers and covers between clean and potentially contaminated areas of the Radiation Emergency Area. Survey equipment was properly calibrated and surveying techniques were sufficient.

For this capability the following criteria were MET: 6.d.1

### 3.3.2.3 Newberry County

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

Newberry County Emergency Services personnel demonstrated the ability to establish and maintain a unified and coordinated operational structure and process that appropriately integrated critical stakeholders and supported the execution of core capabilities.

Effective procedures were used to alert, notify, and mobilize emergency personnel and activate the facility in a timely manner. The notification process was accomplished by group text, county email and follow-up phone contact made by the 911 dispatch center at the direction of the Disaster Preparedness Agency Director or designee. EOC staff alert and notification would commence at the Alert ECL.

At least two communications systems were available, and communication links were established and maintained. For this exercise a new alert and notification system was used. EMNet was the primary means of communicating with VCSNS, the State, and other counties. The ESSEX system was available as a backup as well as a conference bridge line and commercial telephones.

Equipment, maps, displays, monitoring instruments, dosimetry, and other supplies were sufficient to support an emergency at VCSNS. This equipment and supplies included; wall mounted multimedia monitors, printers, fax machines, wireless internet, computer workstations, county and EPZ maps, reception center maps and diagrams, and of particular note, an EAL foam board chart display.

The Director provided good direction and control throughout the exercise. He kept the EOC staff briefed to changes in plant status, used the plant liaison to supplement briefings, and had the EOC staff proactively review plans and actions. The Director coordinated all protective actions and precautionary actions with the State and other counties. Schools, day care centers, and individuals with functional needs were addressed and actions taken to protect them. The Director insured that all staff were aware of the requirements for waiting for proper authorization to ingest KI once the need for it was acknowledged.

Appropriate TCPs were established by the Sheriff's Office, Newberry Police Department and the SCHP. An impediment was given to LE via inject. The clearance of this impediment involved law enforcement, transportation, public works and forestry. This impediment was on an evacuation route and it was estimated that it would take at least two hours to remove. A detour was quickly put in place. Of particular note with this inject was that the county actually contacted the SEOC and the information was relayed to the VCSNS EOF wherein the impediment and detour information was taken into account in the VCSNS PAR scheme.

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

Newberry County Emergency Services personnel demonstrated the ability to 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.

Activities associated with primary alerting and notification of the public were completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The Director participated in an EMNet call at which time the State and other counties concurred to have the utility sound the sirens and send out an initial EAS message to alert the general public. The sirens were verified to have activated and the EAS message transmitted to the public.

Press releases were generated by the county Sheriff's Office PIO who was located in the EOC. Press releases were pre-scripted with only minor modifications needed as the scenario dictated. With each press release, the Director approved the release by initialing and returning it to the PIO. There were a total of three press releases generated from the EOC. Each release was clear, accurate and consistent with the PADs that were in place.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.a.4, 5.b.1.

**Critical Transportation Capability Summary:**

Newberry County School District officials and staff successfully discussed their ability to safeguard students, faculty and staff in the event of an incident at VCSNS. An interview was conducted with the Assistant Newberry County School Superintendent, Little Mountain Elementary School Principle, a Transportation Coordinator, School Facility Coordinator, County Sheriff's Office Deputy, Nurse Coordinator, Student Services Director and the county EMD. All representatives were professional and knowledgeable of their emergency plans and procedures, and effectively communicated the necessary coordination process for safeguarding both students and staff. The school district provided sufficient transportation to supplement Little Mountain's five buses, if ordered to relocate staff and students. The staff was prepared to care for and maintain accountability of students until their release to their parents or guardians.

All staff members were made aware of their responsibilities and tasks in the event of radiological incident at VCSNS.



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

**On-Scene Security and Protection Capability Summary:**

Newberry County successfully demonstrated through discussion the ability to establish a TCP in the event of an emergency at VCSNS. The demonstration was conducted by interview at the Newberry County Emergency Services and Public Safety (NCESPS) facility. The interview was conducted with a Newberry County Sheriff Deputy. The deputy demonstrated sufficient knowledge of radiological effects, radiological dose thresholds for mandatory and optional turn back limits. The deputy was aware of shelter locations and which evacuation route was adequate for evacuation sectors and was capable of the removal of impediments if it became necessary. The deputy was equipped with the necessary supplies and equipment, and has the knowledge to handle evacuation and impediments from the 10-mile EPZ.

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

**3.3.2.4 Richland County**

**Operational Coordination Capability Summary:**

The Richland County EOC staff successfully demonstrated the capability to conduct operational coordination and public information and warning core capabilities in response to a radiological incident at the VCSNS during this exercise.

The experienced, senior leadership of the Executive Group, Emergency Services Director (ESD), and the Deputy Director combined to provide expert leadership in managing direction and control of the multi-agency staff in the EOC. Effective use of State and utility liaisons was instrumental in the success of the exercise. They effectively demonstrated the ability to promptly alert, notify and mobilize key staff.

The EOC was sufficiently equipped with supplies and layered communications equipment to successfully conduct emergency response activities.

Situational awareness was maintained throughout the exercise via frequent EOC briefings which assisted in the seamless, timely coordination and decision making process. All personnel performed their assigned duties in a professional, efficient and knowledgeable manner. The use of detailed procedures and checklists proved invaluable in ensuring prompt responses and consistent and accurate compliance with established plans.

The Deputy Director also demonstrated the ability to coordinate and implement protective actions for school children and the functional needs population of Richland County in the event plant conditions deteriorated and further protective actions were required. As an early precautionary action, these functional needs populations were

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either dismissed early from school or evacuated to the reception center with the functional needs residents.

Information for release to the media and public was reviewed and approved by the Executive Group prior to dissemination, and the activation of the prompt notification system, which included sirens and EAS, was appropriately coordinated.

Richland County Sheriff's Office deputies successfully discussed implementation of TCPs for Richland County. The Sheriff's deputies were experienced and proficient in their responsibilities, including the use of KI, exposure control, call back/turn back values, management of TCPs/traffic impediments, resource management, reporting, and other activities and procedures. The deputies sufficiently outlined the receipt of dosimetry and equipment and were knowledgeable of TCP locations.

All activities were performed in accordance with established plans, procedures and the extent of play.

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:**

Richland County successfully demonstrated their ability to provide coordinated, prompt, reliable, and actionable information to the media and the public through the use of clear, consistent, accessible information and warning, in a timely manner.

The PIO successfully demonstrated the ability to inform the public through the use of four pre-scripted press releases and displayed experience and knowledge of the process for submitting the information to the public and county government. Information was disseminated, through the use of e-mail, to a media outlet group, which included media members from radio, print and television. The PIO thoroughly described her responsibilities in relation to rumor control and included the process for providing accurate information through coordination with the Richland County PIO at the JIC.

During an interview, a Richland County Sheriff's Office deputy and the Richland County Emergency Services Division Director explained the process of conducting back-up route alerting. It was discussed that when a siren failure occurs within the county, back-up route alerting could be accomplished through the use of a reverse calling system, and/or through route alerting by Public Safety Officers patrolling routes and reading a message over loud speakers.

The reverse calling system is a computer system that will send text, e-mails, and calls over the internet to the residents of the county who have registered to receive notifications from the county. The area where the siren has failed can be highlighted on



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the computer and the system can send messages to the residents within the specific area. The system can track how many residents received and accepted the message, as well as how many numbers or emails were incorrect. A Sheriff's deputy would be tasked to drive a designated route and announce the emergency message over the PA for residents who did not receive the call message.

The Sheriff's deputy at the Richland County EOC would be tasked to assign deputies to conduct back-up route alerting. The deputy would communicate personnel requirements for back-up route alerting to the county 911 dispatcher, who would then, assign deputies to the task. Instructions on what the message would be and which route to run would be given by dispatch on behalf of the EOC via normal Sheriff 800 MHz radio, UHF, VHF or cell phone.

Sheriff Office deputies conducting back-up route alerting, would be pre-issued personal dosimetry and KI at the beginning of their shift. A supervisor at the Incident Management Team station at the State Law Enforcement Academy would provide on-time training as necessary and assign dosimetry and KI to all of the deputies.

For this capability the following REP criteria were MET: 5.a.1, 5.a.3, 5.a.4, 5.b.1

**Critical Transportation Capability Summary:**

School District 5 of Richland County successfully demonstrated their ability to protect the students and staff in the event of a radiological emergency at VCSNS. Representatives interviewed were the School District 5 Superintendent, the District 5 Public Information Officer, the District 5 Transportation Director and the principals of the Alternative Academy for Success, Spring Hill High School, and the Center for Advanced Technical Studies. The educators exhibited intimate knowledge of shelter in place and evacuation procedures and district wide and school specific plans. The school principals thoroughly described notification of and guidance to parents/ guardians in the event of an emergency. All interviewees were very professional and knowledgeable.

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

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## **Section 4: Conclusion**

State and local emergency response organizations effectively demonstrated the core capabilities identified for the exercise, as well as their knowledge of their emergency response plans and procedures. They successfully implemented their plans, maintained coordination, and made decisions to protect the public without delay. The State and county leadership provided effective direction and control throughout the exercise.

The cooperation and teamwork of the participants was evident throughout all phases of the exercise. FEMA wishes to acknowledge the efforts of the many individuals who dedicated their time and effort, and made this exercise a success.

Richland County was unable to demonstrate Emergency Worker Decontamination (EWD) or Reception and Congregate Care activities scheduled for October 8, 2015 due to emergency response activities associated with the Federally declared disaster in Columbia and its surrounding areas. Coordination for a future demonstration will be discussed at an appropriate time, outside the scope of this report.

During this exercise, FEMA did not identify any Findings.

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**Appendix A: Exercise Timeline**

Emergency Classification Level or Event	Time Utility Declared	Time Notification Was Received Or Action Taken
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2015 VC Summer REP Exercise		SEOC/ Dose	JIC	Fairfield County	Lexington County	Richland County	Newberry County
<b>Unusual Event</b>	0844	0905	N/A	0901	0905	0905	0905
<b>Alert</b>	0952	1014	N/A	1010	1004	1003	1017
<b>Site Area Emergency</b>	1216	1227	1227	1227	1227	1227	1227
<b>General Emergency</b>	1315	1324	1325	1323	1326	1323	1322
<b>Simulated Rad. Release Began</b>	1153	1155	1222	1155	1155	1155	1155
<b>Simulated Rad. Release Ended</b>	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing
<b>Facility Declared Operational</b>		1040	1050	1236	1004	1035	1017
<b>Declaration of State of Emergency</b>							
State:		1313	1333				
Local:				1405	1315	1235	1325
<b>Exercise Terminated</b>		1502	1500	1454	1458	1459	1454
<b>Early Precautionary Actions:</b> Early School Release; Special Needs Evacuation						1221	
<b>1<sup>st</sup> Protective Action Decision:</b> Stay Tuned		1231	1245	1224	1232	1232	1230
<b>1<sup>st</sup> Siren Activation</b>		1245	1245	1245	1245	1245	1245
<b>1<sup>st</sup> EAS Message</b>		1245	1245	1245	1245	1245	1245
<b>2<sup>nd</sup> Protective Action Decision:</b> Evacuate Zones: A-0; C-1; C-2; D-1; D-2; E-1		1354	1410	1354	1354	1356	1355
<b>2<sup>nd</sup> Siren Activation</b>		1410	1410	1410	1410	1410	1410
<b>2<sup>nd</sup> EAS Message:</b> Evacuation		1410	1410	1410	1410	1410	1410
<b>3<sup>rd</sup> EAS Message:</b> Stored Feed; Hunting & Fishing Ban; Lake Clearing		1410	1410	1410	1410	1410	1410
<b>KI Decision/EAS Message #4</b> Emergency Workers General Public		1416	1435	1435	1435	1435	1435

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## Appendix B: Exercise Evaluators and Team Leaders

**Regional Assistance Committee (RAC) Chair:** Conrad Burnside

**Section Chief:** Lawrence Robertson

**Site Specialist:** Quintin Ivy

Location	Evaluation Team	Core Capability
EOF	John Pelchat (NRC)	Operational Coordination
<b>State of South Carolina:</b> Director – Kim Stenson		
SEOC	Matthew Bradley Michael Dolder Erica Houghton	Operational Coordination Public Information and Warning
JIC	John Simpson Robert Spence	Public Information and Warning
Dose Assessment	John Fill	Environmental Response/Health and Safety
TCPs (SCHP Discussion)	Erica Houghton	On-Scene Security and Protection
TCPs (SCHP Demonstration)	Walt Cushman	On-Scene Security and Protection
LP-1 (WCOS)	Lorenzo Lewis	Public Information and Warning
Water Way Warning	Quintin Ivy	Emergency Notification and Public Information
<b>Fairfield County:</b> Director – Phyllis Watkins		
EOC	Quintin Ivy Lisa Rink	Operational Coordination Public Information and Warning
Backup Route Alerting	Lisa Rink	Public Information and Warning
<b>Lexington County:</b> Director – Bo Davenport		
EOC	Odis Spencer Gerald McLemore Shawn Nunez	Operational Coordination Public Information and Warning
Backup Route Alerting	Gerald McLemore	Public Information and Warning
Schools	Odis Spencer Gerald McLemore	Critical Transportation
<b>Newberry County:</b> Director – Tommy Long		
EOC	Joe Harworth JT Ackermann	Operational Coordination Public Information and Warning
Backup Route Alerting	JT Ackermann	Public Information and Warning
<b>Richland County:</b> Manager – Michael J. Kalec		
EOC	Ron Shaw Alex Sera	Operational Coordination Public Information and Warning
Backup Route Alerting	Alex Sera	Public Information and Warning



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### Appendix C: Acronyms and Abbreviations

Acronym	Meaning
AAR	After Action Report
ACC	Agency Coordination Center
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
CPM	Counts Per Minute
CFR	Code of Federal Regulations
DHHS	Department of Health and Human Services
DHS	Department of Homeland Security
DNR	Department Natural Resources
DOH	Department of Health
DRD	Direct Reading Dosimeter
DSS	Department of Social Services
E-Mail	Electronic Mail
EAS	Emergency Alert System
EM	Emergency Management
ECL	Emergency Classification Level
EMA	Emergency Management Agency
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
EMNet	Emergency Management Network
EMS	Emergency Medical Services
ENF	Emergency Notification Form
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Emergency Operations Plan
ERC	Emergency Response Coordinator
ESD	Emergency Services Director
EW	Emergency Worker
EWD	Emergency Worker and Vehicle Monitoring and Decontamination
EPZ	Emergency Planning Zone
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
GE	General Emergency
GIS	Geospatial Information System
GPM	Gallons Per Minute
HAZMAT	Hazardous Materials
HSEEP	Homeland Security Exercise and Evaluation Program
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IMT	Incident Management Team
JIC	Joint Information Center
JIS	Joint Information System
KI	Potassium Iodide
LP	Local Primary
MHz	Megahertz

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Acronym	Meaning
MSD	Medical Services Drill
NIMS	National Incident Management System
NOUE	Notice of an Unusual Event
NOAA	National Oceanic and Atmospheric Administration
NCESPS	Newberry County Emergency Services and Public Safety
NRC	Nuclear Regulatory Commission
NUREG-0654/ FEMA REP-1	NUREG-0654/FEMA-REP-1, Rev. 1, " <i>Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of +Nuclear Power Plants,</i> " November 1980
NWS	National Weather Service
OCA	Owner Controlled Area
OOS	Out of Sequence
ORO	Offsite Response Organization
PA	Public Address
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PIO	Public Information Officer
PNS	Primary Notification System
PRD	Permanent Record Dosimeter
R	Roentgen
RACES	Radio Amateur Civil Emergency Service
RASCAL	Radiological Assessment Systems for Consequence Analysis
RCCC	Reception and Congregate Care Center
REA	Radiation Emergency Area
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RPS	Radiation Protection Section
SAE	Site Area Emergency
SCEMD	South Carolina Emergency Management Division
SCDOT	South Carolina Department of Transportation
SCE&G	South Carolina Electric and Gas
DHEC	South Carolina Department of Health and Environmental Control
SEOC	State Emergency Operations Center
SERT	State Emergency Response Team
SITREP	Situation Report
SLED	South Carolina Law Enforcement Division
SOG	Standard Operating Guide
SOP	Standard Operating Procedure
SSS	Selective Signaling System
SW	South West
SWP	State Warning Point
TV	Television
TCP	Traffic Control Point
VCSNS	V.C. Summer Nuclear Station
WP	Warning Point
XPA	Extent of Play Agreement

## Appendix D: Extent-of-Play Agreement

### PLUME PHASE PARTIAL 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 emergency (FEMA must receive these plans, guides and procedures NLT 60 days before the exercise). 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 operating guides (SOGs) and/or procedures (SOPs). Any issue or discrepancy arising during exercise play may be re-demonstrated if allowed by the Regional Assistance Committee (RAC) Chair or as listed herein. This allowance may be granted if it is not disruptive to exercise play and is mutually agreed to by the Offsite Response Organization (ORO) controller and FEMA evaluator.

**Core Capability: Operational Coordination** – State and County Emergency Operations Centers (EOCs) and Emergency Operations Facility (EOF)

**Definition:** 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. Equipment, monitoring instruments and dosimetry must be available and will be operational which includes an affixed current calibration and range of readings sticker if applicable; quantities of Potassium Iodide (KI) and expirations will be verified.*

**Critical Task:** OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner (NUREG-0654/FEMA-REP-1, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4; Criterion 1.a.1).

All participating state and local government personnel will be pre-positioned in the area and will only respond after notification.

**Critical Task:** Facilities are sufficient to support the emergency response (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h, J.12; K.5.b; Criterion 1.b.1).

Only Lexington County and Newberry County EOCs were evaluated. The evaluations immediately followed the Staff Assistance Visits (SAVs). The complete county SAV schedule is on page 2 of this document.

**Critical Task:** At least 2 communications systems are available, at least 1 operates properly, and communication links are established and maintained with appropriate locations.

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Communications capabilities are managed in support of emergency operations (NUREG-0654/FEMA-REP-1, F.1, 2; Criterion 1.d.1).

State and county decision makers will use a conference bridge line to conduct protective action discussions/decision making. EMNet will be the primary means of communication and the conference bridge will be the backup.

*Critical Task:* Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion 1.e.1).

Quantities of KI are verified during SAVs.

Quantities of equipment, their calibration/testing are verified during SAVs.

SAV locations, dates, and times are as follows:

Fairfield County: County EOC on April 1, 2015 at 1000.

Lexington County: County EOC on March 31, 2015 at 1400.

Newberry County: County EOC on April 1, 2015 at 1400.

Richland County: Gills Creek Fire Station on March 31, 2015 at 1000.

**Capability Target: Protective Action Decision Making**

**Performance Measure:** *Key personnel with leadership roles will provide direction and control; protective action decision (PAD) making will be demonstrated by the OROs.*

*Critical Task:* Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible (NUREG-0654/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6; Criterion 1.c.1).

State direction and control will be at the State Emergency Operations Center (SEOC). County direction and control will occur at the County EOCs. All telephone calls to non-participating agencies will be made by calling the simulation cell (simcell). FEMA evaluator will be given access to the simcell as needed.

*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 Emergency Workers (EWs) including provisions to authorize radiation exposure in excess of administrative limits or PAGs (NUREG-0654/FEMA-REP-1, C.6; J.10.e, f; K.4 Criterion 2.a.1).

In accordance with plans and procedures

*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

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recommendation for the use of KI, if ORO policy) (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m Criterion 2.b.2).

In accordance with plans and procedures

*Critical Task:* Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs (NUREG-0654/FEMA-REP-1, D.4; J.9; J.10.d, e; Criterion 2.c.1).

In accordance with plans and procedures

**Capability Target: Protective Action Implementation**

**Performance Measure:** *Demonstrate the capability to implement EW exposure control; KI decision for institutionalized individuals and the general public; protective actions for persons with disabilities and access/functional needs; schools; traffic and access control and impediments to evacuation.*

*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 (NUREG-0654/FEMA-REP-1, J.10.e, K.3.a, b, K.4; Criterion 3.a.1).

In accordance with plans and procedures during out-of-sequence activities at the reception centers

*Critical Task:* KI and appropriate instructions are available if 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 (NUREG-0654/FEMA-REP-1, J.10.e, f; Criterion 3.b.1).

KI distribution and record keeping for institutionalized individuals will be discussed at county EOCs during the exercise.

*Critical Task:* PADs are implemented for persons with disabilities and access/functional needs other than schools within areas subject to protective actions (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3.c.1).

By discussion in each county EOC during the exercise

*Critical Task:* OROs/School officials implement protective actions for schools (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3.c.2).

By discussion in each county EOC during the exercise (if applicable)

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*Critical Task:* Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j; Criterion 3.d.1).

By discussion in each county EOC during the exercise

*Critical Task:* Impediments to evacuation are identified and resolved (NUREG-0654/FEMA-REP-1, J.10.k; Criterion 3.d.2).

By discussion in each county EOC during the exercise

**Core Capability: Public Information and Warning** – *State/County EOCs and Joint Information Center (JIC)*

**Definition:** 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 in a timely manner to alert the general public along with waterway warning and back up route alerting in case of failure of the primary alert and notification system.*

*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) (NUREG-0654/FEMA-REP-1, E.5, 6, 7; Criterion 5.a.1).

The State will coordinate PADs with Fairfield, Newberry, Lexington, and Richland Counties' chief elected officials or designee, as scenario dictates. The first siren activation will be demonstrated by "poll all". All subsequent siren activations will be simulated. A "test message" EAS message will be transmitted to the Local Primary (LP-1) EAS station (WCOS, Columbia, S.C.). Broadcast of an EAS test message will be simulated and the process will be discussed. Only one EAS message will be sent, and others will be simulated via the JIS email distribution list developed by SCEMD PIOs. Copies of the simulated EAS messages and news releases will be provided to the FEMA evaluator at the SEOC.

*Critical Task:* Backup alert and 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 (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c; Criterion 5.a.3).

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Backup route alerting: Backup route alerting procedures will be completed via interview at each county EOC during the exercise.

*Critical Task:* Waterway warning is completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation (NUREG-0654/FEMA-REP-1, E.6; Appendix 3.B.2.c; Criterion 5.a.4)

Waterway warning: S.C. Department of Natural Resources (DNR) will demonstrate lake clearing at the West Boat Ramp and the Sub-impoundment Ramp on Lake Monticello on August 18, 2015 at 1000.

*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) (NUREG-0654/FEMA-REP-1, E.5, 7; G.3.a; G.4.a, c; Criterion 5.b.1).

The State, Fairfield, Newberry, Lexington, and Richland Counties will demonstrate the ability to disseminate accurate information and instructions to the public and news media through the Joint Information System (JIS).

Public inquiry for the state will be demonstrated at the State Joint Information Center (JIC) located at 2779 Fish Hatchery Road, West Columbia, SC 29172. County public inquiries will be demonstrated at the respective county EOCs.

Public inquiry personnel will provide the FEMA evaluator with a call log.

**Core Capability: Environmental Response/Health and Safety – Dose, Emergency Worker Decontamination (EWD), Reception Center Congregate Care (RCCC)**

**Definition:** 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: Protective Action Decision Making**

**Performance Measure:** *OROs authorized to send emergency workers into the plume exposure pathway EPZ must demonstrate a capability to assess and control the radiation exposure received by emergency workers and have a decision chain in place, as specified in the ORO's plans/procedures, to authorize emergency worker exposure limits to be exceeded for specific missions. As appropriate, OROs must demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for emergency workers. OROs must have the capability to independently project integrated dose from projected or actual dose rates and compare these estimates to the PAGs. OROs must have the capability to choose, among a range of protective actions, those most appropriate in a given emergency.*

*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

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place for EWs including provisions to authorize radiation exposure in excess of administrative limits or Protective Action Guides (PAGs) (NUREG-0654/FEMA-REP-1, C.6; J.10.e, f; K.4 Criterion 2.a.1).

In accordance with plans and procedures

*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 (NUREG-0654/FEMA-REP-1, I. 10; Supp. 3; Criterion 2.b.1).

In accordance with plans and procedures

*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) (NUREG-0654/FEMA-REP-1, A.3; C.4, 6; D.4; J.9; J.10.f, m; Criterion 2.b.2).

In accordance with plans and procedures

**Capability Target: Protective Action Implementation**

**Performance Measure:** *OROs must demonstrate the capability to provide EWs (including supplemental resources) with the appropriate direct-reading and permanent record dosimetry, dosimeter chargers, KI, and instructions on the use of these items.*

*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 (NUREG-0654/FEMA-REP-1, J.10.e, K.3.a, b, K.4; Criterion 3.a.1).

DHEC: In accordance with plans and procedures during the exercise

Counties: In accordance with plans and procedures during out-of-sequence activities at the reception centers.

**Capability Target: Support Operations and Facilities**

**Performance Measure:** *Radiological monitoring, decontamination, and registration facilities for evacuees and emergency workers must be set up and demonstrated as they would be in an actual emergency. For RCCC, OROs conducting this demonstration must have one-third of the resources (e.g., monitoring teams/instrumentation/portal monitors) available at the facility(ies) as necessary to monitor 20 percent of the population within a 12-hour period; this would include adequate space for evacuees' vehicles. A minimum of six evacuees must be monitored per station using equipment and procedures specified in the plans/procedures. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators to determine whether the 12-hour requirement can be met. For EWD, monitoring of*

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*emergency workers does not have to meet the 12-hour requirement, however, appropriate monitoring procedures must be demonstrated for a minimum of two emergency workers and their equipment and at least one vehicle. Monitoring activities shall not be simulated; decontamination of evacuees, emergency workers and vehicles may be simulated and conducted by interview. Provisions for separate showering and same-sex decontamination must be demonstrated or explained. The staff must demonstrate provisions for limiting the spread of contamination; these provisions may be partially simulated to conserve resources. In addition, for any evacuee and emergency worker found to be contaminated, procedures must be discussed concerning handling of potential contamination of vehicles and personal belongings.*

*Critical Task:* Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion 1.e.1).

Reception Centers to be evaluated are:

Fairfield County: White Oak Conference Center on August 18, 2015 at 1830.

Lexington County: Crossroads Middle School on August 20, 2015 at 1800.

Newberry County: Newberry High School on August 11, 2015 at 1400.

Richland County: Muller Road Middle School on October 8, 2015 at 1700.

NOTE: Fairfield, Newberry, and Lexington County RCCC will be courtesy evaluations.

*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 (NUREG-0654/FEMA-REP-1, J.10.e, K.3.a, b, K.4; Criterion 3.a.1).

In accordance with plans and procedures during out-of-sequence activities at the reception centers

*Critical Task:* The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12; Criterion 6.a.1).

In accordance with plans and procedures during out-of-sequence activities at the reception centers

*Critical Task:* The facility/ORO has adequate procedures and resources to accomplish monitoring and decontamination of emergency workers and their equipment and vehicles (NUREG-0654/FEMA-REP-1, K.5.a, b; Criterion 6.b.1).

In accordance with plans and procedures during out-of-sequence activities at the reception centers

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**Core Capability: On-Scene Security and Protection** – *Traffic Control Points (TCPs)*

**Definition:** 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: 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.*

*Critical Task:* Equipment (to include communications), maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion 1.e.1).

TCPs to be evaluated by demonstration are:

South Carolina: SC215/St. Barnabas Church Rd (S1)  
SC213/Broad River Rd (S5)

TCPs to be evaluated by discussion during out-of-sequence activities at the reception centers are:

Fairfield County: SC34/US321 Bypass (F2), SC269/US321 Bypass (F3)  
Lexington County: I 26/Columbia Ave (L1), US 76/Crooked Creek Rd (L2)  
Newberry County: SC34/Hilbrook Ln (N6), SC219/Hill Brook Ln (N3)  
Richland County: Kennerly/Old Tamah (R1), Shady Grove/Old Tamah (R2)

*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 (NUREG-0654/FEMA-REP-1, J.10.e, K.3.a, b, K.4; Criterion 3.a.1).

Will be evaluated by discussion during OOS activities at the reception centers

*Critical Task:* Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel (NUREG-0654/FEMA-REP-1, A.3; C.1, 4; J.10.g, j; Criterion 3.d.1).

Will be evaluated by discussion during out-of-sequence activities at the reception centers

*Critical Task:* Impediments to evacuation are identified and resolved (NUREG-0654/FEMA-REP-1, J.10.k; Criterion 3.d.2).

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Will be evaluated by discussion during out-of-sequence activities at the reception centers

**Core Capability: Critical Transportation** – *Protective Action for Schools*

**Definition:** 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 protective actions for schools.*

*Critical Task:* OROs/School officials implement protective actions for schools (NUREG-0654/FEMA-REP-1, J.10.c, d, e, g; Criterion 3.c.2).

Schools to be evaluated by interview as follows:

Richland County: Academy for Success and Spring Hill HS on September 22, 2015 at the Lexington County EOC.

Lexington County: Chapin HS on September 22, 2015 at the Lexington County EOC.

Newberry County: Little Mountain ES on August 10, 2015 at the Newberry County EOC.

**Core Capability: Mass Care** – *Reception/Congregate Care*

**Definition:** 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:** *The evaluator will conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with applicable guidance. Congregate care staff must also demonstrate the capability to ensure that evacuees, service animals, and vehicles have been monitored for contamination, decontaminated as appropriate, and registered before entering the facility. Material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility(ies). However, availability of such items must be verified by providing the evaluator a list of sources with locations and estimates of quantities.*

*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 (NUREG-0654/FEMA-REP-1, J.10.e, f; Criterion 3.b.1).

In accordance with plans and procedures during out-of sequence activities at the reception centers

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*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 (NUREG-0654/FEMA-REP-1; J.10.h; J.12; Criterion 6.c.1).

In accordance with plans and procedures during out-of-sequence activities at the reception centers

**Core Capability: Public Health and Medical Services** – *Medical Services Drill*

**Definition:** Provide lifesaving medical treatment via emergency medical services and related operations and avoid additional disease and injury by providing targeted public health and medical support and products to all people in need within the affected area.

**Capability Target: Support Operations and Facilities**

**Performance Measure:** *OROs must demonstrate the capability to transport contaminated injured individuals to medical facilities. The medical facility must demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies must be available for treatment of contaminated injured individuals. The medical facility must demonstrate the capability to make decisions on the need for decontamination of the individual, follow appropriate decontamination procedures, and maintain records of all survey measurements and samples taken. All procedures for collection and analysis of samples and decontamination of the individual must be demonstrated or described to the evaluator. Waste water from decontamination operations must be handled according to facility plans/procedures.*

*Critical Task:* Equipment, maps, displays, monitoring instruments, dosimetry, KI, and other supplies are sufficient to support emergency operations (NUREG-0654/FEMA-REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b; Criterion 1.e.1).

A Medical Service Drill will be conducted on August 20, 2015. The drill will commence at 1800, at Crossroads Middle School, 6949 St. Andrews Road, Columbia, SC 29212. The drill will conclude at Lexington Medical Center located at 2720 Sunset Boulevard, West Columbia, SC 29169.

*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 (NUREG-0654/FEMA-REP-1, J.10.e, K.3.a, b, K.4; Criterion 3.a.1).

Emergency personnel will use a prop to simulate Permanent Record Dosimeters (PRDs) to monitor and control radiation exposure.

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Potassium Iodide (KI) for emergency workers will be simulated by using a prop identified as KI if necessary. PPE will be in accordance with the plans and procedures.

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

One FEMA evaluator will travel in the ambulance carrying the patient in order to listen to communications between the ambulance crew and the hospital while patient is en-route. In the event that the ambulance has to respond to real life events, another county owned vehicle will be used to transport the contaminated injured person to the hospital.