Department of Homeland Security
Region IV
3003 Chamblee-Tucker Road
Atlanta, Georgia 30341

FEMA

January 14, 2013

Victor M. McCree, Regional Administrator - RII
Nuclear Regulatory Commission
One Marquis Tower
245 Peachtree Center Avenue, Suite 1200
Atlanta, Georgia 30303

Dear Mr. McCree:

Enclosed is a copy of the Final After Action Report (AAR) for the September 18, 2012 full participation exposure pathway exercise of the offsite radiological emergency response plans, site-specific to the Oconee Nuclear Station (ONS). This report addresses the evaluation of the plans and preparedness for the State of South Carolina and affected local governments. The Federal Emergency Management Agency (FEMA) Region IV staff prepared the final after action report. Copies of this report will be forwarded by my staff to the State of South Carolina, FEMA Headquarters and NRC Headquarters.

The ONS 10-mile emergency planning zone (EPZ) encompasses parts of Oconee and Pickens County. Greenville and Anderson County are the Host Counties. South Carolina recently transitioned from conducting joint information operations at the Duke Joint Information Center (JIC), to a Joint Information System (JIS) at the State Emergency Operations Center (SEOC). The JIS worked well and the South Carolina Emergency Management Division staff worked hard to ensure that each location was kept informed of the latest developments and decisions. The information provided to the media was accurate and timely. In addition, Clemson University increased its participation in the exercise by activating an EOC as well as having representatives at the Pickens County EOC and the JIC in Clemson.

No Deficiencies were identified during this exercise; however, one Area Requiring Corrective Action (ARCA) was identified. The ARCA, which was corrected immediately through re-training and re-demonstration, concerned the ability of Anderson County emergency workers to properly set up and conduct operational/source checks on the portal monitor prior to monitoring evacuees.

Based on the results of the exercise and FEMA's review of South Carolina's 2011 Annual Letter of Certification, the offsite radiological emergency response plans and preparedness for the State of South Carolina and the affected local jurisdictions site-specific to the Oconee Nuclear Station, emergency response plans can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. The Title 44 CFR, Part 350, approval of the offsite radiological emergency response plans and preparedness for the State of South Carolina site-specific to Oconee Nuclear Station Plant granted for South Carolina on June 9, 1987, will remain in effect.

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Should you have questions, please contact Conrad Burnside at the Atlanta Regional Office at 770/220-5486.

Sincerely,

Major P. May,
Regional Administrator

Enclosure

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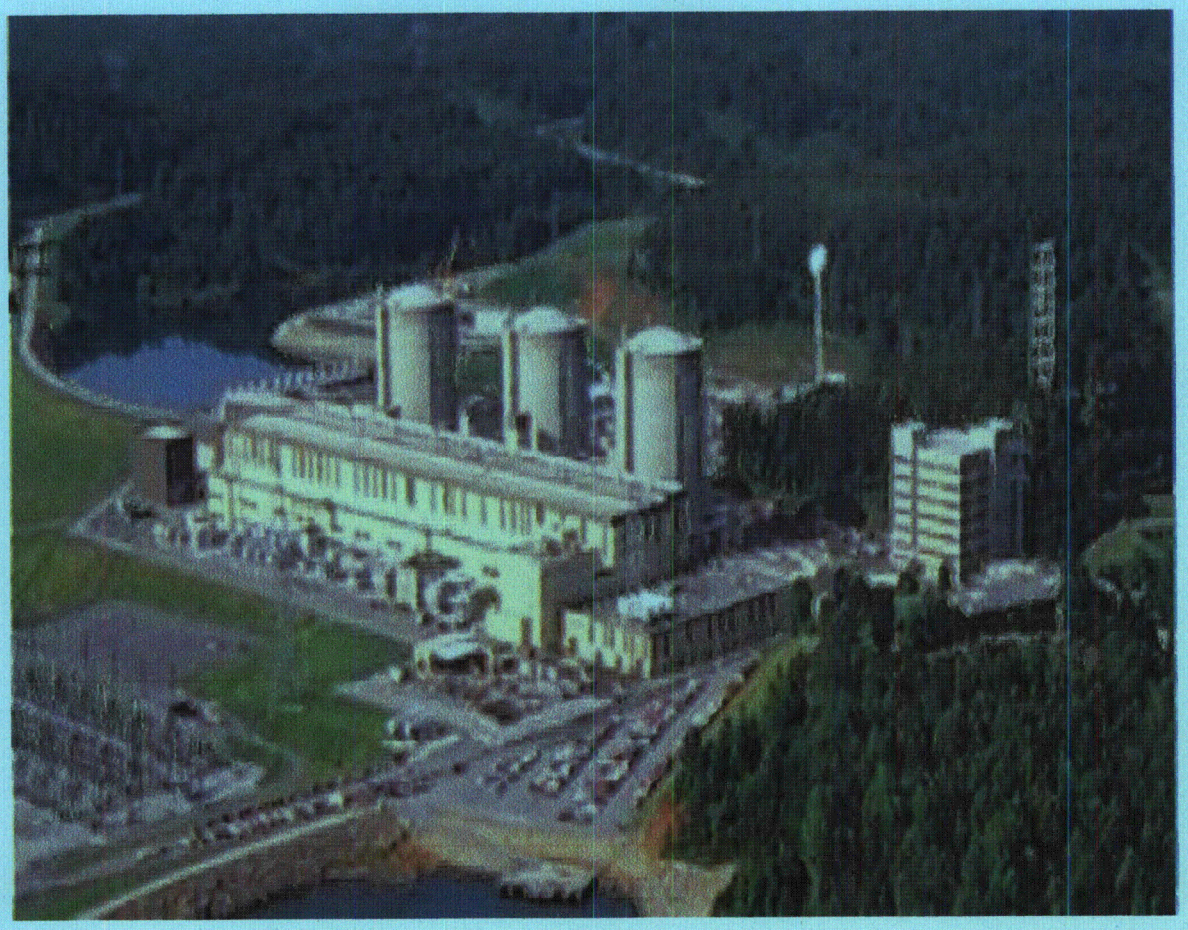

Oconee Nuclear Station

After Action Report/ Improvement Plan

Exercise Date - September 18, 2012

Radiological Emergency Preparedness (REP) Program

FEMA

Published January 14, 2013

Oconee Nuclear Station

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EXECUTIVE SUMMARY

On September 18, 2012 the Department of Homeland Security, Federal Emergency Management Agency (FEMA) Region IV Radiological Emergency Preparedness (REP) Program staff evaluated a plume exposure pathway exercise in the emergency planning zone (EPZ) for the Oconee Nuclear Station (ONS). ONS is located in eastern Oconee County, approximately eight miles northeast of Seneca, South Carolina and is operated by Duke Energy. The ONS EPZ is divided into 13 emergency response sub zones. The 10 mile EPZ encompasses parts of Oconee and Pickens Counties, including Clemson University. The population of the EPZ is approximately 75,090.

During the planning for the exercise, FEMA and the State of South Carolina agreed to explore the development of a Joint Information System, which more accurately reflects the way South Carolina does business for other real world events. FEMA is also encouraged by the increased interest by Clemson University in participating in the REP exercises. In addition to their usual representative at Pickens County emergency operations center (EOC), Clemson also activated their EOC and sent a representative to the Joint Information Center in Clemson.

FEMA's overall objective of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency at ONS. 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 August 3, 2010. The qualifying emergency preparedness exercise was conducted March 10 and 11, 1982.

The purpose of this report is to analyze exercise results, identify strengths to be maintained and built upon, identify potential areas for further improvement, and support development of corrective actions.

The objectives developed to meet the REP program requirements, based on the negotiated Extent of Play Agreement (EOPA) were as follows:

Objective 1: Demonstrate the ability to provide Emergency Operations Center management including Direction and Control through the Counties' and State Emergency Operations Centers.

Objective 2: Demonstrate the ability to provide protective action decision-making for State and County emergency workers and public through exercise play and discussions of plans and procedures.

Objective 3: Demonstrate the ability to physically implement protective actions for State and County emergency workers and public through exercise demonstration.

Objective 4: Demonstrate the ability to activate the Prompt Alert and Notification System utilizing the PNS/Emergency Alert System (EAS) through exercise play.

Objective 5: Demonstrate the effectiveness of plans, policies and procedures in the Joint Information Center (JIC) for public and private sector emeregency information communications.

State and local emergency response organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. FEMA identified one Area Requiring Corrective Action (ARCA) during the exercise. The ARCA concerned the failure by emergency workers in Anderson County to properly set up and test the portal monitor prior to monitoring evacuees. After ad-hoc training on the source check of all the portal monitor sensors, the Anderson County Emergency Workers (EWs) were able to successfully demonstrate the set up and use the portal monitor, thereby correcting the identified ARCA.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name
Oconee Nuclear Station

Type of Exercise
Plume

Exercise Date
September 18, 2012

Program
Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type
Radiological Emergency

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Oconee Nuclear Station exercise:

State Jurisdictions

- Office of the Adjutant General, Emergency Management Division
- South Carolina Department of Health and Environmental Control (DHEC)
- South Carolina Department of Public Safety (DPS)
- South Carolina Law Enforcement Division (SLED)
- South Carolina Highway Patrol
- South Carolina Department of Natural Resources (DNR), Law Enforcement Division
- South Carolina Department of Social Services (DSS)

Risk Jurisdictions

- Oconee County Emergency Management Division
- Oconee County Department of Public Works
- Oconee County Department of Transportation
- Oconee County Hazardous Material Response Unit
- Oconee County School District
- Oakway Fire Department
- Pickens County Emergency Management Division
- Pickens County Emergency Medical Services (EMS)
- Pickens County Hazardous Materials Response Unit
- School District Pickens County
- Pickens County Department of Transportation
- Pickens Fire Department
- Central Fire Department

Support Jurisdictions

- Anderson County Sheriff's Office
- Centerville Volunteer Fire Department
- Anderson County HAZMAT Team
- Anderson County Department of Social Services
- Westside High School
- Greenville County Sheriff's Office

Greenville County Emergency Medical Services
Greenville City Fire Department
City of Greenville Police Department

Private Organizations

American Red Cross (Western Carolinas Regional Upstate Chapter)
Cannon Memorial Hospital
Clemson University
Carolina Amateur Radio Emergency Services (CARES)
Amateur Radio Emergency Services (ARES)

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) administers the Radiological Emergency Preparedness (REP) Program pursuant to the regulations found in Title 44 Code of Federal Regulation (CFR) parts 350, 351 and 352. 44 CFR 350 codifies 16 planning standards that form the basis for radiological emergency response planning for licensee, State, tribal and local governments 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 (RERPs) 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 a radiological emergency at the nuclear 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 through the Annual Letter of Certification and staff assistance visit enables 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 Oconee Nuclear Station (ONS) to FEMA by the State of South Carolina occurred on May 7, 1983. Formal approval of the State of South Carolina's RERP was granted on February 23, 1983, under 44 CFR 350.

A REP exercise was evaluated on September 18, 2012, and included evaluations of the out-of sequence activities held during the week of August 13, 2012.

2.2 Exercise Objectives, Capabilities and Activities

Capabilities-based planning allows for exercise planning teams to develop exercise objectives and observe exercise outcomes through a framework of specific action items. Using the HSEEP methodology, the exercise objectives, which meet the Radiological Emergency Preparedness Program (REP) requirements and encompass the REP Program's Emergency Preparedness Evaluation Areas – elements and sub-elements were derived and negotiated with the State of South Carolina, Oconee, Pickens, Anderson and Greenville Counties. These objectives and associated capabilities are as follows:

Objective 1: Demonstrate the ability to provide Emergency Operations Center management including Direction and Control through the Counties' and State Emergency Operations Centers. Capability - Emergency Operations Center (EOC) Management.

Objective 2: Demonstrate the ability to provide protective action decision-making for State and County emergency workers and public through exercise play and discussions of plans and procedures. Capability - EOC Management and Emergency Public Information and Warning.

Objective 3: Demonstrate the ability to physically implement protective actions for State and County emergency workers and public through exercise demonstration. Capability - EOC Management, Emergency Public Safety and Security Response, Citizen Evacuation and Shelter in Place, Hazardous Materials Response and Decontamination and Mass Care.

Objective 4: Demonstrate the ability to activate the Prompt Alert and Notification System utilizing the PNS/EAS System through exercise play. Capability - Emergency Public Information and Warning.

Objective 5: Demonstrate the effectiveness of plans, policies and procedures in the Joint Information Center (JIC) for public and private sector emergency information communications. Capability - Emergency Public Information and Warning.

2.3 Scenario Summary

Scenario:

Unit 1A Reactor Building spray pump is operating in the borated water storage tank (BWST) recirculation mode for periodic sampling. The pump trips requiring operations to restore the lineup and investigate the reason for the pump trip. A Loss of Coolant Accident (LOCA) occurs with reactor coolant leakage exceeding 200 gallons per minute (gpm). Subsequently, the reactor building cooling unit (RBCU) fans fail to restart following an ES actuation. Conditions exist requiring an Alert classification per emergency alert level (EAL) 4.1.A.1, Loss of reactor coolant system (RCS). Follow-up notifications to offsite agencies are required in addition to activation of Emergency Response Data System (ERDS) and site assembly. Containment pressure continues to increase causing an Emergency Shutdown (ES) actuation at greater than 10 psi. The Technical Support Center (TSC) and Operational Support Center (OSC) facilities are activated after taking turnover from the Control Room Emergency Coordinator. As containment radiation levels increase, conditions exist to require a classification upgrade to SITE AREA EMERGENCY (SAE) per EAL 4.1.S.1, Loss of any two barriers. Notification of offsite agencies is performed. As the Emergency Operations Facility (EOF) is staffed, turnover is completed and the EOF is declared activated. A containment purge system breach occurs resulting in a sudden pressure decrease in the containment. At this time, conditions exist for a GENERAL EMERGENCY (GE) per EAL 4.1.G.2, Loss of all three barriers. Subsequently, the 1B reactor building spray (RBS) pump trips resulting in a loss of reactor building spray. Protective Action Recommendations (PARS) are determined and notifications completed. Dose projections indicate additional PARs requiring a potassium iodide (KI) decision. The scenario will continue until all objectives are tested.

Initial PAR:
Evacuate: A0, A1, B1, C1, D1, E1, F1 (5 miles around)
Shelter: A2, B2, C2, D2, E2, F2

Dose Projection PAR:
Evacuate: A0, D1, D2, E1, E2
Shelter: A1, A2, B1, B2, C1, C2,F1, F2
KI decision: Yes

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 18, 2012 partial participation plume phase exercise and Out Of Sequence activities. Exercise criteria are listed by number and the demonstration status of those criteria are indicated by the use of the following terms:

- Met (No Deficiency or Areas Requiring Corrective Actions (ARCA) assessed and no unresolved ARCA(s) from prior exercise)
- ARCA(s) assessed or unresolved ARCA(s) from previous exercises
- Deficiency assessed
- Plan Issues
- Not Demonstrated

3.2 Summary Results of Exercise Evaluation

See section 3.3 Criteria Evaluation Summaries for the associated Capability Summaries for each jurisdiction.

Table 3.1 - Summary of Exercise Evaluation

DATE: 2012-09-18 SITE: Oconee Nuclear Station, SC M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		SC	Oconee County	Pickens County	Anderson County	Greenville County
Emergency Operations Management						
Alert and Mobilization	1a1	M	M	M		
Facilities	1b1					
Direction and Control	1c1	M	M	M		
Communications Equipment	1d1	M	M	M		
Equipment and Supplies to Support Operations	1e1	M	M	M	M	M
Protective Action Decision Making						
Emergency Worker Exposure Control	2a1	M	M	M		
Dose Assessment & PARs & PADs for the Emergency Event	2b1	M				
Dose Assessment & PARs & PADs for the Emergency Event	2b2	M	M	M		
PADs for the Protection of persons with disabilities and access/functional needs	2c1		M	M		
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1					
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1					
Protective Action Implementation						
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		
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1		M	M		
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c2		M	M		
Implementation of Traffic and Access Control	3d1	M	M	M		
Implementation of Traffic and Access Control	3d2	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					
Field Measurement and Analysis						
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					
Emergency Notification and Public Info						
Activation of the Prompt Alert and Notification System	5a1	M	M	M		
RESERVED	5a2					
Activation of the Prompt Alert and Notification System	5a3		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		
Support Operations/Facilities						
Monitoring, Decontamination, and Registration of Evacuees	6a1				M	M
Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1		M	M		
Temporary Care of Evacuees	6c1				M	M
Transportation and Treatment of Contaminated Injured Individuals	6d1			M		

3.3 Criteria Evaluation Summaries

3.3.1 South Carolina Jurisdictions

3.3.1.1 State of South Carolina

Emergency Operations Center Management:

Representatives from various State agencies working in the State Emergency Operations Center (SEOC) successfully demonstrated their ability to coordinate the State response to the simulated emergency at the ONS. After ONS's initial notification to the State Warning Point (SWP), the SEOC staff was mobilized and the EOC activated. In accordance with the Extent of Play Agreement (EOPA), the staff was prepositioned outside of the EOC prior to mobilization. State Warning Point personnel were prepared and knowledgeable of their duties and responsibilities. They had primary and backup means of communications. The Chief of Operations maintained direction and control of emergency response activities for the State and led numerous coordination meetings with the South Carolina Emergency Management Division (SCEMD) Director, the staff and the risk counties using a conference bridge line. PARs were discussed in detail with staff and counties, to include the decision by the Director to classify the event as a "Fast Breaker" granting additional control to the counties. Concurrence was reached among all parties for Protective Action Decisions (PADs). The SEOC was well equipped and had sufficient space to support emergency response. State agency offices were well marked, easily identifiable, and sufficient to support all assigned duties. The Chief of Operations and his staff were knowledgeable and competent and acted within the scope of plans and procedures.

SCEMD and Department of Health and Environmental Control (DHEC) provided liaisons to the Duke Energy EOF in Charlotte, NC. The presence of State liaisons in the EOF enhanced the flow of information between the utility and the OROs and provided opportunities for expanded discussions of plant conditions, dose projections, utility recommendations, and offsite response organization (ORO) protective actions. The SCEMD and DHEC liaisons followed applicable procedures and performed their respective duties in an efficient and professional manner.

Emergency Public Information and Warning:

The SEOC management and staff effectively demonstrated the ability to alert the public of an emergency at ONS and provide timely and accurate information and instructions as the situation evolved. The SCEMD Public Information Director (PID) and the SEOC operations staff worked together to alert and notify the public through the coordinated sounding of sirens and broadcast of accurate EAS messages throughout the 10-mile EPZ in a timely manner. Prior to escalating ECLs, the PID sent a test message by e-mail to the Local Primary (LP-1) station and telephonically confirmed receipt and follow-on procedures with the station manager. The alert and notification system was activated twice during the exercise. The first was to alert the public that an incident was occurring at ONS, and the second was to alert the public of the need to evacuate or shelter in designated geographical zones. Only the first message was sent to the LP-1 station and actions to simulate a broadcast were demonstrated. These EAS messages were supplemented by seven emergency information messages that provided further guidance to the public. In the case of both EAS and emergency news releases, the PID and staff used pre-scripted templates to develop their message. The PID further coordinated with the State Joint Information Center to ensure that consistent and timely information was provided in media briefings and updates. The actions of the SEOC staff were in consonance with established State plans and procedures.

Hazardous Materials Response:

Representatives from DHEC successfully demonstrated the capability to assess and manage the consequences of a radiological release from ONS. DHEC personnel were located at the SEOC, the Mobile Operations Center (MOC) and as members of the radiological field monitoring teams (FMTs). They demonstrated the ability to calculate dose projections based on information from the licensee and include data from their field teams. They were capable of testing and identifying all likely radiological substances offsite; ensuring that responders had appropriate protective clothing and equipment; conducting surveys of suspected sources or contamination spreads and establishing isolation perimeters; and notifying environmental, health, and law enforcement agencies.

At the SEOC, the Emergency Response Coordinator (ERC) was in charge of the DHEC group with the Dose Assessment Coordinator (DAC) leading the dose assessment group. Both Coordinators demonstrated effective leadership and delegated tasks appropriately. The ERC and dose assessment staff performed dose projections and made PARs based on data from the ONS Emergency Notification Forms. Early precautionary actions were recommended by the ERC.

The Dose Assessment Coordinator completed timely dose assessment functions and compared results with licensee dose projections and field team results. Dose assessment capabilities were demonstrated using the Radiological Assessment System for Consequence Analysis (RASCAL) 4.2 program. The DHEC team effectively characterized and quantified the radiological plume. Protective actions and KI recommendations were commensurate with dose projections and meteorological data.

DHEC deployed two FMTs to gather data used to manage the consequences of the radiological release. Teams were provided with appropriate equipment, including personnel protection equipment, and supplies. Their ability to communicate with the MOC was tested and verified operational. Survey equipment was both operationally checked and source checked properly before deployment into the field.

The FMTs were given a radiological briefing by the Field Team Director (FTD) and the MOC Operations Section Chief prior to deployment. Teams were provided personnel protection equipment, instructed to monitor their radiation exposure and gather ambient radiation measurements and environmental field samples. Teams were provided potassium iodide (KI), were knowledgeable of its use, and ingested KI when advised to do so by the MOC. The Operations Section Chief (OSC) successfully managed the MOC and field team staff's response to the simulated event. The OSC was proactive in his deployment and movement of field teams to characterize the plume while keeping their safety as a top priority.

FMTs took ambient radiation measurements, air samples, soil, and vegetation samples as directed by the Field Team Director (FTD). Exposure was recorded, tracked, and transmitted to the MOC. Field data was provided to dose assessment personnel in a timely manner to aide in characterizing the boundaries of the plume. Appropriate contamination controls were demonstrated during monitoring and sampling activities. Samples were transferred to a relay team for transport to the (simulated) mobile laboratory. Field team members demonstrated the ability to obtain measurements and samples in order to properly track and assess the plume.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 3.a.1, 3.d.1, 3.d.2, 4.a.2, 5.a.1, 5.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.2 Oconee County

EOC Management:

The Oconee County Emergency Management Director (EMD) successfully demonstrated the capability to provide multi-agency coordination for incident management by activating the EOC and managing the County's response to the incident at ONS. The participation of a State Senator and a County Administrator throughout the exercise demonstrated a firm dedication to the safety and welfare of the county residents.

The EMD and his staff were proficient in the performance of their duties and were proactive in their planning and implementation of County emergency response actions. The EOC was activated in accordance with the County plan and the EOPA. Redundant interoperable communications and sufficient equipment and supplies further enhanced the County's emergency response capability. The EMD maintained direction and control, properly coordinated protective action decisions, and ensured situational awareness through frequent staff briefings. Through interview, the ability to coordinate with local, regional and State agencies to establish evacuation routes, traffic control points and back-up route alerting was successfully demonstrated. There was seamless coordination to ensure students, functional needs residents and institutionalized individuals were notified and relocated. All personnel interviewed and observed were professional, well trained and knowledgeable of their responsibility to relocating residents.

Emergency Public Information and Warning:

Oconee County Emergency Management staff demonstrated the capability to develop, coordinate, and disseminate accurate alerts and emergency information to the public in a variety of formats. Emergency information and instructions to the public were accurate and delivered in a timely manner. Oconee County used a variety of means to rapidly and accurately notify the public of the situation at ONS. They alerted the public through the use of sirens and informed

them of the situation at ONS through EAS messages and county media releases. They also used Oconee ALERT, a reverse calling system. The county was prepared to implement backup route alerting with county Rescue Squad personnel and vehicles in the event of siren failure.

Trained personnel staffed the two public inquiry telephone lines. They consistently provided accurate information to the public and used the press releases from the Public Information Officers (PIOs) in both the EOC and the JIC.

Citizen Evacuation/Shelter in Place:

On September 11, 2012, the Oconee County School District succesfully discussed the ability to protect the health and safety of students, faculty and staff of their schools. School district staff and school principals were very knowledgeable on district policies as well as individual school plans and procedures. Principals from Hamilton Career Center, Seneca High School, Walhalla High School, Code Learning Center and Amassed Elementary School were clear and concise in discussing shelter in place plans, relocation procedures, including the establishment of positive control of students in route to their perspective pick-up locations, notification of parents and safety and security. The county has sufficient transportation assets to accommodate all students, to include agreements with the Clemson Cat buses if necessary. Multiple redundant communication systems were available to key staff both in the schools and within the district. Staff within each school was knowledgeable on their specific secondary functions as they related to emergency action and maintained proficiency through regular training.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. 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, 5.a.1, 5.a.3, 5.b.1, 6.b.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.3 Pickens County

EOC Management:

The capability EOC Management was successfully demonstrated by activating, directing EOC operations, supporting and coordinating response. The EOC staff was pre-positioned per the EOPA and a review of their emergency notification procedures and calling tree methods confirmed their capability to rapidly notify and activate EOC staff.

The EOC had sufficient equipment and communication systems for conducting operations and communicating with the State, other counties and local government agencies and departments including a dedicated telephone system, computers, faxes and radios.

The EMD and Deputy EMD (DEMD) were in charge of EOC operations and exhibited good direction and control of all activities. The EMD ensured all actions were coordinated with Oconee County and the State. Emergency Support Functions (ESFs) were frequently polled as to their activities and what support they needed to complete their duties. The EMD was proactive in issuing protective actions and having ESFs prepare for potential problems. The coordination between ESFs in completing actions was an indication of the EMD and DEMDs diligence in training the staff, insuring all personnel communicated their needs and used their plans and procedures.

The EMD reviewed PARs from the utility and SCEMD to insure they were the best actions for citizens of Pickens County. The EMD and DEMD consulted closely with the school district representative and the Clemson University representative concerning PARs. The EMD participated on all conference calls to coordinate PADs with the State and Oconee County.

All emergency workers in the 10-mile EPZ in Pickens County, who may be exposed to radiation from an accident at the ONS, would be issued one permanent record dosimeter (PRD) and one direct reading dosimeter (DRD). PRDs and DRDs and their chargers were maintained in the EOC. ESF-2 County Communications was tasked to call-down all the day care facilities and nursing home to provide a notification of the emergency event and to verify contact numbers. No evacuation order was given for Functional Needs (FN); only one FN client was evacuated out of the 2-mile area A0 around ONS.

Emergency Public Information and Warning:

The Emergency Public Information and Warning Capability were successfully demonstrated during the exercise. The primary system to alert and warn the resident of Pickens County was the siren system coupled with the activation of EAS; Duke Energy installed 28 sirens within the 10 mile EPZ. In coordination with SCEMD and Oconee County the EMD would activate the siren system. In the event of a siren failure the EMD would task the Fire Rescue at the EOC with the coordination of backup route alerting.

EAS messages were generated by the SCEMD PIO and they are faxed or emailed to the EAS station for transmittal. News releases were generated by the county PIO approved by the EMD and emailed or faxed to the local news media or to the JIC if it was activated.

News releases contained accurate and approved information, consistent with precautionary and protective action decisions discussed in the EOC; they also contained specific addresses for reception centers, evacuation routes and specific telephone numbers for more information. All releases were faxed and emailed to the appropriate news media for immediate release.

Public inquiry was maintained by the PIO at the EOC. The Public Inquiry telephone was located in the EOC at the PIO's work station, and the telephone could handle only one call at a time. The PIO was very familiar with fielding inquiries from the general public. She was capable of providing accurate and timely information to the public. She received thirteen inquiries, provided a proper response and advised the JIC PIO and EOC of the calls.

Citizen Evacuation/Shelter in Place:

Six public schools and one private school (3,793 student's total) were located in the 10-mile EPZ, they would be evacuated by school bus and available privately owned vehicles. Adequate school buses to transport students from each school would be dispatched to the schools from Pickens, Daniel, Liberty and Easley Bus Operations Department. All buses were equipped with 800MHz portable radios and the drivers of the lead buses were equipped with a PRD and a DRD.

On September 11, 2012 principals of Central Elementary School and Clemson Elementary School, School District Pickens County (SDPC) Superintendent, Deputy Superintendent, SDPC Transportation and a bus driver were interviewed. All individuals were well conversant with

their respective emergency plans and it was apparent that key personnel were familiar with each other and have coordinated plans and procedures. Pickens County Schools have sufficient buses to relocate their students in a timely manner and the host sites are prepared to accept the relocating students and assist in their supervision and eventual release to parents/guardians. Staff and faculty have specific functions and these are addressed during annual scheduled school drills and evacuation/relocation exercises. All interviewed were knowledgeable and demonstrated a professional and caring demeanor.

Public Safety and Security Response:

The South Carolina State Highway Patrol (SCHP) representative demonstrated the knowledge regarding activation and communication capabilities, equipment including dosimetry and KI, and how the four pre-identified traffic control points (TCPs) in Pickens County would be implemented. He was aware of how dosimetry would be used, what exposure limits were in place for him as an emergency worker, when and how to record the dosimetry readings, and what to do at each exposure limit. He had KI (simulated) with written instructions and was aware of it use, limitations, and possible side effects. Using the Standard Operating Guidelines he knew who would activate the TCP and when this would take place.

The SCHP Officers knew that should an impediment to evacuation be identified, either by an officer or a report from a citizen, adequate resources would most likely be available through law enforcement dispatch which contacts the Department of Transportation or the wrecker services in the area.

Hazardous Materials Response:

A medical service drill (MSD) conducted on August 31, 2012, and an emergency worker decontamination station (EWD) evaluated on September 17, 2012, were used by Pickens County to demonstrate the hazardous materials response capability. The emergency response staff demonstrated how they identified radiological contamination, followed their procedures to prevent cross contamination and conducted decontamination of a contaminated individual. The staff involved included members from the Pickens County Emergency Medical Service (PCEMS), Cannon Memorial Hospital (CMH), Pickens County Hazardous Materials Response Unit, Easley Fire Department, Pickens Fire Department, Central Fire Department, Rescue Units 6 and 7, and Pickens County Emergency Management.

During the MSD, PCEMS received the call for assistance, utilized the appropriate contamination control procedures for the EMS crew and the accident victim, and provided necessary medical care at the site of the accident. CMH was made aware of the arrival of the contaminated patient by PCEMS in a timely manner, improving CMH staffs' ability properly receive the patient. Appropriate communication and exposure controls were maintained throughout the demonstration. CMH staff seamlessly received the patient from PCEMS in the Radiological Control Zone (RCZ) and used appropriate procedures to decontaminate the patient and prevent additional contamination, to include contacting REAC/TS for additional support. In addition, PCEMS and CMH staffs were knowledgeable on proper use of survey equipment and dosimetry, as well as proper wear and removal of PPE.

At the EWD station, Pickens County emergency workers worked effectively as a team. They were well organized and demonstrated a solid understanding of the Ludlum Model 3 operability check, dosimetry and the EWD process as a whole. Although their procedures stated that the survey of the individual should take 90 seconds, the monitors took approximately 5 minutes to fully survey the potentially contaminated emergency worker, which matches other State and Federal guidance. The EWD team utilized job aids to assist them through the monitoring and decontamination process.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. 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, 5.a.1, 5.a.3, 5.b.1, 6.b.1, 6.d.1.
b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2 Support Jurisdictions

3.3.2.1 Anderson County

Hazardous Materials Response:

After receiving additional training, Anderson County emergency response staff successfully demonstrated the ability to conduct hazardous material and decontamination operations for evacuees. This event took place at Westside High School in Anderson County. Emergency Workers (EWs) from the Centerville Volunteer Fire Department and the Anderson County HAZMAT team were knowledgeable on their monitoring and decontamination procedures and radiological exposure control. The Westside High School parking lot was appropriately marked and could support four vehicle monitoring and decontamination stations. Vehicle monitoring personnel effectively monitored the vehicle and when the probe accidently touched the tire, they knew what to do to ensure that it was not contaminated. A secured contaminated vehicle area was located adjacent to these stations. Water was provided by two fire trucks and a nearby fire hydrant. Additional personnel were on standby if necessary.

The EWs did not properly set up the portal monitor. After on the spot corrective training, they were able to correct their mistakes and demonstrate a properly operating portal monitor. Each evacuee was monitored, and their personal information and monitoring results recorded for them to carry to either the reception center if clean or to the decontamination area if contaminated.

The evacuee decontamination station was efficiently set up for decontamination activities. Separate male and female showers where available for decontaminating evacuees. Proper equipment, such as trash bags, soap, shampoo and sponges were all available on site and personal items properly marked and controlled. EWs used proper techniques and where knowledgeable on contamination limits. Equipment operational checks were conducted in accordance with plans.

Mass Care:

The Anderson County Department of Social Services (DSS) and the Western Carolina's Regional Upstate Chapter of the American Red Cross (ARC) demonstrated the capability to provide services and accommodations for evacuees and their pets arriving at the Westside High School congregate care center (CCC). The registration desk and shelter facility was staffed with

DSS and ARC personnel and had the ability to provide staffing for a 24 hour emergency response operation.

Prior to registration, registration personnel ensured that the entering evacuees had been monitored and decontaminated if necessary. Once that was determined the evacuee would fill out the Reception Center Registration Form and the ARC Shelter Registration Form. Should illnesses or injuries requiring more than general first aid be present, the evacuees would be directed to local hospitals.

After registration, the evacuees were escorted to the CCC where an ARC volunteer explained the shelter policies and services available. Service animals were allowed into the shelter. Shelter staff were also assigned the responsibility of maintaining the "Safe and Well" web site. Shelter evacuees' personal information was entered into this web site and functions as a locator for family and friends.

The Shelter Manager certified that the CCC complied with ARC mass care planning guidelines and could be equipped with appropriate supplies and equipment to sustain 24 hour emergency response operations.

In addition to commercial telephones and cell phones, shelter communications would be provided by the radio club Carolina Amateur Radio Emergency Services (CARES) and Amateur Radio Emergency Services (ARES). If evacuees were ordered to ingest KI, DHEC personnel would provide KI to the reception center and distribute it to the evacuees.

All personnel were well trained and knowledgeable. All activities were performed in accordance with established plans, procedures and the extent of play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.e.1, 3.a.1, 6.a.1, 6.c.1.
b. AREAS REQUIRING CORRECTIVE ACTION: 6.a.1.

ISSUE NO.: 42-12-6a1-A-01

CRITERION: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and

registration of evacuees.

CONDITION: Staff did not properly perform the operational checks for the portal monitor.

The operators performed the instrument's operational check by using a Cs-137 1.0 uCi check source. The source check was done by stepping on the foot plate to activate the monitor then holding the source by three (3) of the sensors on each side and one sensor on the head panel and feet panel of the monitor respectively. There are a total of six (6) sensors per side (three (3) panels per side with two (2) sensors per panel), two (2) on the top panel for the head and two (2) on the foot panel for the feet. According procedures, all sensors are to be checked using the aforementioned source along with a centerline check; this was not done by the team prior to monitoring the first evacuee.

POSSIBLE CAUSE: The monitoring team did not follow procedures that were available for their reference.

REFERENCE: 1. SCORERP, Annex 6, October 2011
2. Anderson County RCCC EEG, Capability 1 – HAZMAT Response and Decontamination, Activity 2

EFFECT: The operator did not know if all sensors were functional in accordance with manufacturer's standards which may affect the monitor's ability to sufficiently detect contamination.

CORRECTIVE ACTION DEMONSTRATED: 1. Follow plans and procedures and those procedures readily available for reference by operators.

The continuance of evacuee monitoring was agreed upon by the controller and evaluator to facilitate the flow of evacuees for the other associated reception center processes. After the evacuee monitoring demonstration, additional training and discussion of the proper procedures, the team was allowed to redemonstrate placing the portal monitor in service. This redemonstration was done with controller and evaluator concurrence. The team successfully redemonstrated the proper procedures

for placing the portal monitor in service which included source checks of all sensors along with the centerline checks.

c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.2 Greenville County

Hazardous Materials Response:

Reception center workers successfully demonstrated the ability to perform radiological monitoring and decontamination of evacuees at the TD Convention Center in Greenville. Workers wore appropriate protective clothing and dosimetry, read dosimeters on a periodic basis, and were familiar with dose reporting levels. Workers properly set up and used portal monitors and handheld instruments to detect radiological contamination, were knowledgeable of contamination action levels and decontamination procedures, and provided detailed information and instructions to evacuees. The facility was well laid out, minimizing the chance for cross contamination. Procedures and equipment were sufficient to monitor the expected evacuee population within a 12-hour period.

Mass Care:

ARC staff successfully demonstrated the ability to provide services and accommodations for evacuees at the TD Convention Center shelter. Only individuals with a green wristband form from the reception center would be allowed into the shelter. The facility was organized into eight separate areas from registration to an activities area. Meals and health services would be provided at the shelter, as well as the opportunity for evacuees to register on the ARC Safe and Well web site. All ARC staff members present were knowledgeable of their roles and responsibilities regarding shelter operations.

In summary, the status of DHS/FEMA criteria for this location is as follows:

a. MET: 1.e.1, 3.a.1, 6.a.1, 6.c.1.

b. AREAS REQUIRING CORRECTIVE ACTION: None
c. DEFICIENCY: None
d. PLAN ISSUES: None
e. NOT DEMONSTRATED: None
f. PRIOR ISSUES - RESOLVED: None
g. PRIOR ISSUES - UNRESOLVED: None

SECTION 4: CONCLUSION

The public and private partnership between the State of South Carolina, Anderson, Greenville, Oconee and Pickens Counties and Duke Energy was exemplified during this successful ONS Exercise. The licensee, State and local emergency response organizations cooperatively worked together to protect the health and safety of the public within the plume exposure emergency planning zone.

FEMA would also like to acknowledge the exceptional efforts of the many individuals who planned, prepared for and participated in this exercise. Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities.

State and local emergency response organizations demonstrated knowledge of their emergency response plans and procedures and successfully implemented them. During this exercise, one ARCA was identified.

1. (42-12-6A1-A-01) Monitoring, Decontamination, and Registration of Evacuees: Ludlum 52 portal monitor operators failed to correctly conduct the instrument operational check in accordance to procedures and available references.

This ARCA was successfully re-demonstrated after review of proper procedures for placing the monitor in service.

APPENDIX A: EXERCISE TIMELINE

Table 1 - Exercise Timeline
DATE: 2012-09-18, SITE: Oconee Nuclear Station, SC

Emergency Classification Level or Event	Time Utility Declared	SC	Oconee County	Pickens County
Unusual Event				
Alert	0832	0853	0854	0842
Site Area Emergency	0956	1010	1021	1008
General Emergency	1127	1137	1135	1137
Simulated Rad. Release Started	0826	0853	0854	0842
Simulated Rad. Release Terminated	Ongoing	Ongoing	Ongoing	Ongoing
Facility Declared Operational		0900	0915	0849
State Declaration of Emergency		1026	1027	1037
Exercise Terminated		1345	1409	1400
County Declaration of Emergency			1125	
Early Precautionary Actions: Daycare and Functional Needs Notifications				1013
1st Protective Action Decision: Stay Tuned		0926	0930	0920
1st Siren Activation		0940	0940	0940
1st EAS or EBS Message		0943	0943	0943
2nd Protective Action Decision: Evacuate A0, D1, D2, E1, E2; SIP C1, C2, F1, F2; Lake Clearance; Ban hunting/fishing		1020	1021	1020
2nd Siren Activation		1035	1035	1035
2nd EAS or EBS Message		1038	1038	1038
Clemson University campus evaucation				1035
Agricultural Embargo		1150	1150	1150
KI Decision for Emergency Workers and Institutionized Personnel		0932	0932	0932
KI Decision for General Public in evacuated zones		1224	1229	1229

APPENDIX B: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2012-09-18, SITE: Oconee Nuclear Station, SC

LOCATION	EVALUATOR	AGENCY
State of South Carolina	*John Ackermann Marcy Campbell Keith Earnshaw Thomas Hegele Quintin Ivy Willis Larrabee Jill Leatherman	FEMA ICFI ICFI ICFI FEMA RIV ICFI ICFI
Oconee County	Alan Bevan Michael Dolder Keith Earnshaw Lisa Rink *Ronald Shaw Robert Spence	ICFI FEMA-NP-TH-REP ICFI FEMA R4 FEMA-NP-TH_REP FEMA-NP-TH-REP
Pickens County	Alan Bevan Henry Christiansen Keith Earnshaw *Joe Harworth Lisa Rink Alex Sera	ICFI ICFI ICFI FEMA FEMA R4 FEMA-NP-TH-REP
Anderson County	John Ackermann Joe Harworth *Quintin Ivy Ronald Shaw	FEMA FEMA FEMA RIV FEMA-NP-TH_REP
Greenville County	Alan Bevan *John Fill Lisa Rink	ICFI FEMA RIV FEMA R4
* Team Leader		

APPENDIX C: EXTENT OF PLAY AGREEMENT

Oconee Nuclear Station
FULL PARTICIPATION RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE
September 18, 2012

All selected activities will be demonstrated fully in accordance with respective plans. The 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 and standard operating guides or procedures. It is requested that any issue or discrepancy arising during exercise play be allowed correction immediately, at all player locations, if it is not disruptive to exercise play and if it is mutually agreeable to both the SCEMD controller and FEMA evaluator.

CAPABILITY: Emergency Operations Management (State and County EOC's)

Definition: Emergency Operations Center (EOC) management is the capability to provide multi-agency coordination (MAC) for incident management by activating and operating an EOC for a pre-planned or no-notice event. EOC management includes: EOC activation, notification, staffing, and deactivation; management, direction, control, and coordination of response and recovery activities; coordination of efforts among neighboring governments at each level and among local, regional, State, and Federal EOCs; coordination of public information and warning; and maintenance of the information and communication necessary for coordinating response and recovery activities. Similar entities may include the National (or Regional) Response Coordination Center (NRCC or RRCC), Joint Field Offices (JFO), National Operating Center (NOC), Joint Operations Center (JOC), Multi-Agency Coordination Center (MACC), Initial Operating Facility (IOF), etc.

Activity 1: Activate EOC (Definition: In response to activation, perform incident notifications, recall essential personnel, and stand-up EOC systems to provide a fully staffed and operational EOC.)

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

All participating state and local government agencies will be prepositioned. Procedures for Alert and mobilization will be discussed with the evaluator (s).

1.2 **At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations.** (Sub element 1.d, Communications, **Criterion 1.d.1**: NUREG-0654, F.1, 2)

Demonstrated in accordance with plans

1.3 **Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), other supplies are sufficient to support emergency operations.** (Sub-element 1.e., Equipment and Supplies to Support Operations, **Criterion 1.e.1**: NUREG-0654, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b).

Inventories of potassium iodide (KI) will be verified during County Staff Assistance Visits (SAVs).

State/county dosimetry and monitoring instruments will be inspected and operationally checked prior to use. Quantities of dosimetry and monitoring instruments, their calibration/testing will be verified during SAVs.

Staff Assistance Visits (SAV) will be conducted in:

Oconee County on September 11, 2012.
Pickens County on September 11, 2012.

Activity 2: Direct EOC Operations (Definition: Following activation of the EOC system, staff and organize the EOC in accordance with the comprehensive emergency management plan (CEMP) and the requisite policies, procedures, and directives.)

2.1 **Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.** (Sub-element 1.c.1, Direction and Control,

Criterion 1.c.1: NUREG-0654, A.1.d; A.2.a, b; A.3; C.4, 6)

State Direction and Control will be at the State Emergency Operations Center (SEOC). County Direction and Control will take place at the Oconee County and Pickens County EOCs. All telephone calls to non-participating agencies will be made by calling the simulation cell (SIMCELL). Communication with Host County directors or designated representative will be demonstrated as appropriate in the Risk County decision process. FEMA evaluator will be given access to the SIMCELL as needed.

2.2 **OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides.** (Sub-element 2.a., Emergency Worker Exposure Control, **Criterion 2.a.1**: NUREG-0654, C.6; J.10. e, f; K.4)

By discussion and in accordance with plans

2.3 **A decision-making process involved consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy).** (Sub-element 2.b., Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency, **Criterion 2.b.2**: NUREG, A.3; C.4, 6; D.4; J.9; J.10.f, m)

Demonstrated in accordance with plans

2.4 **Protective action decisions are made, as appropriate, for groups of persons with disabilities and access/functional needs.** (Sub-element 2.c., PAD Consideration for the Protection of Persons with Disabilities and Access/Functional Needs, **Criterion 2.c.1**: NUREG-0654, D.4; J.9; J.10.d, e).

Demonstrated in accordance with plans

Activity 3: Support and Coordinate Response (Definition: Once requested, provide resource, technical, and policy support to the Incident Command by coordinating the actions of off-site agencies, organizations, and jurisdictions, implementing MAAs, and requesting higher-level assistance.)

3.1 **The OROs issue appropriate dosimetry, KI and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers.** (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, **Criterion 3.a.1**: NUREG-0654, J.10.e; K.3.a, b; K.4).

This criterion will be demonstrated during Out of Sequence activities in accordance with plans and procedures on September 17, 2012. All appropriate forms are to be used and collected by the evaluator.

Pickens County (Pickens County DOT) – 2:00 p.m.
186 Prison Camp Road, Pickens, SC 29671

Oconee County (Oakway Fire Dept.) – 6:30 p.m.
171 School House Road, Westminster, SC 29393

3.2 **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.** (Sub-element 3.b., Implementation of KI Decision, **Criterion 3.b.1**: NUREG-0654, J., 10.e.f.).

By discussion during exercise play and in accordance with plans

3.3 **Protective action decisions are implemented for persons with disabilities and access/functional needs other than schools within areas subject to protective actions.** (Sub-element 3.c., Implementation of Protective Actions for Special Populations, **Criterion 3.c.1**: NUREG-0654, J.10.c, d, e, g)

Oconee County and Pickens County will discuss during exercise play the ability and resources to implement appropriate protective actions for access/functional needs. Evacuation assistance will not be demonstrated.

3.4 **OROs/School officials implement protective actions for schools. (Schools include: all public schools, licensed day care centers, and participating private schools)** (Sub-element 3.c., Implementation of Protective Actions for Persons with disabilities and access/functional needs, **Criterion 3.c.2**: NUREG-0654, J.10.c, d, e, g)

By discussion and in accordance with plans

School interviews will be conducted during OOS activities on September 11, 2012 at Pickens and Oconee EOCs.

3.5 **Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.** (Sub-element 3.d., Implementation of Traffic and Access Control, **Criterion 3.d.1**: NUREG-0654, A.3; C.1, 4; J.10.g, *j*)

County management of TCP operations will be discussed by ESF-16 at Pickens County's EOC on September 18, 2012.

3.6 **Impediments to evacuation are identified and resolved.** (Sub-element 3.d., **Criterion 3.d.2**: Implementation of Traffic and Access Control, NUREG-0654, J.10.k)

Actions to identify and remove impediments to evacuation will be by discussion at the Oconee County and Pickens County EOCs on 9/18/12. ESF 16 will be interviewed by FEMA at the SEOC during the exercise.

CAPABILITY: Citizen Evacuation and Shelter in Place

Definition: Citizen Evacuation and shelter-in-place is the capability to prepare for, ensure communication of, and immediately execute the safe and effective sheltering-in-place of an at-risk population (and companion animals), and/or the organized and managed evacuation of the at-risk population (and companion animals) to areas of safe refuge in response to a potentially or actually dangerous environment. In addition, this capability involves the safe reentry of the population where feasible.

Activity 1: Direct Evacuation and/or In Place Protection (Definition: In response to a hazardous condition for a locality, direct, manage, and coordinate evacuation and/or in-place sheltering procedures for both the general population and those requiring evacuation assistance throughout incident.)

1.1 **OROs/ School officials implement protective actions for schools.** (Sub-element 3.c., Implementation of Protective Actions for Special Populations, **Criterion 3.c.2**: NUREG-0654, J.10.c, d, e, g)

A county representative, school district official, transportation supervisor, bus driver and school representative from each listed school will be prepared to discuss their plans and procedures to satisfy this criterion on September 11, 2012.

Oconee County schools to be evaluated at the Oconee County EOC at 2:00 p.m. on September 11, 2012 are:

Seneca HS
Fred Hamilton Career Center
Code Family Learning Center
Walhalla HS
Tamassee ES

Pickens County schools to be evaluated at the Pickens County EOC at 9:00 a.m. on September 11, 2012 are:

Central ES
Clemson ES

CAPABILITY: Emergency Public Information and Warning (State and County EOCs and JICs)

Definition: Develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public prior to an impending emergency and activate warning systems to notify those most at-risk in the event of an emergency. By refining its ability to disseminate accurate, consistent, timely, and easy-to understand information about emergency response and recovery processes, a jurisdiction can contribute to the well-being of the community during and after an emergency.

Activity 1: Issue Emergency Warnings (Definition: Upon receiving Protective Action Decisions, issue emergency public warnings through established warning systems.)

1.1 **Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by FEMA REP guidance.** (Sub-element 5.a., Activation of the Prompt Alert and Notification System, **Criterion 5.a.1**: 10 CFR Part 50, Appendix E & NUREG-0654, E.5, 6, 7

At the appropriate decision point, sirens will be simulated by conducting silent tests. Silent tests will be conducted each activation. The initial EAS will be faxed to the LP1. An evaluator will be present to discuss the EAS process with the station. A simulated EAS message and follow-on news release will be prepared but will not be transmitted. Copies of the simulated EAS messages and news releases will be provided to the FEMA evaluator at the SEOC.

1.2 **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.** (Sub-element 5.a., Activation of the Prompt Alert and Notification System, **Criterion 5.a.3**: NUREG-0654, E.6, Appendix 3.B.2.c)

In the event of a siren failure, Oconee and Pickens County will discuss back-up route alerting procedures with FEMA evaluators.

Waterway clearing will be by discussion with DNR representative during exercise play at Pickens County EOC.

1.3 **OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner.** (Sub-element 5.b., Emergency Information and Instructions for the Public and the Media, **Criterion 5.b.1**: NUREG-0654, **E.5, 7; G.3.a, G.4.a, c)**

In accordance with plans

Activity 2: Provide Public Inquiry Control (Definition: Upon activation of the JIS, track inquiries for rumors.)

2.1 **OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner.** (Sub-element 5.b., Emergency Information and Instructions for the Public and the Media, **Criterion 5.b.1**: NUREG-0654, E.5, 7; G.3.a, G.4.a, c)

Public inquiry for the State will be demonstrated at the State JIC. Public inquiry for Oconee County and Pickens County will be demonstrated at their county EOC. Public inquiry personnel from each jurisdiction will provide the FEMA evaluator with a call log and discuss trends.

Activity 3: (JIC Only) Public Information, Alert/Warning, and Notification Plans (Definition: Activate key personnel, facilities, and procedures.)

3.1 **ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.** (Sub-element 1.a; Mobilization, **Criterion 1.a.1**: NUREG-0654, A.1.a, e; A.3, 4; C.1; 4, 6; D.4; E.1, 2; H.3, 4)

COURTESY EVALUATION. All participating state and local government agencies will be prepositioned. Alert and mobilization procedures will not be demonstrated; these procedures will be discussed with evaluators.

3.2 **At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations**. (Sub element 1.d, Communications, **Criterion 1.d.1**: NUREG-0654, F.1, 2)

In accordance with plans

3.3 **Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), other supplies are sufficient to support emergency operations.** (Sub-element

1.e., Equipment and Supplies to Support Operations, **Criterion 1.e.1**: NUREG-0654, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b).

In accordance with plans

Activity 4: (JIC only) Establish Joint Information System (JIS) (Definition: Upon assigning PIO, activate and implement the JIS/JIC and disseminate information to public.)

4.1 **OROs provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner.** (Sub-element 5.b., Emergency Information and Instructions for the Public and the Media, **Criterion 5.b.1**: NUREG-0654, E.5, 7, G.3.a, G.4, a., c.)

COURTESY EVALUATION In accordance with plans

Activity 5: (JIC Only) Manage Emergency Public Information and Warnings (Definition: In response to need for public notification, provide overall management and coordination of Emergency Public Information and Warning capability.)

5.1 **Provide periodic updates and conduct regularly scheduled media conferences.** (Sub-element 5.b. Emergency Information and Instructions for the Public and the Media, **Criterion 5.b.1**: NUREG-0654, E.5, 7, G.3.a, G.4, a., b., c.)

COURTESY EVALUATION In accordance with plans

CAPABILITY: Public Safety and Security Response (TCPs)

Definition: Public Safety and Security Response is the capability to reduce the impact and consequences of an incident or major event by securing the affected area, including crime/incident scene preservation issues as appropriate, safely diverting the public from hazards, providing security support to other response operations and properties, and sustaining operations from response through recovery. Public Safety and Security Response requires coordination among officials from law enforcement (LE), fire, and emergency medical services (EMS).

Activity 1: Activate Public Safety/Security Response (Definition: Upon notification, mobilize and deploy to begin operations.)

1.1 ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. **(Sub-element 1.a, Mobilization,** Criterion 1.a.1**: NUREG-0654, A.4. D.3, 4, E.1, 2, H.4)**

TCP Officers will discuss procedures for alert notification at Pickens County EOC during exercise play.

1.2 **At least two communications systems are available, at least one operates properly, and communication links are established and maintained with appropriate**

locations. Communications capabilities are managed in support of emergency operations. (Sub element 1.d, Communications, **Criterion 1.d.1**: NUREG-0654, **F.1, 2)**

TCP Officers will discuss primary and secondary communications during exercise play.

1.3 Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), other supplies are sufficient to support emergency operations. (Sub-element 1.e, Equipment and Supplies to Support Operations, **Criterion 1.e.1:** NUREG-0654, H., J.10.a.b.e.f.j.k, 11, K.3.a).

The availability of appropriate equipment (e.g. vehicles, barriers, traffic cones and signs, etc.) will be discussed by law enforcement personnel during exercise play.

Activity 2: Command/Control Public Safety/Security Response (Definition: In response to a notification for security assets, establish the management and coordination of the Public Safety and Security Response, from activation through to demobilization.)

2.1 **The OROs issue appropriate dosimetry, KI and procedures, and manage radiological exposure to emergency workers in accordance with the plans / procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers.** (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, Criterion 3.a.1: NUREG-0654, K.3).

TCP Officers will be interviewed to determine their knowledge of radiation incident response procedures (i.e. exposure limits, protective clothing, dose record keeping, etc.) and procedures for the ingestion of KI.

Activity 3: Control Traffic, Crowd, and Scene (Definition: Direct/redirect traffic and pedestrians out of the affected area(s). Assess, coordinate, and establish force protection and perimeter zones, maintain a visible and effective security presence to deter criminal conduct and maintain law and order.)

3.1 **Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel.** (Sub-element 3.d., Implementation of Traffic and Access Control, **Criterion 3.d.1:** NUREG-0654, A.3; C.1, 4; J.10.g, j).

Traffic and Control Points (TCPs) are pre-determined. The South Carolina Highway Patrol will discuss TCPs in-sequence, at Pickens County EOC. TCPs to be evaluated are:

TCP #A1 SC 183 (Walhalla Highway) and S 39-157 (Gap Hill Road), Pickens County

TCP #C1 SC 39-291 (Old Seneca Road) entrance to Toby Hill Subdivision, Pickens County

3.2 **Impediments to evacuation are identified and resolved.** (Sub-element 3.d., Implementation of Traffic and Access Control, **Criterion 3.d.2**: NUREG-0654, J.10.k)

County/Local Law Enforcement personnel will discuss actions to identify and remove impediments to evacuation at the county EOC's by discussion during exercise play.

CAPABILITY: HAZMAT Decontamination and Response (Reception Centers, Emergency Worker Decontamination and Dose Assessment)

Definition: HAZMAT Response and Decontamination is the capability to assess and manage the consequences of a hazardous materials release, either accidental or as part of a terrorist attack. It includes testing and identifying all likely hazardous substances onsite; ensuring that responders have protective clothing and equipment; conducting rescue operations to remove affected victims from the hazardous environment; conducting geographical survey searches of suspected sources or contamination spreads and establishing isolation perimeters; mitigating the effects of hazardous materials, decontaminating on-site victims, responders, and equipment; coordinating off-site decontamination with relevant agencies, and notifying environmental, health, and law enforcement agencies having jurisdiction for the incident to begin implementation of their standard evidence collection and investigation procedures.

Activity 1: Site Management and Control (Definition: In response to activation, mobilize and arrive at the incident scene and initiate response operations to manage and secure the physical layout of the incident.)

1.1 ORO's use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. **(Sub-element 1.a, Mobilization**, Criterion 1.a.1: **NUREG-0654, A.1.a, e; A.3, 4; C.1, 4, 6; D.4; E.1, 2; H.3, 4)**

All participating personnel will be pre-positioned at their respective Reception Center or EW Decontamination site for demonstration during OOS activities. Alert and notification procedures will be discussed with FEMA evaluators at this time. DHEC Dose Assessment personnel will discuss their alert and notification procedures with the evaluator at the SEOC on 9/18/12.

1.2 **Equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations.** (Sub-element 1.e, Equipment and Supplies to Support Operations, **Criterion 1.e.1**: NUREG-0654, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b).

All radiation detection equipment will be inspected and operationally checked before each use. County equipment will be calibrated or leak tested in accordance with existing plans.

KI will be simulated by candy or other means.

1.3 **(Dose Assessment only) 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 including provisions to**

authorize radiation exposure in excess of administrative limits or protective action guides. (Sub-element 2.a., Emergency Worker Exposure Control, **Criterion 2.a.1**: NUREG-0654, C.6; J.10. e, f; K.*4*)

DHEC (ESF 10) Field Teams and the Mobile Operations Center (MOC) will be activated so that exposure control decisions for field teams can be demonstrated.

1.4 **(Dose Assessment only) Appropriate protective action recommendations (PARs) are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions.** (Sub-element 2.b., Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency, **Criterion 2.b.1**: NUREG-0654, I. 10, and Supplement 3.)

DHEC (ESF-10) will provide protective action recommendations based on the scenario and artificial monitoring data produced by the plant and/or inject.

1.5 **The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. OROs maintain appropriate record-keeping of the administration of KI to emergency workers.** (Sub-element 3.a., Implementation of Emergency Worker Exposure Control, **Criterion 3.a.1**: NUREG-0654, J.10.e; K.3.a, b; K.4).

In accordance with plans

Emergency workers will be interviewed to determine their knowledge of radiation incident response procedures (i.e. exposure limits, protective clothing, dose record keeping, etc.). Five (5) personal exposure forms will be completed by emergency workers during Out of Sequence activities and provided to FEMA evaluators upon conclusion.

1.6 **Dose Assessment only) KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for institutionalized individuals (not general public) is maintained.** (Sub-element 3.b., Implementation of KI Decision, **Criterion 3.b.1**: NUREG-0654, J.10.e, f).

DHEC Field Teams and the MOC will be activated so that KI distribution to field teams can be demonstrated.

Activity 2: Hazard Assessment Risk Evaluation

2.1 **(Dose Assessment only) Field teams (2 or more) are managed to obtain sufficient information to help characterize the release and to control radiation exposure.**

(Sub-Element 4.a., Plume Phase Field Measurements and Analyses, **Criterion 4.a.2**: NUREG-0654, H.12; I.8, 11; J.10.a)

DHEC Field Teams and the MOC will be activated so that management of field teams can be demonstrated. No stationary or mobile rad lab activation or evaluation will be conducted. MOC set-up will not demonstrate the exclusion zone, survey, and sample receipt activities.

Activity 3: Decontamination and Cleanup/Recovery Operations

3.1 **The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees.** (Sub-element 6.a., Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees, **Criterion 6.a.1**: NUREG-0654, A.3; C.4; J.10.h; J.12)

Reception Centers will be demonstrated out-of-sequence. At least six people will be monitored and registered. Personnel decontamination will be demonstrated via walk-through and discussion. All necessary supplies will be on hand. Walkways will not be entirely covered with barrier material; however, some markings will be used to aid in directing evacuees.

A monitoring productivity rate will be developed by the FEMA evaluator. Demonstration will include the necessary radiological monitoring equipment and monitoring teams required to monitor 20% of the population allocated to the facility within 12 hours. At least two vehicles will be monitored and one vehicle will be processed as contaminated. Vehicle decontamination will be discussed in accordance with local SOPs.

Reception Centers to be evaluated are:

Anderson County: Westside HS, 806 Pearman Dairy Road, Anderson, SC 29625, Aug.13, 2012 at 5:00 p.m.

Greenville County: TD Convention Center, 1 Exposition Drive, Greenville, SC 29607, Sept.19, 2012 at 10:00 a.m.

3.2 **The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment including vehicles.** (Sub-element 6.b, Monitoring and Decontamination of Emergency Worker Equipment, **Criterion 6.b.1**: NUREG-0654, K.5.a, b).

Emergency Worker Monitoring and Decontamination will be demonstrated Out of Sequence. Each location will display all necessary supplies in accordance with local SOPs. Water will not be used in demonstrating personnel decontamination at Pickens County EWD. Water will not be used in demonstrating personnel decontamination at

Oconee County EWD. Two emergency workers will be monitored at each EWD location. Personnel decontamination will be demonstrated via walk- through and discussion. One emergency vehicle will be monitored and decontaminated in accordance with local SOPs at each location. Water will not be used when demonstrating decontamination of the emergency vehicle at Pickens County. Oconee County will use water when demonstrating decontamination of the emergency vehicle and will have a Courtesy Evaluation.

Emergency Worker Decontamination Points to be evaluated are:

Oconee County (Courtesy Evaluation): Oakway Fire Dept., 171 School House Road, Westminster, SC 29393- Sept. 17, 2012 at 6:30 p.m.

Pickens County: Pickens County DOT, 186 Prison Camp Road, Pickens, SC 29671- Sept. 17, 2012 at 2:00 p.m.

3.3 **(Medical Service Drill Only) The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals.** (Sub-element 6.d, Transportation and Treatment of Contaminated Injured Individuals, **Criterion 6.d.1**: NUREG-0564/FEMA-REP-1, F2; H.10; K.5.a, b; L.1 4).

In accordance with plans during Out of Sequence event on August 31, 2012

CAPABILITY: Mass Care

Definition: Mass Care is the capability to provide immediate shelter, feeding centers, basic first aid, bulk distribution of needed items, and related services to persons affected by a large-scale incident, including special needs populations. Special needs populations include individuals with physical or mental disabilities who require medical attention or personal care beyond basic first aid. Other special-needs populations include non-English speaking populations that may need to have information presented in other languages. The mass care capability also provides for pet care/handling through local government and appropriate animal-related organizations. Mass care is usually performed by nongovernmental organizations (NGOs), such as the American Red Cross, or by local government-sponsored volunteer efforts, such as Citizen Corps. Special-needs populations are generally the responsibility of local government, with medical needs addressed by the medical community and/or its alternate care facilities. State and Federal entities also play a role in public and environmental health by ensuring safe conditions, safe food, potable water, sanitation, clean air, etc.

Activity 1: Establish Shelter Operations (Congregate Care) (Definition Staff and equip shelter in preparation to receive displaced persons and/or companion animals.)

1.1 **Managers of congregate care facilities demonstrate that the centers have the resources to provide services and accommodations consistent with American Red Cross planning. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate**

prior to entering congregate care facilities. (Sub-element 6.c, Temporary Care of Evacuees, **Criterion 6.c.1**: NUREG-0654, J.10.h, 12.).

County shelters will be demonstrated by walk through concurrent with Activity 3, Task 3.1 above.

In accordance with plans during Out of Sequence events

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