

APPENDIX 3
(SOUTH CAROLINA EARTHQUAKE PLAN)
TO THE SOUTH CAROLINA EMERGENCY OPERATIONS PLAN

I. INTRODUCTION

- A. An earthquake is a sudden, rapid shaking of the earth’s surface caused by a slip on a fault or other sudden stress changes in the earth. A strong earthquake can cause severe damage and a large number of casualties over a wide area.
- B. Unlike other natural disasters, earthquakes normally occur without warning and could strike anytime. The unpredictable nature of earthquakes, foreshocks and aftershocks may cause great physical and societal impacts over a broad geographic region.
- C. Most earthquakes occur along faults or breaks between massive continental oceanic/tectonic plates that collide, slide, or separate, creating earthquakes. South Carolina, however, is located in the middle of the North American tectonic plate, which is called a passive margin.
- D. Earthquakes are measured by Magnitude and Intensity.

1. Magnitude

- a. Magnitude (M) is a measure of an earthquake’s size.
- b. Most earthquakes with magnitudes of less than 3.9 would not cause any significant damage, and may only be felt by a few people in the area of occurrence.
- c. A M6.0 earthquake is typically the threshold for serious damage.

2. Intensity

- a. Intensity is measured by the Modified Mercalli Intensity (MMI) Scale.
- b. MMI is a subjective measure of damage based on the observed effects of the earthquake.
- c. The scale categorizes intensity from I (Micro) to XII (Great).

3. Relative Comparison of Magnitude vs. Intensity

Magnitude	Typical Maximum Modified Mercalli Intensity (MMI)	
1.0 – 3.0	I	Micro
3.0 – 3.9	II-III	Minor

Magnitude	Typical Maximum Modified Mercalli Intensity (MMI)	
4.0 – 4.9	IV-V	Light
5.0 – 5.9	VI-VII	Moderate
6.0 – 6.9	VII-IX	Strong
7.0 and higher	X or higher	Major to Great

**Note - See Attachment A - Earthquake Intensity Scales for detailed information.

E. Earthquake Series

1. Foreshocks are relatively smaller earthquakes that may precede the largest earthquake in a series.
2. Mainshocks are the largest earthquake in a series. Not all mainshocks have foreshocks.
3. Aftershocks are earthquakes that follow the largest shock of an earthquake sequence. They are smaller than the mainshock. Aftershocks can continue over a period of a weeks, months, or years. The larger the mainshock, the larger and more numerous the aftershocks and the longer they will continue.

F. Most South Carolina earthquakes occur in the Coastal Plain. The rocks deep below the surface are broken up from the break-up of Pangea. The plate in this area is weak, therefore pressure on it will allow the rocks to move which causes earthquakes. Consequently, earthquakes occur less frequently, but more violently over a much greater area due to sub-surface geological conditions.

G. The State of South Carolina has a history of earthquakes which have caused significant damage and long-term effects on the State and its people. The two most significant historical earthquakes to occur in South Carolina were the 1886 Summerville/Charleston earthquake and the 1913 Union County earthquake.

1. 1886 Summerville/Charleston Earthquake

- a. The 1886 Summerville/Charleston earthquake was the most damaging earthquake to occur in the eastern United States, and was the most destructive United States earthquake in the 19th century.
- b. The estimated M6.9 to M7.3 (X Intensity on Modified Mercalli Scale) earthquake occurred August 31, 1886 at 9:51 pm. The main shock was followed two minutes later by an aftershock, and more aftershocks over the next three years.

- c. This earthquake was felt over 2.5 million square miles and in distant places such as Boston, Massachusetts; Milwaukee, Wisconsin, Chicago, Illinois, Cuba and Bermuda.
- d. Approximately 110 persons lost their lives and more than 90% percent of the brick structures in Charleston were damaged.
- e. Damaging secondary effects were fires, ruptured water and sewage lines, damaged wells, and flooding from a cracked dam in Langley, South Carolina.
- f. Damage estimates were about \$8 million (over \$196 million in today's dollars).

2. 1913 Union County Earthquake

- a. The 1913 Union County earthquake occurred on January 1 near the town of Union.
- b. The earthquake was felt from western South Carolina into adjacent Georgia and North Carolina, and up into parts of Virginia.
- c. Damage was minimal and no deaths resulted.
- d. Based on a re-evaluation of the earthquake conducted in 2012 (Talwani & Howard, 2012), the magnitude is now estimated to have been 4.3.

II. PURPOSE

- A. Identify preparedness and response procedures to an earthquake affecting South Carolina.
- B. Identify roles and responsibilities of local, state and federal agencies when preparing for and responding to an earthquake.
- C. Identify resources to assist those affected by an earthquake.
- D. Identify operational concepts unique to earthquake preparedness and response.

III. SCOPE

- A. Addresses operations in coordination with the South Carolina Emergency Operations Plan (SCEOP).
- B. Complements and interfaces with the SCEOP and addresses those areas, responsibilities, processes or actions that are specific for earthquake incident and are not covered in those plans.

- C. Covers the threat, operations, earthquake terminology, and the utilization of the Earthquake Planning Scenarios as a basis for earthquake preparedness and planning.

IV. FACTS AND ASSUMPTIONS

A. Facts

1. South Carolina has a Federal Emergency Management Agency (FEMA) approved Hazard Mitigation Plan.
2. Appendix 6 (South Carolina Recovery Plan) of the SCEOP includes information to facilitate recovery process after an earthquake.
3. Area ports/terminals will close pending damage assessment and channel inspection. Area airports will close pending damage assessment of the runways and facilities.
4. The planning and work to restore the roadway, railway, waterway, and airport transportation systems will begin immediately.
5. In 2015, 3,648 facilities reported chemical inventories as required by federal EPCRA (Emergency Planning Community Right-to-Know Act) regulations. Of those 1,436 reported storing extremely hazardous substances exceeding the Threshold Planning Quantity as classified by Section 302/304 of the Federal Superfund Amendments and Reauthorization Act (SARA, Title III). Approximately 2,868 of these facilities also reported various chemical inventories of more than 10,000 pounds as classified by Section 311/312 of the SARA, Title III. Of these, 16% are located within Berkeley, Charleston, Dorchester, Beaufort and Colleton counties.

B. Assumptions

1. Aid from the State and federal government to local governments will not be available for 72 hours.
2. Damage will be significant to transportation, communication, and other infrastructure systems, and will isolate communities and populations within the impacted areas.
3. Damage will make movement of human and material resources to the impacted areas difficult, resulting in the need to target specific areas with a significant supplemental response effort.
4. Bridges in the impacted are will suffer structural damage, rendering many of them unusable. Access to the affected counties through the roadway system may remain non-existent for an extended period.

5. Tourist populations will be present, and may be significant during some times of the year.
6. Shelters identified for use during other natural disasters may not be available in the impacted area. Non-traditional methods of sheltering will be required inside and outside of impacted areas.
7. A large mass evacuation is not expected to occur due to damaged transportation networks.
8. Sheltering may take place outside the impacted area.
9. In the event of a M7.3 earthquake, there will be an estimated 62,464 people who will seek temporary shelter in public shelters.
10. The effects of an earthquake may lead to the deaths of large numbers of animals which will necessitate the use of safe and efficient methods of animal carcass movement and disposal.
11. Fires can be expected to occur due to ruptured gas lines, and damage to electrical and fuel shortage facilities.
12. Mutual aid for firefighting within the impacted area may be sharply curtailed because of the earthquake. The widespread regional nature of the event will affect many jurisdictions simultaneously.
13. Broken water supply pipelines, search and rescue incidents, communication services, and lack of mobility resulting from damaged transportation will hinder response operations.

V. SITUATION

A. Vulnerability and Hazard Analysis

1. South Carolina completed the Comprehensive Seismic Risk and Vulnerability Study for the State of South Carolina, 2001 (hereafter referred to as the Vulnerability Study). HAZUS-modeling results were included in this study. The Vulnerability Study provided information about the likely effects of earthquakes on the current population, and on contemporary structures and systems including roadways, bridges, homes, commercial and government buildings, schools, hospitals, and water and sewer facilities.
2. The Vulnerability Study determined that an earthquake similar to the Summerville/Charleston earthquake of 1886 is the worst-case scenario and would significantly impact the State.

3. Based on estimates from the Vulnerability Study, an earthquake of similar intensity and location to the one in 1886 would result in economic losses exceeding \$20 billion from damage to buildings, direct business interruption losses, and damage to transportation and utility systems.
 - a. Direct economic losses due to building damage (excluding business interruption losses) are estimated to exceed \$14 billion. Transportation and utility systems' direct economic losses would exceed \$1 billion. The building damage alone would exceed \$4.2 billion in losses due to direct business interruption. Loss estimates include rental income, business income, wages, and relocation expenses.
 - b. An earthquake in the Charleston area of a magnitude similar to the 1886 event will potentially structurally affect an estimated 481 bridges in the State. Of these bridges, approximately 85% are in Berkeley, Charleston, and Dorchester Counties.
4. HAZUS in 2016 estimates that the total economic losses would exceed \$60 billion (See Attachment E Earthquake Planning Scenarios).
 - a. Total building-related losses would exceed \$57 billion; 15% of the estimated losses would be related to the business interruption of the region.
 - b. Residential buildings would make up over 61% of the loss.
5. The effects of an earthquake in South Carolina would be further worsened by the additional effects of liquefaction, collapses, sinkholes, and landslides (See Attachment C - Geologic Hazards).

VI. CONCEPT OF OPERATIONS

- A. State agencies, Emergency Support Functions (ESF), and counties will participate in earthquake planning and training, including participation and attendance at scheduled exercises and meetings.
- B. Plan Activation
 1. \leq M3.9 Earthquakes
 - a. No plan activation
 - b. SCEMD will document the incident, and communicate and coordinate with staff and local emergency managers.
 2. M4.0 to M4.9 Earthquakes

- a. The State Emergency Operations Center (SEOC) will activate to Operating Condition (OPCON) 4 to assess the potential impact from the event.
 - b. SCEMD Operations will contact the affected county(ies) to assess the situation.
 - c. Upon assessment, SCEMD Director will determine if there is a need for further SEOC activation or return to normal operating conditions (OPCON 5).
3. M5.0 to 5.9 Earthquakes
- a. The SEOC will activate to OPCON 3.
 - b. The SEOC will recommend the Governor declare a State of Emergency to activate the SCEOP and selected ESFs/State Emergency Response Team (SERT).
 - c. Conduct damage assessment and consider actions as required by the Governor.
4. M6.0 or greater earthquake
- a. The SEOC will activate at OPCON 1.
 - b. The SEOC will recommend the Governor declare a State of Emergency to activate the SCEOP and selected ESFs/SERT, and request a Presidential Declaration.
 - c. The SEOC will implement the Statewide Mutual Aid Agreement, Emergency Management Assistance Compacts (EMAC), and other mutual aid agreements as needed.
 - d. The SEOC and county emergency management offices in the damaged areas will establish Alternate Emergency Operations Centers (AEOC) as necessary [See state or local Continuity Of Operations Plans (COOP)].
- C. Emergency Notification. Earthquake notification information, procedures and processes can be found in Annex G (Earthquakes) to the State Warning Point Standard Operating Procedures (SOP).
- D. Initial Priorities
- Situational awareness
 - Life safety and life-sustaining operations

- Preserving public health and safety
 - Incident stabilization
 - Resource allocation
 - Restoration of essential government services
 - Reestablishing communication
 - Environmental protection
 - Property conservation
- E. If the SEOC is unsafe or non-functional, the State Warning Point will notify ESF/SERT members to report to the AEOC. The AEOC location and operating procedures can be found in the SEOC SOP.
- F. Checklists
1. The ESFs will use the SEOC SOP Earthquake Checklists to guide response operations following a significant earthquake.
 2. Activities in the SEOC SOP Earthquake Checklist do not replace required activities normally assigned to ESFs in the SCEOP and supporting ESF SOPs.
 3. The SEOC SOP Earthquake Checklist is used to ensure critical actions are monitored and completed, and are intended to guide response operations of the SERT following an earthquake.
 4. Activities in the Earthquake Checklist do not replace required activities normally assigned to ESFs in the SCEOP and supporting ESF SOPs.
 5. Lead agencies of each ESF will review and update their SEOC SOP Earthquake Checklists as a part of their annual review.
- G. Operational Areas
1. An earthquake may create isolated communities or areas within communities from one another or the remainder of the State. The damage may make movement of human and material resources to the affected areas difficult, resulting in the need to target specific areas with a significant response effort and/ or localized ICS command structure.
 2. SCEMD will assist counties who choose to develop Operational Areas and Operational Area response protocols within their respective Areas of Responsibility. Efforts may include conducting analysis of areas to determine potential resource requirements or shortfalls, and to assist in mitigating the effects of a disaster.

3. See Attachment A (Operational Area Concept) to Appendix 9 (South Carolina Catastrophic Plan).

H. Inspection of Damaged Buildings

1. Initial requests for engineering support for post-disaster inspection and/or evaluation will be made to the State Emergency Operations Center (SEOC) from the County Emergency Operations Centers (EOC) and, if necessary, State agencies with facilities within the affected areas. Decisions about responses to requests for engineering services will be coordinated as established by the response priorities.
2. Responsibility for Inspections of Facilities
 - a. Local building officials are responsible for inspecting buildings within their jurisdiction.
 - b. State facilities are within the jurisdiction of the Office of State Engineer.
 - c. The Federal authorities having jurisdiction over damaged facilities are responsible for inspecting Federal facilities.

- I. Debris Assessment. Debris assessment is the responsibility of the local government or state agencies representatives.

J. Traffic Management

1. Traffic Management will include routes to move traffic around blocked priority roadways, and to access routes to and from operational areas if designated.
2. ESF-16 (Emergency Traffic Management) in coordination with the counties, ESF-13 (Law Enforcement), and ESF-19 (Military Support) will manage the flow of traffic to and from the impacted areas and within these areas as requested.

VII. DISASTER INTELLIGENCE

- A. See Section VII (Disaster Intelligence and Communications) of the SCEOP.

B. Damage Reporting

1. Counties and ESFs will forward damage reports to the SEOC as soon as possible.
2. These reports should minimally include the following information:

- Locations of collapsed structures with trapped persons
- Status of communications systems to include broadcast media and any portions of the county where there are no communications.
- Status of transportation infrastructures (e.g., bridges, roads, etc.)
- Locations of major firefighting efforts and out-of-control fires
- Locations providing critical medical assistance
- Known hazardous material releases and its impact on the public
- Operational capability of critical facilities (e.g., hospitals, sewage and waste stations, electrical substations, etc.)
- Public safety needs (e.g., security, traffic control, and law enforcement)
- Immediate known public mass care needs or projections
- Public information needs

C. Public Information Dissemination

1. See Section VII (Disaster Intelligence and Communications) and Annex 15 (Public Information) of the SCEOP.
2. See Attachment D (Sample Public Information Statements) for sample press releases and Emergency Alert System (EAS) messages.

VIII. ORGANIZATION AND ASSIGNMENT OF RESPONSIBILITIES

A. Counties

1. Incorporate the planning concepts of this Appendix into their emergency planning processes.
2. Ensure backup/alternate communications systems are tested and operational.
3. Ensure the alternate County EOC has the ability to function in the event the primary EOC is inoperable.
4. Promote earthquake mitigation through grants, plans, and implementing education and awareness programs.

B. Emergency Support Functions

1. ESF-1 (Transportation)

- a. Develop concepts and processes to address the movement of emergency supplies and personnel to and from areas isolated at the result of earthquake effects.
 - b. Establish and maintain situation awareness of ground, water, and air transportation routes to and in the impacted areas.
 - (1) Coordinate and compile damage assessments and clearance time of roads and bridges for use by emergency and resource vehicles to include load limitations. Priorities for ground transportation lifeline routes are:
 - 1 - Routes to critical facilities
 - 2 - Interstate highways
 - 3 - Primary roads
 - 4 - Secondary roads
 - (2) Compile assessment and status of ports, terminals and waterways.
 - (3) Compile assessment and status of airport runways and facilities.
 - (4) Coordinate with SC Office of Regulatory Staff (ORS) on the status of railways and railway infrastructure.
 - c. Coordinate route priorities and restrictions with ESF-16 (Emergency Traffic Management).
 - d. Coordinate with SCDOT on deployment and status of Seismic Response Teams.
 - e. Coordinate with ESF-13 (Law Enforcement) for law enforcement support to the Seismic Response Teams.
 - f. If needed, coordinate evacuation routes with ESF-16 (Emergency Traffic Management).
 - g. Coordinate with local Emergency Managers and ESF-16 (Emergency Traffic Management) to identify critical roads to remain open.
2. ESF-2 (Communications)
- a. Evaluate the need to deploy 800 MHz radios.
 - b. Coordinate transportation for communication teams and equipment.

3. ESF-3 (Public Works and Engineering)
 - a. Coordinate the use of engineers to conduct structural damage inspection and evaluation of critical facilities.
 - (1) Coordinate with SCDHEC for inspection of water, sewer facilities and dams.
 - (2) Coordinate with the National Society of Professional Engineers, SC Labor, Licensing and Regulation, Structural Engineering Association of South Carolina, American Counsel of Engineering Companies and local authorities for inspection of critical facilities such as medical facilities, shelter locations, fire stations, and government facilities.
 - b. Coordinate with U.S. Army Corps of Engineers (USACE) to provide supplemental engineering support.
4. ESF-4 (Firefighting)
 - a. In conjunction activation of the SEOC, coordinate activation of Firefighter Mobilization with South Carolina Department of Labor, Licensing, and Regulation (SCLLR), Division of Fire and Life Safety. This will include:
 - Strategy to provide fire services assets.
 - Personnel to support missions to assess damage to critical facilities.
 - Identification of equipment and personnel shortfalls including sources and delivery timeline.
 - b. Coordinate with SCLLR for assignment of Regional Coordinator(s) to serve as a liaison and coordinate the fire service.
 - c. Coordinate with SC Forestry Commission (SCFC) to determine usability of communications and heavy equipment, aerial assets and personnel.
 - d. Coordinate to identify alternative water sources in the affected areas such as dry-hydrants, ponds, lakes, rivers or the ocean.
 - e. As needed, coordinate with SCLLR for activation of the South Carolina Emergency Response Task Force (SCERTF) Incident Support Team (IST) for deployment to affected areas for an all-hazard assessment and initial incident support.

- f. Coordinate with SCFC for activation of the SCFC Incident Management Team (IMT) and regional IMTs for deployment to affected areas.
 - g. Coordinate the activation of the Southeastern Forest Fire Compact and coordinate with the USDA Forest Service Southern Area Coordination Center (SACC) in Atlanta for mobilizing resources.
 - h. Coordinate with Federal ESF 4 (Firefighting) and the Southern Area Coordination Center (SACC) to request additional IMTs as needed.
5. ESF-6 (Mass Care)
- Coordinate transportation resources for the transport of feeding support and meals into the impacted areas.
6. ESF-8 (Health and Medical Services)
- a. Coordinate with state licensed air transport services for aerial medical evacuation and transportation assets.
 - b. Prepare plans to integrate the National Disaster Medical System (NDMS) into the State's disaster response.
 - c. Coordinate with the coroners of the affected counties to determine or estimate the number of fatalities, to determine the need for mass fatality support, and to locate and establish Victim Information Centers.
7. ESF-9 (Search and Rescue)
- a. Coordinate search and rescue support.
 - b. Integrate the SC Firefighter Mobilization Plan to support search and rescue efforts in the affected areas.
 - c. As needed, coordinate with SCLLR for activation of the South Carolina Emergency Response Task Force (SCERTF) Incident Support Team (IST) for deployment to affected areas for an all-hazard assessment and initial incident support.
 - d. Place the Regional Building Collapse Urban Search and Rescue (US&R) Teams on alert status, and deploy them as needed.
 - e. Request and stage the State US&R, Type I Task Force at the State Fire Academy until a clear picture of the disaster can be assembled by the IST. Coordinate the deployment of the team as needed.

- f. Request additional US&R capabilities, with SEOC approval, through EMAC and FEMA's National US&R Task Forces.
 - g. Coordinate and integrate FEMA US&R teams into the State's search and rescue response to include identifying sites for US&R teams to stage.
 - h. Coordinate with SCEMD and the Federal Defense Coordinating Officer (DCO) to identify military bases as potential staging areas and military equipment such as helicopters, landing crafts, Landing Ship Tanks (LST), hovercrafts, etc. to transport rescue personnel and equipment.
8. ESF-10 (Hazardous Materials)
- a. Coordinate the initial State-level assessment of pre-identified potential HAZMAT locations and Fixed Nuclear Facilities.
 - b. Coordinate HAZMAT technical assistance to the counties and affected facilities, assisting and augmenting as required.
 - c. Maintain close coordination with SERT and local officials to establish priorities for HAZMAT response support.
 - d. Coordinate with SCDHEC deployment of Technical Assistance Teams (TAT) and Regional On-Scene Coordinators (ROSC) to assess the HAZMAT situation in the affected areas. Priority of deployment will be according to the actual field reports, known Tier II sites, and regulated petroleum facilities.
 - e. Coordinate with responding agencies to assist in determining the personnel and equipment needed to support the hazardous materials incident.
 - f. Coordinate aerial assessments as needed to assess problems such as fires at industrial complexes and petroleum in rivers.
 - g. Coordinate with SCDHEC the assessment and response to a potential or actual radiological release in accordance with existing procedures as outlined in the SCEOP, the SC Operational Radiological Emergency Response Plan (SCOREP), and SC Technical and Emergency Response Plan (SCTREPR). In the case of licensed radiological sources, coordinate with the SCDHEC Bureau of Radiological Health.
 - h. Coordinate with SCDHEC to determine condition of EPCRA, Tier II, and known petroleum facilities.

- i. Coordinate activation of Contingency Plan for Spills & Releases of Oil & Hazardous Substances if required.
9. ESF-11 (Food Services)
 - a. Analyze the Loss Estimation Reports to estimate feeding requirements.
 - b. Coordinate with the South Carolina Department of Education (SCDOE) and local school district food supervisors to identify food stocks already available that may be used for feeding operations.
 - c. In coordination with ESF-6 (Mass Care), develop plans to transport and distribute bulk food supplies to support feeding operations in the impacted areas.
 - d. In conjunction with County Emergency Managers, identify facilities capable of storing food.
 - e. Coordinate with Logistics for the procurement of food supplies as appropriate.
10. ESF-12 (Energy)
 - a. Provide assessment of damage to electric generating facilities.
 - b. Coordinate with utilities for restoration of generation facilities and transmission of electricity to damaged and affected areas.
 - c. Provide assistance to ESF 1 in damage assessment and restoration of service to railroads.
 - d. Coordinate with ESF 3 in damage assessment of natural gas pipelines and facilities.
 - e. Coordinate distribution of fuel to consumer fuel stops in accordance with ESF 12 SOP.
11. ESF-13 (Law Enforcement)
 - a. Assign Law Enforcement Liaisons to the Incident Command Posts (ICP) as they are established.
 - b. Provide disaster intelligence to include observation of damage to critical facilities.
 - c. Coordinate with South Carolina Department of Corrections (SCDC) to provide status on the conditions of correction facilities in the impacted areas. Intelligence should include:

- Locations of damage
 - Inmate accountability
 - Observations on building stability
 - If law enforcement assistance is needed
- d. Coordinate law enforcement support to SCDOT Seismic Response Teams to maintain law and order during the evaluation and inspection of transportation infrastructure, and assist in identifying transportation lifelines.
 - e. Coordinate for law enforcement support to the impacted area entry points.
 - f. As requested, assist ESF-16 (Emergency Traffic Management) in coordination of evacuation routes with local law enforcement
 - g. As requested, assist ESF-16 (Emergency Traffic Management) in conducting traffic control operations during required evacuations.
 - h. Coordinate security for closed transportation routes with local law enforcement and ESF-16 (Emergency Traffic Management).
12. ESF-15 (Public Information)
 - a. See Annex 15 (Public Information) to the State Emergency Operations Plan.
 - b. See Attachment E - Sample Public Information Statements.
 13. ESF-16 (Emergency Traffic Management)
 - a. In coordination with the appropriate county officials and ESF-1 (Transportation), determine routes to and in the affected areas.
 - b. Staff and/or secure transportation routes within the affected areas and throughout the State as requested by SERT.
 - c. Coordinate with ESF-1 (Transportation) and local Emergency Managers to identify critical roads to remain open.
 - d. Coordinate with ESF 13 (Law Enforcement) for security for closed transportation routes.
 - e. As required, coordinate evacuation routes with local law enforcement, ESF-1 (Transportation) and ESF-13 (Law Enforcement).

- f. As requested, coordinate support to ESF-13 (Law Enforcement) to support SCDOT Seismic Response Teams in order to maintain law and order during the evaluation and inspection of transportation infrastructure, and assist in identifying transportation lifelines.
 - g. Provide disaster intelligence to include observation of damage to critical facilities.
14. ESF-17 (Animal/Agriculture Emergency Response)
- a. Coordinate resources to assist people in affected areas with animal issues, including options for sheltering of pets as well as provision of veterinary medical care for injured animals.
 - b. Coordinate resources, as needed, to assist owners of agricultural businesses in affected areas.
 - c. Coordinate with the South Carolina Department of Agriculture (SCDA) and Clemson University Livestock-Poultry Health (CULPH) and maintain situational awareness of the inspection and testing of food, animals and food and animal products suspected of contamination to address food safety concerns.
 - d. Coordinate and maintain situational awareness of the status of animal, agricultural and food products quarantine and embargo operations.
 - e. Coordinate with SCDA and CULPH for documentation of quarantine and embargo orders, and ensure a copy of those orders are provided to the SEOC Operations Section.
15. ESF-19 (Military Support)
- a. Coordinate with ESF-2 to provide communications support.
 - b. Coordinate with ESF-10 to assist in the identification and assessment of hazardous materials and hazardous material threats.
16. ESF-24 (Business and Industry)
- a. Utilize their existing resource manual and continue to expand upon it by adding business associations and other organizations that will assist in response and recovery after an earthquake.
 - b. Coordinate with the insurance industry to ensure the availability of adjusters and the State's policy for re-entry after the earthquake.

- c. Coordinate with businesses and industries in the impacted areas through available communications to determine the extent of their damage and support needs.
- d. Coordinate with SC Recovery Task Force to identify post-earthquake recovery issues of concern to businesses and industries. These type of issues include, but are not limited to:
 - Loss of power
 - Loss of surface transportation
 - Loss of traditional sources of revenue
 - Ability to communicate with customers
 - Physical loss and damage
 - Loss of inventory
 - Potential for permanent loss
 - Creation of temporary commercial businesses and industries to continue operations
 - Sources of financial assistances to aid businesses recovery
 - Personal concerns of employees
 - Disaster assistance programs
- e. Coordinate with ESF-15 (Emergency Public Information) to provide essential information for release to the public regarding business/industry and disaster assistance programs that can assist with the recovery efforts.
- f. In coordination with the SC Recovery Task Force, determine private-sector priorities for inspection, repair, restoration of services, and other actions.

C. State Agencies

1. Clemson University Poultry and Livestock Health
 - a. Review and update the ESF-17 Earthquake Checklist.
 - b. Coordinate the inspection and testing of livestock and poultry animals and products suspected of contamination to address food safety concerns.
 - c. Conduct quarantine and embargo operations as needed. Provide documentation of quarantine and embargo orders to the SEOC Operations Section.

2. State Fiscal Accountability Authority
 - a. Office of State Engineer
 - (1) Review and update the ESF-3 Earthquake Checklist.
 - (2) Identify businesses and industries with engineers that could support post-disaster inspection of buildings.
 - b. Division of Technology Operations
 - (1) Review and update the ESF-3 Earthquake Checklist.
3. South Carolina Department of Agriculture
 - a. Coordinate the inspection and testing of food, animals (other than livestock and poultry) and food, and animal products suspected of contamination to address food safety concerns.
 - b. Conduct quarantine and embargo operations as needed. Provide documentation of quarantine and embargo orders to the SEOC Operations Section.
4. South Carolina Department of Corrections
 - a. Provide ESF-13 (Law Enforcement) information on status of conditions of correction facilities in the impacted areas. Information should include:
 - Locations of damage
 - Inmate accountability
 - Observations on building stability
 - If law enforcement assistance is needed
5. SC Department of Commerce
 - a. Review and update the ESF-24 Earthquake Checklist.
 - b. Develop concepts to provide limited government resources to businesses and industries.
 - c. In coordination with SCEMD, provide information on available disaster assistance programs that can assist businesses and industries in recovery.

- d. Coordinate with the SC Recovery Task Force to identify post-earthquake recovery issues that will be of concern to businesses and industries.
 - e. Coordinate with ESF-15 (Public Information) to provide essential information for release to the public regarding the business/industry community.
6. South Carolina Department of Education
- a. Coordinate with local school district food supervisors to request an inventory of food stocks available for feeding operations within the impacted areas.
 - b. Identify likely food shortages and assist in developing corresponding plans to acquire resources.
7. South Carolina Department of Health and Environmental Services
- a. Review and update as necessary the ESF-8 and ESF-10 Earthquake Checklists.
 - b. Review and update procedures for deploying the Technical Assistance Teams (TAT), and exercise TATs to validate plans and operational procedures.
 - c. Maintain information and location of Tier II and regulated petroleum facilities in the impacted area. Provide SCEMD GIS layer of Tier II and regulated petroleum facilities.
 - d. Deploy of TATs and Regional On-Scene Coordinators (ROSC) to assess the HAZMAT situation in the affected areas. Priority of deployment will be according to the actual field reports, known Tier II sites, and regulated petroleum facilities.
 - e. Conduct assessment and/or response to potential or actual radiological release in accordance with existing procedures as outlined in the SCEOP, the SC Operational Radiological Emergency Response Plan (SCOREP), and SC Technical and Emergency Response Plan (SCTRERP).
 - f. Assess the need for “specialized resources” based on type and quantities of HAZMAT and the nature and location of the release.
 - g. Determine condition of EPCRA, Tier II, and known petroleum facilities. Activate Contingency Plan for Spills & Releases of Oil & Hazardous Substances if required.

- c. Coordinate mutual aid with other states and contractor assistance to support transportation infrastructure assessment and repairs.
- 12. SC Forestry Commission
 - a. Review and update as necessary the ESF-4 Earthquake Checklist.
 - b. Provide communications and heavy equipment, aerial assets and personnel to support firefighting and Search & Rescue operations.
 - c. Activate the SCFC Incident Management Team (IMT) and regional IMTs for deployment to affected areas.
- 13. South Carolina Law Enforcement Division
 - a. Review and update as necessary the ESF-13 Earthquake Checklist.
 - b. Assign officers to SCDOT Bridge Inspection Teams to maintain law and order during the inspection of transportation infrastructure and assist in identification of transportation.
 - c. Provide any disaster intelligence information such as roads and bridge failures as well as any damaged buildings as observed by law enforcement officers.
- 14. South Carolina National Guard
 - a. Review and update ESF-19 Earthquake Checklist.
 - b. Coordinate 43rd CST support to ESF-10.
 - c. Coordinate communications support to ESF-2.
- 15. South Carolina Office of Regulatory Staff
 - a. Review and update as necessary the ESF-12 Earthquake Checklist.
 - b. Provide status of railway access to and in the affected area(s) to ESF-1 (Transportation).
- D. Other Agencies/Organizations
 - 1. Civil Air Patrol
 - a. Provide aerial platforms for communications equipment and reconnaissance as requested.

IX. CONTINUITY OF GOVERNMENT (COG)

See Section V, Paragraph I (Continuity of Government) of the SCEOP.

X. CONTINUITY OF OPERATIONS (COOP)

See Section V, paragraph J (Continuity of Operations) of the SCEOP.

XI. PLAN DEVELOPMENT AND MAINTENANCE

SCEMD will review this Appendix on an annual basis and update/revise the Appendix as necessary throughout the period.

XII. ADMINISTRATION, LOGISTICS, AND FINANCE

A. Administration and Finance

See Annex 7 (Finance and Administration) to the SCEOP.

B. Logistics

1. See Attachment A (South Carolina Logistics Plan) to the SCEOP.
2. The State will stage and distribute resources regionally in accordance with the SC Logistics Plan.
3. Regional Staging Areas
 - a. Multiple Regional Staging Areas (RSA) may be set up outside the disaster area.
 - b. The RSAs may not be operational until 72 hours after the earthquake.
4. As anticipated in an earthquake, there may be an initial shortage of available critical resources. As a result, daily coordination with counties will be required to address prioritizing the distribution of scarce response resources.
5. Anticipated resource requirements immediately after an earthquake event includes medical support, fire support, search and rescue support, generators, communications support, shelters/camps, food, bottled water, cots, blankets, fuel, and heavy equipment.

XIII. AUTHORITIES AND REFERENCES. See Attachment C (Authorities and References) to the SCEOP.

XIV. ACRONYMS AND GLOSSARY. See Attachment B (Acronyms and Glossary) to the SCEOP.