

APPENDIX 9
(CATASTROPHIC INCIDENT RESPONSE PLAN)
TO THE SOUTH CAROLINA EMERGENCY OPERATIONS PLAN

I. INTRODUCTION

- A. This South Carolina Catastrophic Incident Response Plan (CIRP) enhances the policies and procedures the South Carolina Emergency Management Division (SCEMD) and the South Carolina Emergency Response Team (SERT) will use in coordinating an accelerated, proactive state response to a catastrophic incident.
- B. A catastrophic event is any natural or man-made incident, including terrorism that results in extraordinary levels of mass casualties, damage, or destruction severely affecting the population, infrastructure, environment, economy, the morale of the population, and/or government functions.
- C. A catastrophic event could result in sustained impacts to a local jurisdiction(s) or the State over a prolonged period of time.
- D. A catastrophic event often exceeds the resources normally available to the counties and/or State almost immediately and interrupts government operations and services inside and out of the impacted area.

II. PURPOSE

- A. Provide procedures that allow emergency management officials to effectively and efficiently coordinate the application of local, State, and federal resources in response to a catastrophic event to prevent loss of life, minimize damage to property, and protect the environment.
- B. Provide emergency managers at the state and local-level a methodology to respond to catastrophic events even though resources may be initially overwhelmed.
- C. Identifies the additional resources available to local jurisdictions and the State to prepare for, respond to and recover from a catastrophic event.
- D. Establishes the strategies for implementing and coordinating the State response, and reception and distribution of federal assets at an accelerated pace in response to a catastrophic incident.

III. SCOPE

- A. Incorporates the guidance within the National Response Framework (NRF), the Catastrophic Incident Annex to the NRF, and the Federal Catastrophic Incident Supplement.
- B. Includes nine (9) response and action plans for catastrophic events that may affect South Carolina.

IV. ASSUMPTIONS

- A. A catastrophic incident will occur with little or no warning. Some incidents may be well underway before detection.
- B. Multiple incidents will occur simultaneously or sequentially in contiguous and/or noncontiguous areas. Some incidents, such as a biological Weapons of Mass Destruction (WMD) attack, may be dispersed over a large geographic area and lack a defined incident site.
- C. A catastrophic incident will result in large numbers of casualties and/or displaced persons, possibly in the tens to hundreds of thousands. During a catastrophic incident response, priority is given to human life-saving operations.
- D. The nature and scope of a catastrophic incident will quickly overwhelm the State, tribal and local response capabilities, and will require Federal support.
- E. The response capabilities of local jurisdictions are likely to be insufficient and quickly overwhelmed. Local first responders may be among those affected and unable to perform their duties.
- F. A detailed and credible common operating picture will not be achievable for 24-48 hours (or longer) after the incident. As a result, response activities may have to begin without the benefit of a detailed or complete situation and critical needs assessment, and without federal assistance.
- G. Federal response resources are not likely to provide significant lifesaving or life-sustaining capabilities until 18-48 hours after the event.
- H. The nature and scope of the catastrophic incident will include major natural or manmade hazards including chemical, biological, radiological, nuclear, or high-yield explosive attacks, and cyber attacks.
- I. A catastrophic incident will produce environmental impacts that severely challenge the ability and capacity of governments and communities to achieve a timely recovery.
- J. Large-scale evacuations, organized or self-directed, may occur.
- K. Existing health care systems in the impacted area will quickly overwhelmed, requiring evacuation of existing patients from these facilities to accommodate increased patient workload if the facility remains operational.
- L. There will be significant issues regarding environmental health and public health needs, including mental health, in the aftermath of a catastrophic event.
- M. Persons with special needs, including residents of nursing homes and extended care facilities, will require special attention during evacuation.

- N. Large numbers of people will be left temporarily or permanently homeless and may require prolonged temporary housing. Some displaced people will require specialized attention, healthcare assistance, and assistance with activities of daily living based on their special needs.
- O. A large number of household pets and service animals will require appropriate care, sheltering, medical attention, and transportation.
- P. A catastrophic incident will have significant intra and interstate dimensions, including impacts on the health and welfare of adjacent areas and states and their populations, interstate trade, transit, law enforcement coordination, and others areas.

V. SITUATION

- A. South Carolina is subject to a variety of possible catastrophic events. These include, but are not limited to hurricanes, earthquakes, radiological hazards, severe weather, dam failures, terrorism, WMD incidents, or Hazardous Material (HAZMAT) accidents.
- B. A catastrophic event or incident can occur with or without warning. When a catastrophic event occurs, the response should follow a prescribed process. The local jurisdiction should establish an initial response utilizing the Incident Command System (ICS) to control and direct the first response.
- C. The state will coordinate and provide support as needed when local and regionally available resources become overwhelmed.
- D. The State will implemented this Plan upon awareness of a catastrophic event or when incidents overwhelm the local capability to respond.
- E. In events where existing response plans are in place (e.g. – hurricanes, earthquakes, dam failure, etc.), the State will utilize this Appendix in conjunction with those plans.

VI. CONCEPT OF OPERATIONS

- A. Catastrophic Preparedness
 - 1. As defined in the South Carolina Emergency Operations Plan (SCEOP), all actions and responses within this Appendix and its accompanying Annexes will be in accordance with the National Incident Management System (NIMS).
 - 2. Catastrophic events require a comprehensive approach to prepare, respond, mitigate and recover from. This section outlines the operational concepts that the state will apply to that event.

3. A catastrophic incident is not limited to natural hazards; it may also include chemical, biological, radiological, nuclear or high yield explosive attacks, disease epidemics, and major natural or man-made hazards. Individual annexes to this plan in conjunction with the SCEOP and this plan comprise SCEMD's operational response to catastrophic events.
4. Support actions must commence immediately in order to save lives, prevent human suffering, and mitigate severe damage. Accordingly, state and federal assets will require mobilization and deployment before they are requested through normal protocols.
5. Multiple incidents may occur simultaneously or sequentially in contiguous and/or noncontiguous areas. Some incidents, such as a biological WMD attack, may be dispersed over a large geographic area, and lack a defined incident site. Response actions at every jurisdictional level must be coordinated to adequately mitigate such events.
6. County-identified Operational Areas will form the basis for a State response to a catastrophic incident (See Attachment A – Operational Area Concept).
7. Local jurisdictions have the primary responsibility to prepare for and respond to incidents and disasters. As such, they must be prepared to manage initial emergency response and recovery activities for at least the first 72 hours through internal capabilities and/or mutual aid agreements, regardless of the size and scope of the incident. Although State government will make every effort to provide additional life safety support as quickly as possible, State and federal resources may not be available in the early stages of an emergency.
8. Damage to transportation (roads, bridges, rail, air, etc.), communication (phone, cell, emergency 911, public warning sirens, etc.), utility distribution systems (electric, gas, and water, etc.), pipelines, chemical and fuel storage, and other infrastructure systems, will isolate communities, creating virtual islands within the disaster areas. Damaged transportation routes may not be functional for many weeks or months. Alternate routes will have to be identified and opened.
9. The Governor may suspend some governmental operations in the affected areas and/or other areas of the State (as required) to direct maximum utilization of available resources in the initial response.

B. Activation

1. This Appendix can be activated for any event at the direction of the SCEMD Director.

2. State response to a catastrophic event within a county or counties will start with the activation of this Appendix. The types of events that can trigger the activation of this Appendix include:
 - Earthquake of 6.0 magnitude or greater
 - Category 3 or greater hurricane
 - WMD event
 - HAZMAT spill requiring mass evacuations or causing mass casualties
 - Pandemic influenza outbreak
 - Large airplane crash
 - Fixed Nuclear Facility (FNF) radiological accident resulting in a Site Area Emergency or General Emergency
3. A catastrophic event can occur that does not immediately appear to meet the accepted definition of a catastrophic incident. Some examples could include a bird influenza outbreak, a drought, a terrorist attack, or a forest fire.
4. Once a catastrophic event occurs, the first priorities are to preserve life, property, the environment, and the social and economic structure of the affected communities.

C. Immediate Response

1. Upon activation of this appendix, the State Emergency Operations Center (SEOC) will activate at a minimum level of Operational Condition (OPCON) 3.
2. SCEMD will notify the SC Forestry Commission to put two of the State's Type 3 Incident Management Teams (IMT) on standby to respond to the incident.
3. Where existing plans are in place (earthquake, radiological, etc.), they will be supplemented by this plan.
4. The State SERT will adopt a "push" doctrine for catastrophic events. The SERT will initially push assets to include material and personnel to the incident site.
5. The Logistics Division of EMD will review all contingency contracts, and ready appropriate contracts for implementation.

- D. Resources for Response
1. Immediate resources are available to respond from outside the affected area.
 2. These resources can be requested and activated through Mutual Aid Agreements, Memorandum of Understanding (MOU) and through the Emergency Management Assistance Compact (EMAC) by the local Incident Command (IC) or the SEOC.
 3. See Attachment B (SC Catastrophic Resources) for a list of available state-level resources.
- E. Emergency Communications. The State will push communication assets into the affected area(s) to ensure information flow. (See Annex C - State Operational Area Communications Plan).
- F. National Planning Scenarios.
1. The National Response Framework, along with Strategy for Homeland Security, states that all states should develop responses based on the 15 National Planning Scenarios.
 2. See Attachment D (National Incident Scenario Response Plans) for South Carolina's response to the scenarios.
- G. If the local authorities are unable to establish or maintain an effective incident command structure due to catastrophic conditions; the State, at the direction of the Governor, may establish a unified command structure to save lives, protect property, secure critical infrastructure, or contain the event. The State will revert to a supporting role once the local authorities are able to reestablish command.
- H. Federal Coordination
1. SCEMD will start coordination with the Federal Emergency Management Agency (FEMA) immediately upon activation of this appendix.
 2. The FEMA Region IV Regional Response Coordination Center (RRCC) will identify and make assets available to the state.
 - a. SCEMD will coordinate with FEMA for mobilization and deployment of required mission assignments.
 - b. FEMA will utilize advanced readiness contracts to acquire needed assistance to bring the catastrophic incident under control.

- c. In coordination with FEMA, SCEMD will arrange the in-flow of federal support to ensure resources are made available and prioritized in the requested timeframe.
3. Sustained Response

Once the initial response has been developed, the focus at the state level becomes maintaining situational awareness and coordinating additional support to maintain capabilities to bring the situation under control and return to steady state operations.
4. Demobilization
 - a. Demobilization planning will start as soon as practical.
 - b. Operations based upon this plan will be terminated in phases as conditions permit. However, the State could operate a catastrophic incident response well into the Recovery phase.
 - c. Operations under this Appendix will terminate or transition to other plans as the situation permits.

VII. ACTIONS BY PHASE

A. Preparedness

1. Planning and training for a catastrophic incident is an on-going cycle that must be continually reviewed by conducting exercises that test response to a catastrophic incident and conducting After Action Reviews (AAR) upon completion of all exercises.
2. All agencies having coordinating and cooperating responsibilities will develop appropriate Standard Operating Procedures (SOP) to support this plan.
3. The State will activate this Appendix in accordance with FEMA plans to ensure a coordinated strategy for receiving, deploying, and integrating the pre-identified resources reflected in the national Catastrophic Incident Response Execution Schedule.

B. Response

1. State Response
 - a. The SERT will determine risk and potential impact to State and counties.

- b. Assist local jurisdictions in determining scope, scale, and extent of damage a catastrophic event has caused.
 - c. Coordinate and execute plan.
2. Federal Response
- a. Upon recognition that a catastrophic incident condition/incident exists, the Secretary of Homeland Security immediately begins, potentially in advance of a formal Presidential disaster declaration, implementation of the NRF-CIA. Upon notification from the National Operations Center (NOC) that the NRF-CIA has been implemented, federal departments and agencies immediately:
 - (1) Take actions to activate, mobilize, and deploy incident-specific resources in accordance with the NRF-Catastrophic Incident Supplement.
 - (2) Take actions to protect life, property, and critical infrastructure under their jurisdiction, and provide assistance within the affected area.
 - (3) Commence those hazard-specific activities established under the appropriate and applicable NRF Incident Annex(es) including the NRF-Catastrophic Incident Supplement.
 - (4) Commence functional activities and responsibilities established under the NRF ESF Annexes.
 - b. The federal response is designed to address no notice to short notice incidents of catastrophic magnitude. When these type events occur, the federal government will “push” pre-designated resources to a federal mobilization center or directly into the impacted area.
 - c. For catastrophic incidents where planning is possible, an appropriately tailored package of federal assets and resources will be pushed to the appropriate federal mobilization center or staging area and will deploy upon request from the SEOC.
 - d. Incident-specific resources and capabilities are activated and prepared for deployment to a federal mobilization center or staging area near the incident site. The development of site-specific catastrophic incident response strategies (as detailed in the NRF-CIS) includes the pre-identification of incident-specific critical resource requirements and corresponding deployment/employment

strategies that accelerate the timely arrival of critically skilled resources and capabilities.

e. Coordination and Deployment of Federal Assets

(1) Upon activation of the SERT for a catastrophic response, the FEMA Region IV RRCC will be notified of the catastrophic incident. Any federal resources known to be needed at that time will be requested.

(2) Any pre-scripted missions will also be activated to move the resources to the nearest Federal Mobilization Center. If needed, the resources will be deployed to the incident site from the Federal Mobilization Center.

C. Recovery

1. Once immediate lifesaving activities are completed, the focus shifts to assisting individuals, families, and businesses in meeting basic needs and returning to self-sufficiency.

a. Short-Term Recovery is the immediate recovery operations started during the response phase, including providing or re-establishing essential services, providing food, and re-opening transportation routes. It includes local, state, federal, non-governmental, and private sector assistance.

b. Long-Term Recovery operations start during the response to a catastrophic incident. However, the majority of the planning and recovery effort will occur after operations identified in this appendix have terminated.

2. Reconstitution of Government Operations and Services

a. The first priority is to re-establish local government and services.

b. If the local government is not functioning due to a catastrophic event, the Governor may enact special powers and duties granted him under Section 25-1-440, SC Code of Laws, to institute provisional local governance until such time the local government can be reconstituted.

3. Federal Actions

a. The Joint Field Office (JFO) will be the primary coordination point for the federal government to organize and support recovery operations.

- b. Some of the federal recovery actions include coordinating assistance programs to help individuals, families, and businesses meet basic needs and return to self-sufficiency, coordinating with private sector and non-governmental organizations involved in donations management, coordinating public assistance grant programs authorized by the Stafford Act, and coordinating mitigation grant programs to help restore and revitalize the affected community as well as reduce the impacts from future disasters.

VIII. RESPONSIBILITIES

A. South Carolina Emergency Management Division

1. Overall responsible for implementation of this plan and to provide leadership, expertise and authorities for specific aspects of response.
2. Verify a catastrophic incident has occurred and implement the immediate response.
3. Notify the FEMA Region IV RRCC and request any needed federal resources.
4. Ensure communication with affected jurisdictions.
5. Ensure the timely deployment and flow of assets requested by the affected jurisdictions.
6. In coordination with cooperating agencies, annually coordinate and update this plan.

B. Supporting Agencies

1. Upon notification of a catastrophic incident, activate and prepare for deployment of agency or Emergency Support Function (ESF) managed teams, equipment, and other resources.
2. Commence ESF responsibilities as defined in the SCEOP.
3. Initiate assessments of the probable consequences of the incident and projected resource requirements from internal resources and federal assets.
4. Annually review and update this plan in coordination with SCEMD.

IX. PLANS DEVELOPMENT AND MAINTENANCE

- A. SCEMD is the lead agency for development, coordination, review and updating of this plan.

- B. Designated State departments and agencies are responsible for developing and maintaining portions of this Appendix.
- C. As a minimum, SCEMD will review and update this Appendix annual basis. The review will include any changes in the NRF or other relevant State and federal guidance.

X. ATTACHMENTS

- Attachment A Operational Area Concept
- Attachment B SC Catastrophic Resources
- Attachment C State Operational Area Communication Plan
- Attachment D National Incident Planning Scenarios

ATTACHMENT A TO CATESTROPHIC INCIDENT RESPONSE PLAN
OPERATIONAL AREA CONCEPT

I. INTRODUCTION

- A. A disaster (either natural or man-made) could have significant impacts resulting in isolated areas within the disaster zone. Such conditions could effectively isolate communities from one another as well as from the rest of the State.
- B. The resulting damage will 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.
- C. To mitigate the effects of a disaster of any size and type, each county, in coordination with South Carolina Emergency Management Division (SCEMD), will develop Operational Areas and Operational Area response protocols within their respective areas of responsibility.
- D. Operational Areas allow for pre-impact planning to determine the baseline amounts and types of resources needed in a specific geographic area based on the population and infrastructure contained within each area.
- E. The use of Operational Areas allows for a more efficient use of scarce response resources, and allows the State Emergency Response Team (SERT) to better manage a catastrophic impact.

II. PURPOSE

- A. Provides guidance and procedures for developing Operational Areas by the counties in the State. This forms the basis for initial response and recovery planning to a disaster in an Operational Area.
- B. Describes how the State will develop and mobilize resources to support local emergency management efforts within their Operational Areas.

III. CONCEPT OF OPERATIONS

- A. The Operational Area concept will be implemented incrementally based on the magnitude and type of impact. The counties determined to have the highest risk will have Operational Areas developed and documented first, followed by jurisdictions facing lesser risk.
- B. SCEMD has determined that coastal counties will undergo Operational Area development first, followed by jurisdictions more immediately inland, and finally all remaining counties.
- C. The initial implementation of Operational Areas is divided into two phases.
 - 1. Phase 1 was the initial briefing to each county by SCEMD and provided an overview of the Operational Area Program.

2. Phase 2 of the Operational Area Program requires action from the counties to define their Operational Area boundaries and to prioritize their critical infrastructure by Operational Area (generally accomplished in GIS by layering critical infrastructure with Operational Area boundaries).
- D. Operational Areas are established by dividing each county into several geographically delineated sub-areas based ideally on existing census tract borders. One or more census tracts can comprise an Operational Area.
 - E. The Operational Areas are based on a number of other factors including potential infrastructure damage, natural and man-made barriers that could isolate an area, easily recognizable geographic features, population, and political boundaries. Operational Area boundaries are coordinated and developed by county officials with assistance from SCEMD.
 - F. General guidance used to develop Operational Areas
 1. Whenever possible, Operational Areas should not subdivide a major population center (city).
 2. Each county will map its Operational Area boundaries in GIS and provide the GIS layer(s) to SCEMD for development of a statewide map of Operational Areas.
 3. Each Operational Area should have designated primary and alternate points of entry/exit and the ability through traffic control points to limit general access to an Operational Area during an emergency.
 4. Once each Operational Area boundary has been designed, the counties will identify all and prioritized critical infrastructures therein.
 - a. Critical infrastructure is defined as “Systems and assets so vital to the county that the incapacity or destruction of such systems and assets would have a debilitating impact on the ability of a county to respond to an emergency, security, the local economy, public health, safety of the local population, or any combination of those matters.”
 - b. The purpose of the critical infrastructure inventory is to provide information and location data vital to the response and recovery of the county.
 - c. This information will be mapped using GIS. The county EM agencies will maintain their county database, and SCEMD will maintain a statewide database, populated by each county’s critical infrastructure database.

- d. Counties in coordination with SCEMD will review and update the data annually (January).

G. Impact On Infrastructure

1. In order to determine the effects on infrastructure, loss estimates are being prepared for each Operational Area to provide emergency responders site-specific information. Additionally, counties are advised to prioritize the critical infrastructure within each Operational Area in order to streamline response and resource decisions.
2. Affected infrastructure includes, but is not limited to, transportation arteries, communications systems, public works and engineering outlets, firefighting resources, shelters, health and medical facilities, hazardous material sites, energy providers, law enforcement facilities, animal care facilities, special needs requirements, schools, day care, prisons, public recreational areas, transient populations, and governments (local, state, and federal).
3. Critical Infrastructure Identification and Prioritization. The designation of critical infrastructure priority levels is a county responsibility. In coordination with the counties, SCEMD has identified four recommended priority levels of critical infrastructure:
 - Level 1 - Vital to the Operational Area or county, must stay operational at all times, or receive highest priority for immediate restoration (e.g., E911 facilities, major bridges, EOCs, etc.).
 - Level 2 - Any infrastructure within an Operational Area necessary to support initial rescue/recovery operations or to maintain public safety and must be operational or have restored capability within 24 hours following a disaster (e.g., hospitals, police stations, fire stations, emergency shelters/ schools, etc.).
 - Level 3 - Any infrastructure that enhances long-term recovery operations. Must be operational or returned to operational status within 48 hours following a disaster. This is infrastructure that provides the capability for evacuees to return to an Operational Area (e.g., airports, electrical utilities, water treatment, pumping stations, sewage treatment plants, locations of deemed essential businesses, etc.).
 - Level 4 - All other infrastructure or systems deemed critical by local authorities.
4. Equipment Response Packages (see Annex 1 for a list of the equipment response packages)

- a. Selected Emergency Support Functions (ESF) will develop three levels of pre-planned response packages: Basic, Intermediate, and Advanced.
 - (1) Basic Response Package – the basic capability to provide support. For example, the basic response package for a route clearance mission might be two five-ton dump trucks, two drivers, one chain saw, hand tools, and radios.
 - (2) Intermediate Response Package – a more robust capability. This might include adding a front-end loader and a road grader with operators to the basic response package to form the intermediate package.
 - (3) Advanced Response Package - the most enhanced capabilities. For example, it might be comprised of four dump trucks with operators, two chain saws, a front-end loader, a road grader, and a bulldozer.
 - b. During response operations, the County EOC will transmit a request for additional support based upon initial damage assessments. Also, with the knowledge of county response capabilities, the SEOC and ESF 1 (Transportation) can stage pre-planned response packages to begin clearing the identified priority routes into the county and then begin, in coordination with the county, opening and maintaining the priority routes into and within the impacted Operational Areas. Counties are strongly encouraged to use the WebEOC resource management tool to transmit these support requests.
- H. Logistics/Supply/Re-Supply/Sustainment. See Attachment A (SC Logistics Plan) to the SC Emergency Operations Plan (SCEOP).
- I. Transportation, Traffic Management, and Reentry
1. Transportation requirements will fall into two categories:
 - Requirements that support response operations
 - Requirements needed to support movement of personnel who are engaged in area operations.
 2. Transporting heavy equipment and other resources will require unique transportation solutions. Transportation equipment to support the response effort will come initially from ESF 1 (Transportation) and from sources such as the military or private contractors.

3. Transportation required to support state-level logistical movements will be planned and executed in accordance with Attachment A (SC Logistics Plan) to the SCEOP.
4. Specific, pre-planned entry routes will be used to transport resources into the Operational Areas. Resources will be dispatched directly from the LSA to county receiving point(s) and/or onward to distribution points within the Operational Areas. Whenever possible, relief supplies will “through put” directly to the PODs within the affected Operational Areas. The distribution points within the Operational Areas will receive and distribute disaster relief supplies to the affected population.
5. Each Operational Area should have pre-planned primary and secondary entry and exit routes designated. The routes will include not only the SCDOT “lifelines” but also the county priority routes into the specific Operational Areas. State, county, and contactor assets will be used to reopen and maintain these routes. The counties along with ESF 1 (Transportation) will de-conflict who has the responsibility to open and maintain the routes. Routes will be based upon several factors including, but not limited to, number of lanes, critical bridges, debris fields, and overpass height restrictions.
6. Wherever possible, predetermined checkpoints should be identified and listed in the Operational Area critical infrastructure to assist with evacuation and to help maintain positive reentry control into Operational Areas. Each county should develop reentry plans and control measures to assist with the management of the population as it reoccupies an Operational Area.
7. Each Operational Area may be required to operate independently until entry routes are surveyed for damage and cleared of debris. Priority of effort for route clearance will go to the pre-planned entry routes. The County EOC, ESF 1 (Transportation), and the SEOC will maintain route status.
8. Alternate transportation entry points will be identified based on the premise that initial entry into the most severely impacted Operational Areas will only be by air, sea, or indirect land routes until primary entry routes are cleared of debris. To facilitate operations under such conditions, counties are encouraged to identify and develop protocols for helicopter landing/pick up zones and potential drop zones to receive initial material and equipment. Counties also need to identify areas and develop protocols for large-scale helicopter/fixed wing airhead operations.
9. Traffic Management will include diversion routes to move traffic around blocked priority roadways and access routes to move into and within Operational Areas. In coordination with the appropriate county officials

and the SEOC logistics group, ESF 1 (Transportation) will plan the diversion routing into the Operational Areas as required based on known route conditions.

J. Communications

1. As available, normal/pre-planned communications from the Operational Areas to the county and state EOCs will be used. If communications capability is degraded due to disaster conditions, back-up communications will be used, and will consist of, but not be restricted to, conventional telephone, cellular, any type of compatible radio frequency such as LGR, 800 MHz, etc., and satellite radio/telephone. Personnel serving as ICs or liaisons in the Operational Areas will be equipped with and be prepared to use any of the communications assets noted above.
2. The Regional Emergency Managers (REM) will be directed to report to one of the affected County EOCs by the SEOC. The REMs will report to the county Emergency Director, and will assist the county in gathering information and providing communication support to the Operational Areas and to the SEOC.
3. Per the Operational Area Communication Plan, the SEOC will deploy Level A communication teams to support impacted Operational Areas and counties. The team(s) will report to the county EMD for assignment. If the team is unable to establish contact with the EMD, the SEOC will position the team(s) based on guidance from the Director, SCEMD. As the post-impact response continues, impacted Operational Areas will be prioritized and targeted for additional communications support based upon the state Operational Area Communication Plan. The plan is robust enough to support multiple communication nodes in affected Operational Areas and counties.
4. As the post impact Critical Needs Assessment is being conducted, ESF-2 (Communications) and the counties will identify the communication systems still functioning in each Operational Area to include information on radio frequencies and mobile EOC capability, and to determine the available communications assets to meet the anticipated operational loads. Counties will request additional communication assets from the state through the SEOC.
5. Counties will identify all communication assets available within an Operational Area as part of the critical infrastructure identification process.

K. Operational Area Mapping

1. Based on input received from counties, SCEMD will coordinate the development of GIS-layered maps describing county-identified

Operational Areas, entry/exit points, mobilization staging areas, LSAs, distribution points, diversion routes, access routes, and all designated critical infrastructure.

2. The maps will be reviewed annually and updated as appropriate.

IV. SCEMD ACTIONS

A. Preparedness

1. Develop and/or update Operational Area baseline impact and logistical/restoration support requirements.
2. Source, train, and equip state Communication Teams.
3. Update Operational Area Communications Plan to include resources located in each Operational Area.
4. Update primary and alternate Operational Area entry and exit routes.
5. With input from the counties, coordinate and/or update county and Operational Area logistics staging area and distribution site locations.
6. Update State Logistics Plan with Operational Area unique planning factors and procedures.
7. In coordination with the affected county, develop specific response plans for each potentially affected Operational Area to determine initial quantities/types of relief supplies, communications packages, and generators. Determine staging points within the Operational Area or in the immediate vicinity.
8. Based on annual updates provided by the counties, maintain critical infrastructure inventories for all Operational Areas.

B. Response:

1. Phase 1
 - a. Activate the State Logistics Plan.
 - b. Activate contracted logistics support.
 - c. Coordinate with potentially affected counties regarding specific Operational Areas at risk.
 - d. If appropriate, activate and deploy REMs and state-level Communication Teams to specific Operational Areas or County EOCs.

2. Phase 2

- a. Deploy state Communication Teams if not previously deployed.
- b. As required, deploy search and rescue teams.
- c. Deploy medical teams as required to Operational Areas.
- d. As required, coordinate response package efforts to assist in reopening critical infrastructure within Operational Areas.
- e. Establish communications with affected counties and deploy state communication teams as necessary to re-establish communications with affected counties and Operational Areas.
- f. Dispatch initial relief shipments in accordance with State Logistics Plan. Confirm locations required for initial relief shipments, types and quantities of supplies to transport, and the appropriate modes of transportation needed to deliver the assets.
- g. Develop follow-on plans to sustain the Operational Area relief effort.
- h. Develop specific infrastructure restoration priorities and Operational Area response plans based upon each county's critical infrastructure priority list.
- i. As required, deploy inspection teams and conduct Operational Area aerial reconnaissance to assess roads, bridges, and other infrastructure damage.
- j. Provide follow on relief supplies based upon detailed initial damage assessments conducted by affected county EMDs.
- k. Coordinate the inspection/evaluation of hazardous material release and the impact on the public within Operational Areas.
- l. Coordinate preliminary damage assessment of critical infrastructure within Operational Areas.
- m. Provide for the public safety and security of citizens.
- n. Provide accurate, consistent, and expedient emergency public information to the public.

C. Recovery

Conduct on-going, prioritized Operational Area relief and infrastructure restoration.

D. Mitigation

1. Support and plan for mitigation measures. Support requests and directives concerning mitigation or re-development.
2. Document matters that may be needed for inclusion in agency or state/federal briefings, situation reports, and action plans.

V. RESPONSIBILITIES

A. SC Emergency Management Division (SCEMD)

1. Conduct/update worst-case loss estimation modeling for all Operational Areas by county.
2. Based on worst-case loss estimates, develop/update initial logistical support and infrastructure restoration plans. In coordination with the counties, develop Operational Area specific logistics plans for inclusion in the state Logistics Plan.
3. Based on information provided by the counties, maintain current Operational Area infrastructure, population, and logistics distribution site data.
4. Coordinate Operational Area procedures with county Emergency Management Directors and other officials as required.
5. Assist with sourcing, training, and equipping state-level Communication Teams.
6. Assist counties in developing GIS-based, layered Operational Area maps.
7. Coordinate with counties the development of primary and alternate Operational Area entry and exit routes.
8. Maintain an up-to-date database of county critical infrastructure by Operational Area and maintain a GIS library of county Operational Areas, i.e., county maps with appropriate layers to describe their Operational Areas.

- B. Emergency Support Functions (ESF) Actions
 - 1. Develop pre-planned response packages based upon functional areas. The response packages will supplement county capabilities.
 - 2. Develop plans to support Operational Area development, including coordination with the counties to develop primary and alternate Operational Area entry and exit routes.
 - 3. De-conflict with the county EMDs the responsibility (among state, county, and municipality agencies) to open and maintain the routes into all Operational Areas.
- C. Budget and Control Board, Division of Information Operations (DTO)
 - 1. Develop/update communications plans specific to Operational Areas for inclusion in the state Communications Plan/ architecture, including the identification and maintenance of lists of potential communications shortfalls by counties.
 - 2. In coordination with SCEMD, determine the best method for communication following disasters.
 - 3. In coordination with SCEMD, utilize the ECV, IMTs, and REMs (personnel and equipment) to support communications needs in the affected areas following a disaster.
 - 4. As needed, provide communications assistance to county emergency management offices following a disaster.
- D. Counties
 - 1. Develop Operational Areas using concepts described in this plan.
 - a. Develop county Operational Area infrastructure data, update annually, include as GIS layer and provide to SCEMD.
 - b. In coordination with ESF 1 (Transportation), develop primary and alternate Operational Area entry and exit routes, and include as GIS layer.
 - 2. In coordination with ESF 1 (Transportation), de-conflict responsibility (among state, county, and municipality agencies) to clear and maintain priority routes into local Operational Areas.
 - 3. Receive state response packages and relief supplies.

4. Equip Unified/Incident Coordinators with all necessary communications equipment and transportation.
5. Dispatch/activate Unified/Incident Coordinators for duty in appropriate Operational Areas.
6. Develop/update communications plans specific to Operational Areas for inclusion in the state Communications plan/architecture.

VI. RESPONSE PACKAGES

- A. The different response packages are listed below.
- B. For each package, there will be three levels: basic, intermediate, and advanced. Each level will build on the previous level.
- C. Once each level has been developed, it will be added to this Attachment.
 1. Road clearance and opening
 2. Debris clearing
 3. Utility Restoration
 4. Snow and Ice Clearing
 5. Fire Fighting
 - a. Urban
 - b. Urban-Wildland Interface Fires
 - c. Wildfire
 6. HAZMAT Response
 7. Transportation
 - a. Ground
 - b. Air
 - c. Water
 8. Security
 9. EMS/Medical
 10. Radiological

11. Search and Rescue
12. Communications Teams (see Operational Area Communication Plan for details of communications teams)

ANNEX B TO CATESTROPHIC INCIDENT RESPONSE PLAN

CATASTROPHIC RESOURCES

I. INTRODUCTION

- A. When a catastrophic event occurs, local jurisdictions will likely be overwhelmed and require additional resources to manage the incident. There are regional and State based teams and assets available to Emergency Managers and Incident Commanders to assist in their response and management of those incidents.
- B. This Annex outlines the procedures to locate, procure and deliver essential emergency resources, such as firefighting, Urban Search and Rescue, medical support services, disaster relief and personnel, required to support immediate response actions.
- C. The utilization of assets within this Annex is scalable and allows for the appropriate level of response to achieve the required objectives prior to, during or following a county or regional emergency.
- D. This Annex will does not replace or supersede the authorities, policies, plans or procedures of any participating jurisdiction, agency, or organization.

II. PURPOSE

- A. Assist each county or jurisdiction in acquiring the additional regional and statewide deployable assets necessary to mitigate, respond and recover from catastrophic incidents exceeding the capabilities of the affected county.
- B. Address the shortfalls in capabilities, assets and incident management that may exist within counties in dealing with a catastrophic event.
- C. List the assets and capabilities of specialized teams, equipment and personnel available to provide a regional or multi-jurisdictional response to a catastrophic event.
- D. Promote proactive and expanded coordination between counties Incident Commanders and Emergency Managers can access the resources necessary to manage any level of incident.

III. SCOPE

- A. Addresses the roles and responsibilities of federal, State, and local departments and agencies, and should be used in conjunction with the National Response Framework, the South Carolina Emergency Operations Plan (SCEOP) and the individual county Emergency Operations Plans (EOP).
- B. Provides assistance and clarification to all local departments and agencies involved in Crisis and/or Consequence Management activities.

- Crisis Management is the immediate response to a catastrophic man-made (e.g., terrorism, WMD, HAZMAT, explosive) or natural event (e.g., earthquake, hurricane, flood, or fire).
- Consequence Management addresses the short and long-term effects of those events on people, property and communities.

IV. ASSUMPTIONS

- A. Counties will need to meet emergency needs internally for up to 72 hours until State or federal assistance can be mobilized.
- B. All necessary decisions affecting response, recovery, protective actions, public health and safety advisories, etc. will be made by responsible officials under existing authorities, policies, plans, and procedures.
- C. A major regional incident, which may cause numerous fatalities and injuries, property damage, and disruption of normal life support systems, will have an impact on the Region and State's economic, physical, and social infrastructure.
- D. A large number of casualties, damage to buildings and basic infrastructure, and disruption of essential public services will overwhelm the capabilities of individual counties to meet the need of the situation.
- E. Establishing common terminology and structuring the plan for compatibility with each county, State, and federal emergency plan improves regional communications and coordination.
- F. The degree of State and federal involvement will be related to the severity of the event and the county's need for support.

V. CONCEPT OF OPERATIONS

- A. General
 1. Multi-jurisdictional, multi-agency, and statewide events will quickly require the need for a coordinated response among all agencies and assets involved.
 2. Resources committed to disaster response will be under the immediate direction of the on-scene command structure which may be led by a single agency or a unified command.
 3. Resource management will focus on providing resource support directly to emergency response and recovery efforts during the initial response phase after a catastrophic incident.

4. The Incident Commander is the only authority who may authorize the release of any resources. No resources may leave the incident until authorized to do so.
5. The Incident Commander will determine which surplus equipment and personnel will be retained during mobilization based upon the size and location of the incident, and safety considerations,
6. Within the State there are strategically positioned resources and assets, such as decontamination units, mobile command post vehicles, SC Law Enforcement Division (SLED) and SC Department of Health and Environmental Control (SCDHEC) HAZMAT teams, Incident Support Teams (IST), mass casualty units, along with other teams, available through Mutual Aid Agreements to assist in a catastrophic event.

B. Coordination

1. When an incident takes place, the responding county agency/authority will review the situation and determine the requirements needed to successfully respond to and recover from the event.
2. If the event is of significant nature as determined by the Incident Commander or designated authority and additional assets are deemed necessary, he/she should notify the County Emergency Manager/Director that additional assets are required.
3. Most emergencies are handled by individual counties using standard operational guidelines or procedures. When the capabilities of a county are exceeded, adjacent counties may be engaged by the county EM/EOC through mutual aid agreements.
4. As the catastrophic incident begins to have a regional impact, regional assets identified in this Catastrophic Resource Guide may be called on for support within the authority of the Firefighter Mobilization Act and State Wide Mutual Aid Agreements. The State and federal government may be called to provide supplemental assistance as dictated by the changing nature of the incident.
5. Emergency Managers should notify the SCEMD as soon as possible of the incident and of any resources they have requested.
6. The State Warning Point (SWP) will use the procedures outlined in the SWP SOP to forward or respond to requests for State-level resources.
7. SCEMD is the primary agency for coordination of requests for assistance and assets beyond the capabilities of the counties in the State. The SCEOP defines the process if the incident requires response that cannot be

met at the State-level. EMAC can be activated to provide assistance from other states.

8. Incidents may be so catastrophic, or in the case of terrorist or WMD events, that a federal response may be required to respond and recover from such incidents.

VI. RESOURCE MANAGEMENT

- A. Unique resources are available to the State and local jurisdictions through federal authorities such as the Strategic National Stockpile (SNS), which is a national asset providing delivery of antibiotics, antidotes and medical supplies to the scene of a natural or man-made incident.
- B. Logistical support is available to the counties to support Points of Distribution (POD). Refer to the Attachment A (South Carolina State Logistics Plan) to the SCEOP for the process of distribution and list of assets.
- C. The local County Emergency Manager/EOC will be the Point of Contact (POC) to provide additional resources to the Incident Commander.
- D. Regional/State-wide Teams
 1. Tab 1 and 2 identifies regionally based or State teams or assets available for response.
 2. Impacted counties should contact those teams directly which are based within their region.
 3. If a regional team/asset is utilized, the local Emergency Manager will notify SCEMD as soon as possible. If the regionally based team is unavailable, the local Emergency Manager should make additional support requests to SCEMD.
 - a. If the SEOC is not currently activated, the requesting counties should contact the SWP to coordinate for the additional resources
 - b. If the SEOC is activated, the request should be made directly to the SEOC via WebEOC or phone.
 4. Upon a request for additional support, the SEOC/SWP will contact the Emergency Manager of the team/resource's host county. The local Emergency Manager will contact the POC of the team/resource activated/deployed to support the incident.

VII. ATTACHMENTS

Tab 1 State Teams

Tab 2 Regional and Statewide Medical Assets

TAB 1
STATE TEAMS

	Firefighter Mobilization	SC Task Force 1 (TF-1)	SCNG - 43rd Civil Support Team (CST)	SLED WMD Response Team
Primary Mission	Fire and Rescue Response	Urban Search and Rescue	WMD Response	WMD Tactical Response
Capabilities	<ul style="list-style-type: none"> • Firefighting Rescue personnel and equipment • HAZMAT response • US&R, water and technical rescue 	<ul style="list-style-type: none"> • Location and extraction of victims of structural collapse • K-9 search teams • Structural integrity assessments • Incident management support 	<ul style="list-style-type: none"> • WMD HAZMAT response including identification and command support 	<ul style="list-style-type: none"> • HAZMAT, EOD, SWAT, crime scene analysis and Incident Command • Equipment includes robotics, armored vehicles, helicopters
Deployment Time	1-3 hours based on incident location	<ul style="list-style-type: none"> • 2 hours for incident support team • 4-6 hours for full team support based on incident location 	<ul style="list-style-type: none"> • 2-3 hours based on incident location • Operational within 90 minutes of arrival 	<ul style="list-style-type: none"> • 1-3 hours based on incident location • Air transport available in appropriate weather
Team Requirements	<ul style="list-style-type: none"> • Overnight shelter • Latrine facilities 	<ul style="list-style-type: none"> • ½ acre for operations base • ATV forklift is requested 	<ul style="list-style-type: none"> • Water supply for Decon • Space for 8 vehicles and 3 large trailers 	<ul style="list-style-type: none"> • Fire and medical support • Water supply for Decon, assembly area and rest areas
Team Strength	3,700 registered firefighters on volunteer call up	Rotating 70 person teams including search and rescue, technical support and command elements	<ul style="list-style-type: none"> • 22 highly trained military personnel • 8 vehicles • 3 trailers • Mobile lab • Command post vehicle with communications 	36 SLED agents
Team Location	<ul style="list-style-type: none"> • Based in Columbia • Coordinators throughout State 	Columbia	Columbia	Columbia
Activation Notes	Self-sufficient with exception of housing and shelter	<ul style="list-style-type: none"> • Self-sufficient for 72 hours • Operational for 10 days before requiring resupply 	<ul style="list-style-type: none"> • Self-sufficient for 72 hours • Second CST needed for responses lasting beyond 48 hours 	<ul style="list-style-type: none"> • Coordinates response with DHEC • Teams tactical EMT responds for down range operations
Cost to Counties	N/A	<ul style="list-style-type: none"> • Regional team \$15k per operational period • Type I (State Team) - \$100k per 24 hour 	N/A	

Catastrophic Incident Response Plan

	DHEC WMD Response Team	Incident Management Teams (IMT) (State Type II Team)	Incident Management Teams (IMT) (State Type III Team)	SC Division of Technology Operations (SC/DTO) Communications
Primary Mission	WMD HAZMAT responses support for SLED WMD Team	Incident Management Support	Incident Management Support	Communications voice, data & radio
Capabilities	<ul style="list-style-type: none"> • Technical expertise on chemical, radiological and biological agents • Field identification of unknown substances 	Incident Command support for: <ul style="list-style-type: none"> • Natural Disasters • Terrorist incidents • Train Derailments • Aircraft incidents • Public or civil unrest • Large public events 	Incident Command support for: <ul style="list-style-type: none"> • Natural Disasters • Terrorist incidents • Train Derailments • Aircraft incidents • Public or civil unrest • Large public events 	<ul style="list-style-type: none"> • Provide emergency backup and communication resources • Deployable satellite phone/internet UHF, VHF and 800 MHz radios, repeaters, radio cache, satellite phones, portable towers
Deployment time	2-4 hours based on incident location (statewide)	8 hours plus travel time	2 hours plus travel time	1 hour (+) travel time
Team Requirements	<ul style="list-style-type: none"> • Water supply for Decon • Space for 5-6 large vehicles • EMS support 	Accommodations for up to 14 days	Accommodations for up to 7 days	None
Team Strength	5 members per team	20-25 members	10-20 members	3-8 members
Team Location	12 district areas located throughout the State	Statewide	Team Headquarters locations: <ul style="list-style-type: none"> • Aiken County • Anderson County • Florence County • Dorchester County 	<ul style="list-style-type: none"> • Primary assets located in Columbia • Support team members located around the state
Activation Notes	Functional for 10-12 hours per shift/team	Contact State Warning Point	Contact Team Host, County EOC or State Warning Point	
Cost to Counties		Feeding, housing & fuel	Feeding, housing & fuel	N/A

Catastrophic Incident Response Plan

	County Animal Response Team (CART)	Red Cross (ARC)	The Salvation Army (TSA)	Logistics Support Team (LST)
Primary Mission	Agro terrorism mitigation and animal response	Disaster relief	Disaster relief	Provide support and support to first responders
Capabilities	<ul style="list-style-type: none"> Emergency animal disease response (under authority of State Veterinarian) Support for issues involving animals and agriculture at county and regional levels 	<ul style="list-style-type: none"> Shelter Food Health and mental health services Emergency worker feeding Blood supplies 	Assist in feeding, sheltering and recovery for victims	<ul style="list-style-type: none"> Assist in the sheltering (cool/heat) and hygiene needs of first responders Sleep 60 Communication capabilities
Deployment time	N/A	1-4 hours	1-4 hours	12-24 hours
Team Requirements	N/A	N/A	N/A	<ul style="list-style-type: none"> ½ acre for setup Water access
Team Strength	Varies	Varies as required by incident	Varies as required by incident	Up to 6 personnel
Team Location	<ul style="list-style-type: none"> Various counties 6 counties have trucks and animal capture panels: <ul style="list-style-type: none"> Aiken County Horry County Anderson County Richland County Sumter County Charleston County 	Regional Chapters	County offices	Beaufort County
Activation Notes	<ul style="list-style-type: none"> Activated as needed by county EMD Directors 			Dependent on host for meals
Cost to Counties		N/A	N/A	

Tab 2

Regional and Statewide Medical Assets

	Regional Medical Assistance Teams (RMAT)	DHEC Mobile Medical Facility	Metropolitan Medical Response System (MMRS)	SC Helicopter Aquatic Rescue Team (SC HART)
Primary Mission	Mobile mass treatment, personnel and facility for WMD/natural disasters	Provide facilities for treatment and triage during medical surge or catastrophic operations	Enhance medical capability to respond to a mass casualty event	Extracting patients from remote and dangerous location
Capabilities	<ul style="list-style-type: none"> Mobile medical facility Augment local medical infrastructure 	<ul style="list-style-type: none"> Expand hospital capacity Mobile triage facility Capacity for 34-50 casualties 	<ul style="list-style-type: none"> Mass casualty sheltering Mass prophylaxis Support DHEC medical facility POD support CBRN Pharmaceuticals Medical disaster management DECON support facility 	<ul style="list-style-type: none"> Helicopters (UH-60) Aerial extraction Swift water extraction Medical support 3 active helicopters Can support up to 5 air teams 8 Swift Water Rescue boat teams
Deployment Time	<ul style="list-style-type: none"> Forward deployment within 12 hours Remainder within 24-36 hours 	12 hours or less for complete operational capability	1 hour + travel time	<ul style="list-style-type: none"> 45 minutes + travel (weekdays) 2-3 hours + travel (weekends and holidays)
Team Requirements	<ul style="list-style-type: none"> 5 acres for set up Water supply and diesel fuel for sustained operations 	<ul style="list-style-type: none"> ½ acre for setup Water access for sustained operations 	N/A	<ul style="list-style-type: none"> Minimum Landing zone - 100 ft X 100 ft Food and rations for extended operation day
Team Strength	24-45 personnel dependent upon mission	N/A	N/A	<ul style="list-style-type: none"> 18 rescue swimmers 12 (+) aircrew
Team Location	<ul style="list-style-type: none"> Lexington County Horry County Beaufort County Spartanburg County 	<ul style="list-style-type: none"> Throughout State Minimum 1 in each DHEC region 	Primary assets are located in Columbia	Primary assets are located in Columbia
Activation Notes	<ul style="list-style-type: none"> Call to State Warning Point who will then notify State RMAT POC State RMAT POS will notify specific region 	<ul style="list-style-type: none"> Trailers require heavy duty towing capability. 6 personnel required for setup 	<ul style="list-style-type: none"> Trailers require heavy duty vehicle towing capability Will need logistics support as trailers are likely to have drivers only 	Call to State Warning Point or Dan McManus with as much specifics as available
Cost to Counties	Fuel and food			To be determined (est.\$5,900 per hour)

ATTACHMENT C TO CATESTROPHIC INCIDENT RESPONSE PLAN
STATE OPERATIONAL AREA COMMUNICATIONS PLAN

I. INTRODUCTION

- A. The State's communication system is comprised of personnel, facilities, equipment, and procedures necessary to effectively link various facilities within the overall statewide emergency management systems.
- B. The communication systems used to link these facilities will consist of radio and telephone systems in current use, additional equipment brought in to supplement existing capabilities, and additional communication support provided by radio amateur services.
- C. A catastrophic disaster such as an earthquake, a hurricane, or Weapons of Mass Destruction (WMD) event may cause most communication systems in the State to be inoperable. A catastrophic disaster will disrupt commercial communication services to and within the impacted areas.
- D. The use of normal communication systems should be attempted, but in a catastrophic situation, satellite radio and satellite telephone may be required to provide the initial means of communication from the State Emergency Operations Center (SEOC) to local emergency management offices and other critical facilities.
- E. Other communication support services will become available as resources and conditions permit.

II. PURPOSE

- A. Ensure coordinated communication operations in the Operational Areas following a disaster.
- B. Deploy trained communication teams to Operational Areas to implement a rapid emergency communication system to support State and local governments in response to a catastrophic event.

III. ORGANIZATION

The following agencies and/or organization's participation in this plan may consist of personnel, radio system equipment, or facilities:

- SC National Guard (SCNG)
- SC Budget and Control Board, Division of Technology Operations (DTO)
 - Mobile Communication Systems
- SC Emergency Management Division (SCEMD)
- SC Radio Amateur Civil Emergency Services (RACES)

- SC Amateur Radio Emergency Services (ARES)
- SC Forestry Commission (SCFC)
- SC State Law Enforcement Division (SLED)
- SC Department of Natural Resources (SCDNR)
- SC Department of Public Safety (SCDPS)
- SC Department of Transportation (SCDOT)
- SC Department of Probation, Parole and Pardon Services (SCPPP)
- SC Department of Parks, Recreation, and Tourism (SCPRT)
- SC Department of Commerce, Division of Aeronautics (SCDOC/SCDAO)
- Civil Air Patrol (CAP)
- Private Sector Support

IV. ASSUMPTIONS

- A. Commercial and government land-lined wire, microwave, and radio communication will likely be damaged and overloaded in the Operational Areas due to a catastrophic disaster.
- B. Commercial communication capabilities in non-impacted areas of South Carolina may be diminished due to system overload.
- C. Existing state assets will not be sufficient to support all the communication systems following a disaster. Coordination with federal counterparts and other states to obtain resources may be a priority.

V. SITUATION

- A. The priority of the communications teams is to establish communications from the Operational Areas to the SEOC.
- B. SCEMD utilizes the Operational Area concept to enhance county and State-level planning and response to natural and man-made disasters, and other significant events.

VI. CONCEPT OF OPERATIONS

- A. ESF-2 (Communications) is the lead ESF for coordinating this plan.
- B. Each county is responsible for providing for its own communication. When the requirements of the situation exceed the county's internal capabilities, the counties will request assistance from the State.

- C. The priority mode of communication is satellite telephone, followed by radio systems, and lastly cellular communications. The mode of communications will be determined by needs assessment conducted by deployed teams and DTO.
- D. Trained communicators and operators from state agencies and organizations, while under direct control of their own agency or volunteer entities and operating their equipment will do the following:
- Be subject to the guidance of SEOC and County EOC for effective coordinated emergency communication.
 - Adhere to established procedures as outlined in the SC Emergency Operations Plan (SCEOP).
 - Adhere to procedures set forth in this plan.
 - Participate in training and exercises.
- E. State-level Support
1. The State-level support will consist of deploying communication teams and equipment to support communications in the Operational Areas.
 2. The teams will have a capability for long distance point-to-point communications from designated location(s) to the SEOC.
 3. There are three response levels: Level A, B, and C. The three response levels will ensure a redundant communication operation will occur.
 - a. Level A
 - (1) The Level A response represents the State's most rapid response capability.
 - (2) A-Teams will deploy within 4 hours of notification and on-scene within 12 hours.
 - (3) A-Teams will operate 24-hours, and maximum operational period is 3 days only.
 - b. Level B
 - (1) The Level B response will consist of B-Team members.
 - (2) B-Teams will deploy is within 24-48 hours or less after notification.
 - (3) B-Teams may or may not be co-located with A-Teams, but could relay information to A-Teams if necessary. B-Teams must maintain the capability to communicate outside the

Operational Area should the Level A capability be diminished.

- (4) B-Teams will have the capability to operate 24 hours/day, and for operational periods longer than three (3) days.

c. Level C

- (1) The Level C response will consist of the Civil Support Team (CST) and Joint Incident Site Communications Capability (JISCC) from the SCNG.
- (2) Deployment is within 48-72 hours after notification.
- (3) C-Teams have the capabilities to support an operation longer than 5 days as required by SERT.
- (4) The teams maintain the capability to communicate outside of the Operational Area should the Level A or B capability be diminished.

4. Based upon the communication needs assessment, SCEMD director will activate the teams and approve which Operational Area(s) will receive the teams.

F. Staffing

1. A-Teams

- a. The communication teams will be deployed to the impacted area. Each team will have two (2) members from the SCEMD Regional Emergency Managers (REM) and two (2) members of State Operational Area Liaison Team (SOALT) for a total of four (4) persons. Personnel from the CST and the SC Air National Guard (SCANG) may also be available to deploy with the A-Teams.
- b. If necessary, A-Teams may splint into 12 Teams consisting of two (2) members - one (1) REM and one (1) SOALT.
- c. The REM of the A-Team is the team leader and will report to the SCEMD Coordinator.
- d. The teams will report to the County EOC or other locations as tasked to provide communications from county Operational Area(s) or EOC to SEOC following an earthquake.

2. B-Teams
 - a. The second tier of communications support with activation and deployment 24 hours after notification are the B-Teams consisting of SCNG Tactical Satellite (SCTAC) members and, if available, volunteers (RACES).
 - b. The senior person of the B Team is the team leader.
 - c. If necessary, Level B-Teams may be supported by EMAC.
3. C-Teams
 - a. The C-Team composition is comprised of personnel from CST and JISCC from the SCNG.
 - b. The senior person of the C-Team is the team leader.
4. SOALT
 - a. SOALT liaison team will serve as communication operators for SERT operations and work in two shifts.
 - b. SOALT personnel in the State Warning Point (SWP) will receive Field reports using the message forms provided and deliver these reports to SEOC Operations.
 - c. SEOC Operations will analyzed and record the information in WebEOC.

G. Activation

1. Once the SEOC issues the order to implement the Operational Area Communications Plan, The SEOC will utilize emergency notifications systems to notify A-Team leaders and members. The A-Team leader will contact members to confirm available status for deployment.
2. Upon A-Team activation, Chief of Operations will assign a Communications Team Coordinator (either from SCEMD or DTO) who is responsible for ensuring the following information is provided to the Operations Chief:
 - Estimated time until full mobilization is complete and the team is ready for deployment.
 - Any equipment or teams not available for deployment.
 - Any equipment or teams whose departure will be delayed.

3. If team leaders and members are unable to be contacted, the available members will self-deploy to the departure location (SCEMD) and contact SCEMD Operations through the SWP.
4. Upon notification, the team leaders of B-Teams will contact the B-Team members to determine available status. The team leaders will provide status of available members to ESF-2 (Communications).
5. The SCEMD Operations Chief will determine the need to alert and activate the C-Teams.

H. Transportation

1. ESF-2 (Communications) will coordinate transportation for the teams with ESF-1 (Transportation).
2. If teams are transported by air, an aerial reconnaissance will be conducted before landing to obtain general information on damages.

I. Deployment

1. Departure Locations

a. Primary

- (1) SCEMD parking lot (Pine Ridge Armory) - 33°54'63"N-81°06'05"W.
- (2) This area will accommodate two (2) UH-60 Black Hawk helicopters landing in trail. Utilization of this airspace will require prior coordination with the Columbia Metropolitan Airport traffic control tower.
- (3) SCEMD personnel will conduct a Foreign Object or Debris (FOD) walkthrough of the designated landing area before landing.

b. 1st Alternate. SC Division of Aeronautics hanger located at 2553 Airport Boulevard, West Columbia, SC.

c. 2ndAlternate. Eagle Aviation Terminal located at Columbia Metropolitan Airport in Columbia, South Carolina.

2. At the departure location, team members will receive a situation briefing, deployment, and safety briefing by the SEOC Communications Team Coordinator, pick-up equipment and care packages, and conduct equipment readiness check.

3. The SEOC Communications Team Coordinator will notify SEOC of Teams' actual departure time from departure location.

J. Operations

1. After deployment, the Teams actions are coordinated by SCEMD and ESF-2 (Communications). SCEMD Operations will assign a Communications Team Coordinator to serve as the POC for the deployed teams, and handle implementation actions as requested by SEOC Operations
2. State emergency communications support and assistance will be provided as quickly and as efficiently as feasible. ESF-2 (Communications) will attempt to contact the counties to determine communications needs; however, this will not restrain SERT from deploying teams based on planning assumptions.
3. Upon arrival, the team leader will report to the county director or designee to determine locations of needed communication support.
4. Needs Assessment
 - a. ESF-2 (Communications) and the deployed team will conduct a needs assessment to identify the most probable method at the time of the event to communicate, i.e., satellite telephone and/or radio, commercial telephone systems, etc.
 - b. The timely reporting of the information will assist in prioritizing communication support, requirements, and making recommendations to deploy equipment and personnel to Operational Areas as required.
5. Assignment priorities should be given to the following:
 - EOC and/or Alternate EOC (AEOC)
 - Critical facilities – Critical facilities locations such as public safety facilities and medical centers which are vital to maintain population survival and community stability
 - Transportation Entry/Re-Entry Points - Pre-identified locations in an Operational Area where resources (equipment, supplies, personnel, etc.) will be received and later deployed within the area. The transportation entry/re-entry points could be roadways, waterways, airports, and heliports within the operational area. These points of entry are situation dependent and could change due to the severity of the event.

- Incident Command Posts (ICP), State Logistics Support Areas (LSA), Staging Areas (SA), and county Points of Distribution (POD).

K. Reporting

1. The deployed teams will report information to the SEOC as necessary.
2. The Team Leader will coordinate with the County Director or designee on the type of intelligence to report. Lifesaving reporting requirements should be the priority.
3. The type of intelligence to report should include, but not be limited to:
 - Locations of collapsed structures for search and rescue.
 - Status of communication systems to include broadcast media.
 - Locations of critical need, i.e., food, water, medical.
 - Locations of out-of-control fires.
 - Locations of hazardous material releases.
 - Public safety needs, i.e., security, traffic control, law enforcement.
 - The general condition of transportation infrastructures (damaged or no damage).
 - The general condition of lifelines and critical facilities (damaged or no damage).
 - Locations of facilities or open spaces that could serve as landing zones and medical triage.

L. Logistics

1. SCEMD will provide the 4-man A-Teams with two (2) Iridium SAT Telephones, two (2) SAT Transportable radios/telephone, two (2) 800 MHz Portables, and two (2) cell phones along w/applicable battery packages. The REMs assigned equipment will be used as back up.
2. SCEMD will provide the 2-man A-Teams with one (1) Iridium SAT Telephones, one (1) SAT Transportable radios/telephone, one (1) 800 MHz Portable, and one (1) cell phone along with applicable battery packages. The REMs assigned equipment will be used as back up.
3. Members are capable of self-sustainment for at least 72 hours after deployment to the incident site.
4. SEOC will supplement food and/or supplies after three (3) days.

5. Team members should be prepared to stay up to six (6) days at the assignment location.
6. Rotation assignments will be coordinated at SEOC by ESF-2 (Communications) through SCEMD Operations.

VII. RESPONSIBILITIES

A. General

1. All supporting agencies will participate in an annual review of the Operational Area Communications Plan.
2. All supporting agencies will participate in training and exercises as required by this plan.

B. South Carolina National Guard

1. As required by DTO, assign personnel to serve on Communication C-teams.
2. Appoint C-Team leaders.
3. Maintain rosters of team leaders and members, and update as necessary.
4. Identify communication equipment, systems and services available to support teams and provide to DTO.
5. Ensure personnel are capable to serve on a 24-hour basis and six days rotation.

C. SC Budget and Control Board, Division of Technology Operations

1. In coordination with SCEMD, conduct annual review of the Operational Area Communications Plan with supporting agencies.
2. In coordination with SCEMD, identify a communications coordinator from ESF-2 (Communications) to serve as SEOC Communications Team Coordinator for deployed teams.
3. Coordinate with ESF-6 (Mass Care) to provide care packages to support team members. This care package will consist of MREs, water, blankets, and personal supplies
4. In coordination with SCEMD, ensure SOPs are developed and maintained for addressing training, team activation and deployment, equipment maintenance and readiness, forms, team safety, care packages, and team training and exercises.

5. Develop a system to evaluate communication resources pre-and post-event.
 6. In coordination with SCEMD, annually update names and telephone numbers of A and B-Team members in the CODE RED notification system.
 7. In coordination with SCEMD, ensure B and C Teams are capable to serve on a 24-hour basis and six (6) days rotation; the A-Teams maximum operational period is three (3) days.
 8. Identify communication channels required to meet the anticipated operational loads of supporting communication teams.
 9. Review and update the resource data on communication systems, frequencies, and standard operating procedures for communication systems.
 10. In coordination with SCEMD, annually request supporting agencies to provide types of communication systems and services available to support communication teams. Maintain list and update as necessary.
 11. In coordination with SCEMD, prepare and conduct team training and exercise annually.
 12. In coordination with SCEMD, coordinate with supporting agencies to provide needed resources in support of the communication teams as the need arises.
- D. SC Budget and Control Board, SC Aeronautics Commission
1. Ensure an assembly and departure area is available upon request.
 2. Be prepared to assist with any technical issue that may arise during departure operation.
- E. SC Emergency Management Division
1. In coordination with DTO, identify a communications coordinator from SCEMD that could serve as SEOC Communications Team Coordinator for deployed teams.
 2. In coordination with DTO, ensure SOPs are developed and maintained for addressing training, team activation and deployment, equipment maintenance and readiness, forms, team safety, care packages, and team training and exercises.

3. In coordination with DTO, annually update names and telephone numbers of A and B-Team members in the CODE RED notification system.
4. In coordination with DTO, ensure B and C Teams are capable to serve on a 24-hour basis and six (6) days rotation; the A-Teams maximum operational period is three (3) days.
5. In coordination with SOALT members, appoint personnel to serve as communication operators in SEOC communication cell. This will include providing annual training to communication operators.
6. In coordination with DTO, annually request supporting agencies to provide types of communication systems and services available to support communication teams. Maintain list and update as necessary.
7. In coordination with DTO, prepare and conduct team training and exercise annually.
8. In coordination with DTO, coordinate with supporting agencies to provide needed resources in support of the communication teams as the need arises.
9. Assign REMs and Coordinators to serve on Operational Area Communication A-Teams.
10. Provide for communication space for communication operators.
11. Annually identify SOALT members who will support the Operational Area Communications A-Team.
12. Be prepared to incorporate communications reports into the State's Situation Report.

F. SC Forestry Commission

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

G. State Law Enforcement Division

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

H. SC Department of Natural Resources

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three days rotation.

I. SC Department of Parks, Recreation, and Tourism

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

J. SC Department of Probation, Parole, and Pardon Services

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.

3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

K. SC Department of Public Safety

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

L. SC Department of Transportation

1. As available, assign personnel to serve on A-Teams for Level A response (assigned personnel for SOALT member is sufficient).
2. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
3. Identify communication equipment, systems, and services available to support teams and provide to DTO.
4. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

M. SC Radio Amateur Civil Emergency Services

1. Identify members to serve on Level B-Teams including within each county Operational Area.
2. Appoint Team Leaders.
3. Provide members contact information to SCEMD to add to the CODE RED notification system to alert, mobilize, and deploy.
4. Identify communication equipment, systems, and services available to support teams and provide to DTO.
5. Ensure personnel are capable to serve on a 24-hour basis and three (3) days rotation.

N. SC Civil Air Patrol

1. Identify members to serve as B-Teams.
2. Appoint team leaders.
3. Maintain rosters of team leaders and members and update as necessary.
4. Provide team leader and members contact information to SCEMD to add to the CODE RED notification system for alerting, mobilizing, and deploying if necessary.
5. Identify communication systems and services available to support teams.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)
NATIONAL INCIDENT SCENARIOS RESPONSE PLANS

I. INTRODUCTION

- A. The Federal Interagency Community developed the following 15 National Incident Scenarios for use as a tool to facilitate preparedness planning:
1. Nuclear Detonation - 10-Kiloton Improvised Nuclear Device
 2. Biological Attack - Aerosol Anthrax
 3. Biological Disease Outbreak - Pandemic Influenza
 4. Biological Attack - Plague
 5. Chemical Attack - Blister Agent
 6. Chemical Attack - Toxic Industrial Chemicals
 7. Chemical Attack - Nerve Agent
 8. Chemical Attack - Chlorine Tank Explosion
 9. Natural Disaster - Major Earthquake
 10. Natural Disaster - Major Hurricane
 11. Radiological Attack - Radiological Dispersal Device
 12. Explosives Attack - Bombing Using Improvised Explosive Devices
 13. Biological Attack - Food contamination
 14. Biological Attack - Foreign Animal Disease (Foot-and-Mouth Disease)
 15. Cyber Attack
- B. These scenarios were meant to be utilized in Federal, State and local homeland security exercises and activities.

II. PURPOSE

Provide guidance for State, local emergency management personnel and the responding Emergency Support Functions (ESF) in response to scenario specific situations using the 15 National Incident Scenarios as a baseline.

III. ASSUMPTIONS

- A. The citizens and property in South Carolina are at possible risk to catastrophic natural hazards terrorist threats and attacks.

- B. A catastrophic incident may occur with little or no advanced warning at any time of day or at any place.
- C. The nature and scope of event events will require significant state and federal government support after an incident.
- D. The initial effects of a terrorist attack may appear to be “normal” emergencies involving agents that affect mass populations.
- E. Local emergency services will be the first units to respond to a natural hazard or terrorist incident.
- F. Catastrophic incidents will overwhelm local, county, and state resources.

IV. SITUATION

- A. The South Carolina Emergency Management Division (SCEMD) used each of the 15 National Incident Scenarios to analyze and develop the worst case and most likely hazards for the State of South Carolina.
- B. SCEMD adapted the 15 National Incident Scenarios to be applicable to South Carolina’s specific population figures and risk of vulnerability.
- C. This Annex does not include Scenarios 3, 9 and 10 because the SCEOP contains detailed, comprehensive plans to address Pandemic Influenza (see Annex 2 (Pandemic Influenza) to Annex 5 (Mass Casualty)), Hurricanes (see Annex 1 (SC Hurricane Plan)) and Earthquakes (see Annex 3 (SC Earthquake Plan)).
- D. SCEMD analyzed each of the National Incident Scenarios and the State’s response to them. SCEMD used several factors in the analysis of the location of each scenario.
- E. The severity of the situation and the State’s ability to manage the response is addressed in each scenario.
- F. The resources available within South Carolina to aid in the response effort were cataloged and accounted for in each scenario, thus giving the State a concept of which entities will play a role in the response, the number and type of resources that will be needed from outside entities, and how these resources will be allotted for each scenario.
- G. SCEMD used this assessment to develop plans to address the impacts each scenario would have on the State and its response to the event.
- H. All response plans were written based on the worst case/most likely scenarios for the State of South Carolina. The number of people expected to attend an event or work/live in vulnerable locations was taken into consideration for each scenario.

- I. These plans are still in development and additional scenario specific response protocols and responsibilities will be published as they are developed.

V. CONCEPT OF OPERATIONS

- A. These plans address the response capabilities and the resources the State of South Carolina may utilize were an event(s) or attack(s) of catastrophic proportions to take place in the State.
- B. If a catastrophic event occurs in the State, the county or counties in which the incident occurs will activate their operational areas and their county Emergency Operations Center (EOC).
- C. Each scenario response is designed to be a separate plan, but the State’s response and resources committed to each scenario will be similar for each event. The Concepts of Operations outlined in the South Carolina Emergency Response Plan (SCEOP) and the Catastrophic Incident Response Plan will apply to each scenario.
- D. The State’s response will be:
 - 1. Activate the SCEOP and the Catastrophic Incident Response Plan.
 - 2. Activate the State Emergency Operation Center (SEOC), but the level of Operational Conditions (OPCON) may vary based on the impact of the incident.
 - 3. Conduct coordination between the affected county/counties and the State.
 - 4. Notify FEMA Region IV.
 - 5. Make a recommendation to the Governor in reference to declaration of a State of Emergency.
 - 6. Activate appropriate Emergency Support Functions (ESF).
 - 7. Implement EMAC (Emergency Management Assistance Compact) agreements if necessary.

VI. ATTACHMENTS

- Tab 1 Nuclear Detonation - 10-Kiloton Improvised Nuclear Device
- Tab 2 Biological Attack - Aerosol Anthrax
- Tab 3 Biological Disease Outbreak - Pandemic Influenza – Omitted (see Annex 2 (Pandemic Influenza) to Annex 5 (Mass Casualty) to the SCEOP)
- Tab 4 Biological Attack - Plague

Tab 5	Chemical Attack - Blister Agent
Tab 6	Chemical Attack - Toxic Industrial Chemicals
Tab 7	Chemical Attack - Nerve Agent
Tab 8	Chemical Attack - Chlorine Tank Explosion
Tab 9	Natural Disaster - Major Earthquake – Omitted (see Appendix 3 (SC Earthquake Plan) to the SCEOP)
Tab 10	Natural Disaster - Major Hurricane – Omitted (see Appendix 1 (SC Hurricane Plan) to the SCEOP)
Tab 11	Radiological Attack - Radiological Dispersal Device
Tab 12	Explosives Attack - Bombing Using Improvised Explosive Devices
Tab 13	Biological Attack - Food Contamination
Tab 14	Biological Attack - Foreign Animal Disease (Foot-and-Mouth Disease)
Tab 15	Cyber Attack

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 1 - 10 KILOTON URANIUM IMPROVISED NUCLEAR DEVICE

EXECUTIVE SUMMARY: These estimates are based on large urban exposure

Casualties	111,967 fatalities
Infrastructure Damage	Massive damage in a 1-3 mile area
Evacuations/Displaced Persons	Will vary widely. Many citizens impacted by the initial exposure to radiation will shelter-in place and/or may be contained in the area to prevent contamination of other areas.
Contamination	Long-term within 30-50 miles
Economic Impact	Hundreds of millions of dollars
Potential for Multiple Events	No
Recovery Timeline	Years, in some areas potentially never

I. SCENARIO OVERVIEW

A. General Description

1. A 10 kiloton Uranium Improvised Nuclear Device is hidden by a terrorist group in a standard shipping container and shipped to Charleston, one of the largest ports on the East Coast.
2. Upon detonation, the explosion will destroy much of the port infrastructure and cause massive damage within a three-mile area.
3. Immediately following detonation, immediate radiation, thermal radiation and radiation fallout will be factors. If the resulting mushroom cloud moves to the west, long-term contamination within 30-50 miles may occur. Approximately 100,000 of the population will be killed in the initial blast.
4. Bridges that serve as a primary part of evacuation routes for the coastal area may be impacted causing delays and increasing the exposure to radiation of evacuees.
5. Citizens who have received substantial exposure to radiation and burns will in all likelihood Shelter-in-Place.

B. Event Dynamics

1. Response to the detonation will be immediate and by survivors in the immediate areas. Over time, hours to days, additional response will be forthcoming. Within hours, an initial perimeter will be established and initial control of movement into and out of the impact area will begin.
2. Secondary Hazards/Events
 - a. The detonation will have many secondary hazards. The intense heat of the nuclear explosion will cause numerous fires. Damaged buildings, downed power lines, leaking gas lines, broken water mains, and other damaged infrastructure will need to be addressed.
 - b. Another secondary effect of a nuclear explosion is the Electromagnetic Pulse (EMP). This sharp, high voltage spike will disrupt communication networks and other electronic equipment within an approximate 3 mile range.

II. KEY IMPLICATIONS

- A. There will be casualties associated with the initial blast. Approximately one-third of the impacted population will die as a result of the ensuing winds which will be in excess of 600 mph and heat in excess of 7,000 degree Fahrenheit. Radiation will result as a by-product of the explosion.
- B. The most dangerous radiation will be deposited within minutes to a few hours near the detonation site. Radioactive fallout will decay with time but will expose many people to lethal doses with death ensuing in days to months.
- C. Further from the point of detonation (at around the 12-mile point), injuries from acute radiation will decrease. At distances in excess of 150 miles, acute health issues are minimized.
- D. Infrastructure in the blast zone will be severely damaged by wind and fire, will be contaminated by radiation, and will have to be destroyed. The process will take many years and could potentially cost billions of dollars.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
 1. The nature of the device will be apparent. A dead zone perimeter will be established and HAZMAT teams with decontamination equipment will be sent into the impacted areas.
 2. These teams will report damage estimates and other general intelligence. Teams will be limited in the time they can remain in the area and resources will quickly become overwhelmed.

3. There will be a shortage of HAZMAT teams and decontamination equipment.
4. Citizens attempting to leave the impacted area will be triaged and referred for medical care and decontamination. Contamination of people and the environment will be the primary and compelling concern.

B. Emergency Management/Response

1. Communication with the citizenry will be critical and difficult initially due to the limited intelligence and the destruction and/or inoperability of traditional communication means.
2. Evacuation and/or shelter-in-place decisions must be made immediately.
3. Location and removal of injured and disabled citizens will be a significant undertaking.
4. Workers participating in this search and rescue efforts will likely be exposed to high and potentially lethal doses of radiation.

C. Incident/Hazard Characteristics

1. Pre-incident
 - a. Law enforcement is responsible for prevention of construction and detonation of Improvised Nuclear Devices.
 - b. Citizens also have a role in prevention if they are aware of any efforts to obtain materials for or to construct such devices.
2. Post-incident:
 - a. Short-term
 - (1) Containment of the contaminated area and people will be the primary effort to limit the spread of contamination.
 - (2) Reception centers, treatment, decontamination and sheltering operations must be established.
 - b. Long-term - Little can be done to mitigate a nuclear attack except to prevent it.

3. Public Protection

- a. Law enforcement will provide reconnaissance, protection, and deterrence measures at the boundaries of the attack site. Perimeters will be established to prevent entry into the contaminated zone.
- b. Officers will respond to reports of potential threats, provide surveillance at vulnerable sites, investigate threats, enforce curfews, and prevent looting of property.

4. Victim Care

- a. Decontamination of victims will be a significant undertaking. Short and long term treatment efforts will overwhelm the medical system. Appropriate allocation of resources must be determined.
- b. Decisions will have to be made on the level of care victims will receive based on their likelihood of survival. Many of these decisions will be challenged by friends and family members.
- c. Many victims and citizens will require both short and long term mental health care.

5. Investigation/Apprehension

Law enforcement and, potentially, the military will be involved in the investigation of the source of the nuclear materials and the person or persons responsible for the construction and detonation of the device.

6. Recovery/Remediation

Recovery will take years and cost billions of dollars. Some areas may never be habitable again. The primary remediation will be prevention.

IV. STATE RESPONSE

- A. Primary responsible agency: SC Department of Health and Environmental Control (SCDHEC), SC Law Enforcement Division (SLED) and all other law enforcement agencies as necessary.
- B. Secondary responsible agencies: The South Carolina Emergency Management Division (SCEMD).
- C. SERT Actions
 - 1. The State Emergency Operations Center (SEOC) will immediately activate at OPCON I.

2. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan) in order to provide lines of communication and resource support to the affected counties.
3. A recommendation will be made to the Governor to declare a State of Emergency and to seek a Presidential Declaration.
4. Support activities between the counties and State begin.
5. The State will notify the SC Forestry Commission to activate a Type II Incident Management Team (IMT) and request a Type I Federal Incident Management Team.
6. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.
7. All ESFs will activate to provide support to the affected counties Emergency Operations and Response Plans.
8. The SEOC will notify FEMA Region IV.
9. Establish the Unified Command Structure at incident sites upon the activation of the State response in support of local activities.
10. The State will also assist in the recovery, response, and mitigation of the event.

V. RESOURCES AVAILABLE FOR RESPONSE

- A. The SEOC will serve as the Point of Contact (POC) for resource support from the State.
- B. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and DHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)

- DHEC mobile medical facilities
- Federal Medical Facilities and related personnel
- Strategic National Medical Stockpiles
- Mutual Aid Agreements
- All resources of state agencies.

VI. ACTIONS BY ESF

A. SCEMD will assist in developing and coordinating response plans and with GIS information.

B. ESF-1 (Transportation)

In conjunction with ESF 13 (Law Enforcement), the SC Department of Transportation (SCDOT) will identify alternate routes, provide signage and barricades to avoid the impacted area, and repair uncontaminated roadways.

C. ESF-2 (Communications)

The SC Budget and Control Board, Division of State Information Technology will provide additional communication assets to restore communications capabilities that may be lost to exposure.

D. ESF-3 (Public Works and Engineering)

Public Works and Engineering will assist the affected county/counties in the clean-up and removal of contaminated debris as able.

E. ESF-4 (Firefighting)

1. The SC Department of Labor, Licensing, and Regulation is available to provide additional firefighting and HAZMAT personnel to fight any related fires.

2. They will also assist in HAZMAT clean-up and decontamination.

F. ESF-6 (Mass Care)

1. The SC Department of Social Services (SC DSS) in conjunction with the SC Department of Health and Human Services (SCDHHS) will assist.

2. The American Red Cross in sheltering the displaced population.

3. They will activate the state Mass Shelter/Evacuation Plan.

4. SCDSS will assist in sheltering affected populations.

G. ESF-7 (Finance and Administration)

The SC Budget and Control Board, Division of Procurement Services will provide support to state agencies in the purchase and distribution of required resources.

H. ESF-8 (Health and Medical)

1. SCDHEC will activate their Mass Casualty Plan, and make available mobile medical facilities as needed.

2. Hospitals will also be asked to activate their emergency plans.

I. ESF-9 (Search and Rescue)

The SC Department of Labor, Licensing and Regulation, Division of Fire and Life Safety will activate its SC Task Force 1 to assist in search and rescue operations and source additional teams as required.

J. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected county/counties in the identification, decontamination, clean-up, and contaminated debris removal process.

K. ESF 11 (Food Services)

SCDSS will activate plans to provide food services to affected victims.

L. ESF 12 (Energy)

Coordinate service restoration to affected areas as required.

M. ESF 13 (Law Enforcement)

1. In coordination with federal law enforcement agencies, SLED will conduct a criminal investigation.

2. State and local law enforcement agencies will also assist in the evacuation and security of the overall incident scene.

N. ESF 14 (Recovery and Mitigation)

SCEMD will coordinate recovery and mitigation programs to facilitate restoration of affected communities.

O. ESF 15 (Public Information)

1. SCEMD and local Public Information Officer's will utilize all available public information resources.
2. The CODE Red system may be utilized provide general incident information, evacuation, sheltering and decontamination site locations.

P. ESF 16 (Emergency Traffic Management)

The SC Department of Public Safety (SCDPS) in conjunction with ESF 1 (Transportation) will direct the exclusion, redirection and entry of the affected areas.

Q. ESF 17 (Animal/Agriculture Emergency Response)

1. ESF 17 in conjunction with local animal control will identify and open shelters available for animal/livestock and for the decontamination requirements.
2. Clemson University Livestock and Poultry Health (CULPH) has legal jurisdiction over most animal related situations dealing with emergency or disaster scenarios.

R. ESF 18 (Donated Goods and Volunteer Services)

The SC Budget and Control Board will coordinate with Volunteer Organizations Active in Disasters (VOAD) to facilitate the assignment of service and distribution of donated goods.

S. ESF 19 (Military Support)

1. The SC National Guard will be mobilized to provide possible evacuation and security, as well as assistance to law enforcement.
2. ESF 19 will coordinate the immediate activation of the Civil Support Team (CST).

T. ESF 24 (Business and Industry)

The SC Department of Commerce will coordinate with private and public business to restore affected services.

VII. FEDERAL INTERFACE

For an incident of this magnitude with terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 2 - BIOLOGICAL ATTACK-AEROSOL ANTHRAX

EXECUTIVE SUMMARY:

Casualties	10,000 fatalities
Infrastructure Damage	Minimal, other than contamination
Evacuations/Displaced Persons	Not likely
Contamination	Extensive (at site of attack)
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Weeks

I. SCENARIO OVERVIEW

A. General Description

1. Anthrax is an acute infectious disease caused by *Bacillus Anthracis*. There are three different types of Anthrax: cutaneous, inhalational, and gastrointestinal.
2. For the given scenario, the type of disease that will occur is inhalational Anthrax. The initial symptoms of the disease are similar to the common cold or flu. As the disease progresses so do the symptoms.
3. Symptom onset occurs usually 2-3 days after exposure. The common cold-like symptoms turn into severe breathing problems and shock. Inhalational anthrax is usually fatal.
4. In this scenario, a mass exposure to aerosol anthrax occurs in an indoor arena filled with spectators. The release of the aerosol anthrax happens at the beginning of a three hour event, and the maximum seating capacity has been reached.

B. Event Dynamics

1. Aerosol anthrax is released in an urban indoor arena, with approximately 18,000 people in attendance for an event.
2. Local emergency rooms begin to see the first cases approximately 36 hours post-release. The rapid progression of symptoms leads to death within 1-3 days.
3. Symptoms do not become identifiable as Anthrax until the fatal phase of the disease. Vaccines are available against some forms of anthrax, but

their effectiveness against abnormally high concentrations of the bacteria is uncertain.

4. Antibiotic treatment can be effective, but only if administered prior to the onset of symptoms, otherwise the fatality rate can exceed 90%.

C. Secondary Hazards/Events

1. Local hospitals and resources will be quickly overwhelmed.
2. After anthrax has been identified as the source of illness among the population and the arena has been confirmed as the place of exposure, panic begins to set in among the population. They become fearful of being anywhere a large group has accumulated due to being a possible target of another attack.
3. Portions of the population may also become fearful of contracting the illness from already exposed persons, contrary to the public information announcements informing the public that inhalational anthrax cannot be spread from person to person.

II. KEY IMPLICATIONS

- A. This type of attack results in substantial numbers of exposures, including 10,000 fatalities.
- B. The number of people seeking medical treatment will far exceed the capabilities of local and state hospitals, therefore make-shift hospitals will be established and other medical facilities will be used.
- C. Hospitals in the city and in the surrounding counties will try to quickly discharge patients that are currently utilizing hospital beds by canceling elective and semi-elective surgical procedures.
- D. Intensive care bed capacity could be increased by temporarily lodging patients with inhalation anthrax in post-anesthesia care units.
- E. The incident will likely result in several million dollars in damage to the arena, but should not affect any surrounding buildings. The clean-up/decontamination of the arena will take some time, and ticket sales may be impacted after it re-opens.
- F. The local tourism industry may also be impacted greatly as a result of this incident.

III. INITIAL RESPONSE ACTIONS

A. Initial Emergency Assessment

1. The arena will be isolated.
2. The impact of the attack will be monitored, the type of incident will be classified, and the needed resources will be determined.
3. Environmental testing will take place inside the building and in the surrounding areas outside of the building to determine the risk of continued exposure.
4. The Center for Disease Control (CDC) will conduct supplemental sampling to confirm that anthrax was the agent used in the attack.
5. The identification of anthrax strain and the determination of any drug resistance will also be required.

B. Emergency Management/Response

1. Local Emergency Operation Centers (EOC) and the State Emergency Operation Center (SEOC) will be activated and used to manage the response to the attack.
2. Requests for resources and assistance will be forwarded through the SEOC.
3. Access control points will be activated and manned around the arena.
4. Public alerts will be sent out and treatment sites will be activated.

C. Incident/Hazard Characteristics

1. Pre-incident
 - a. Maintain security measures at the appropriate level (i.e. metal detectors, cameras, searches, and exclusion of bags).
 - b. Maintain a secure vendor network with credentialing.
 - c. Report and do not open suspicious packages.
 - d. Restrict air space.
 - e. Have properly informed and trained staff on hand.
 - f. Establish multi-jurisdictional aid agreements in effect.

2. Post-incident
 - a. Short-term
 1. The public will be notified.
 2. There will be provisions of Post Exposure Prophylactics (PEP) for the contaminated.
 3. There will be provision of personal protective equipment for responders.
 4. If needed, mobilization of the Strategic National Stockpile will occur.
 - b. Long-term. Not applicable because person-to-person spread does not occur.
- D. Public Protection
 1. In order to protect the public, it will be necessary to provide symptom/exposure information.
 2. The flow of traffic and access control points should be monitored and carefully managed.
- E. Victim Care
 1. The public will be informed of the signs and symptoms of inhalational anthrax.
 2. Non-hospital patient screening clinics will be established.
 3. Treatment/distribution centers for PEP and vaccinations will be established.
 4. Approximately 12,000 people will need to be hospitalized, and will require ventilators due to advanced critical care needs.
 5. National Disaster Medical System (NDMS)
 - a. A part of the Department of Human and Health Services.
 - b. NDMS will be used to temporarily supplement the medical response to a disaster area, by providing personnel, supplies, and equipment.
 - c. NDMS will aid in the patient movement from a disaster site to unaffected areas of the nation if necessary.

F. Investigation/Apprehension

Local law enforcement along with federal agencies will conduct investigations to deter and apprehend all involved parties.

G. Recovery/Remediation

1. Anthrax is long-lived in the environment, therefore extensive decontamination in and around the site will be required.
2. Environmental testing in the immediate area will continue.
3. Site restoration will cost millions of dollars and require input from both the Environmental Protection Agency (EPA) and the CDC.

IV. STATE RESPONSE

A. The SC Department of Health and Environmental Control (SCDHEC) is the primary state agency.

B. Secondary State agencies are SCEMD, the SC Law Enforcement Division (SLED), the SC Department of Social Services (SCDSS) and the SC Employment Security Commission.

C. SERT Actions

1. The state will activate its Emergency Operations Plan along with Appendix 9 (Catastrophic Incident Response Plan), and, if determined to be an act of terrorism, Appendix 8 (Terrorism Operations Plan).
2. Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
3. The SEOC will immediately activate at OPGON 2.
4. The SERT will make a recommendation to the Governor to declare a State of Emergency and to seek a Federal Declaration.
5. Begin support activities between the counties and State.
6. The State will notify the SC Forestry Commission to place a Type III Incident Management Team (IMT) on standby.
7. The SEOC will activate the following ESFs: 4 (Firefighting), 6 (Mass Care), 8 (Health & Medical Services), 10 (Hazardous Material), 13 (Law Enforcement), 15 (Public Information), and 19 (Military Support). The remaining ESFs may be activated as necessary to provide support to the affected counties Emergency Operations and Response Plans.

8. Appropriate EMAC agreements will be implemented and assessment of additional needs will begin.
9. The SEOC will notify FEMA Region IV.
10. Establish the Unified Command Structure upon activation of the State response in support of local activities.
11. The State will assist in the recovery, response, and mitigation to the event.
12. State operations will be incorporated into a Joint Field Office (JFO) if established.

D. Resources Available For Responses

1. The SEOC will serve as the point of contact for resource support from the State.
2. Resources available to respond include but are not limited to:
 - a. Firefighter Mobilization Act
 - b. S.C. National Guard
 - c. S.C. State Guard
 - d. Civil Support Team (CST)
 - e. SLED and SCDHEC WMD Teams
 - f. Incident Management Teams
 - g. Regional Medical Assistance Teams (RMAT)
 - h. SCDHEC mobile medical facilities
 - i. Federal Medical Facilities and related personnel
 - j. Strategic National Stockpile
 - k. Mutual Aid Agreements
 - l. All resources of state agencies.

V. ACTIONS BY ESF

- A. SCEMD will assist in developing and coordinating response plans and with GIS information.

B. ESF-4 (Firefighting)

The SC Department of Labor, Licensing and Regulation is available to provide resources through the Firefighter Mobilization Act, HAZMAT personnel to assist in the decontamination of the exposure site.

C. ESF-6 (Mass Care)

SCDSS will activate plans and protocols to assist victims that may be displaced due to contamination of residences and may be adversely economically impacted.

D. ESF-8 (Health and Medical)

1. SCDHEC will activate their Mass Casualty Plan and advise area hospitals to activate emergency operations plans.
2. SCDHEC will make available their Mobile Medical Facilities to accommodate additional victims.

E. ESF-10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to aid in the identification and decontamination process.

F. ESF-13 (Law Enforcement)

1. SLED will coordinate the law enforcement response to include quarantine enforcement, investigation and prevention of subsequent attacks.
2. SLED will activate its WMD Team.
3. SLED will liaise with federal law enforcement agencies involved with the response.

G. ESF-15 (Public Information)

SCEMD in conjunction with local Public Information Officers will provide general incident information to include general disease information, quarantine information, and updates on efforts to control the spread of exposure.

H. ESF-19 (Military Support)

1. The South Carolina National Guard (SCNG) will be alerted to provide possible support to law enforcement agencies.
2. The SCNG will activate the Civil Support Team (CST) in support of the decontamination process of victims and incident location.

VI. FEDERAL INTERFACE

For an incident of this magnitude with terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 4 - BIOLOGICAL ATTACK-PLAGUE

EXECUTIVE SUMMARY:

Casualties	3,000 fatalities
Infrastructure Damage	None
Evacuations/Displaced Persons	Possible
Contamination	Several hours duration
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Weeks

I. SCENARIO OVERVIEW

A. General Description

1. The agent that causes the plague is *Yersinia pestis* (*Y. pestis*). The disease is constantly present in certain wild animals such as rats, mice, and squirrels. Cats, dogs, and goats may serve as hosts and can infect humans.
2. There are three types of plague: bubonic, septicemic and pneumonic.
 - a. Bubonic plague is the most common and it is an infection of the lymph nodes.
 - b. Bubonic plague and septicemic plague cannot be transferred from human to human but the pneumonic plague can.
 - c. The pneumonic plague is the most serious form of the plague. It occurs when the *Y. pestis* bacteria infects the lungs and cause pneumonia. It can be transmitted by droplets from human-to-human, such as infected person coughing or sneezing.
3. The pneumonic plague would be the most likely type of plague used in a biological attack.
 - a. Symptoms usually develop within 1-3 days after exposure but they can develop as soon as a few hours after exposure.
 - b. The symptoms are shortness of breath, chest pain, cough, fever, headache and sometimes bloody or watery sputum.
 - c. If suspected and diagnosed early, effective antibiotics can be given to the infected person.

- d. If treatment is not received within the first 24 hours of when the first symptoms occurred, death may be inevitable.
4. Approximately 10-20 people in the United States develop plague each year, and about 1 in 7 of those die from the disease. Almost all persons with pneumonic plague die if not treated.
5. *Yersinia Pestis* is easily destroyed by disinfectants, heat, and sunlight. However, depending on the conditions, the bacteria can survive up to 1 hour when released into the air.
6. In this scenario, the plague is disseminated via an agricultural sprayer loaded onto two trucks. The trucks discharge the spray in two separate locations within the city limits of an urban area in our state.

B. Event Dynamics

1. The release of the plague agent by truck-borne agricultural sprayers occurs in two separate locations in the city but the attacks are carried out almost simultaneously.
2. Alerts are triggered quickly as the numbers escalate of people who were previously healthy and now have severe respiratory symptoms.
3. Two days post-release, both abandoned trucks are found and an investigation ensues. Laboratory analysis of swabs taken from the abandoned trucks and patients establish a presumptive diagnosis of *Y. pestis*.
4. Symptoms progress rapidly among victims. Many victims are untreated or inappropriately treated.
5. 14% of those infected will die.

C. Secondary Hazards/Events

1. Large numbers of worried patients will crowd the local emergency rooms.
2. As pneumonic plague is transmissible from person-to-person, therefore the state will be subject to travel restrictions.
3. Voluntary “snow day” restrictions will be recommended as a self-protective measure for the general public.
4. The local and state economy will be impacted. Many local businesses suffer due to the lack of tourism, absenteeism of employees, and the overall fear of the general public.

5. Following a release in the environment, plague may become established within animal populations, which then pose a risk of ongoing exposure to humans through bites.

II. KEY IMPLICATIONS

- A. The number of people in the primary exposure group is estimated to be around 2,000.
- B. The secondary transmission rate is one secondary infected person per primary infected person. Therefore, roughly 4,000 people are expected to be exposed to the plague.
- C. The percentage of casualties among the exposed are expected to be high for two reasons.
 1. The symptoms progress so rapidly that by the time treatment is received, it is often too late.
 2. Many people will most likely be treated inappropriately during the initial period of time before lab results come back positively identifying the plague as the culprit.
- D. The final death toll is expected to reach approximately 3,000 people or 75% of infected people.
- E. Many of the plague survivors will become permanently disabled as a result of their illness. Many victims will likely suffer from mental health issues associated with the mass trauma they have experienced.
- F. Service disruptions will be significant for pharmacies and hospitals due to overwhelming casualty needs. Makeshift hospitals will need to be established within the area because the transportation of patients to surrounding county hospitals will be discouraged.
- G. It will be necessary to close or restrict certain modes of transportation. As a result, many millions of dollars could be lost in State revenue.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
 1. Detection of the plague should include laboratory identification of the strain and a determination of the potentially known antimicrobial drug resistance. Origin of the initial contaminant will be traced back to the source.

2. Animal-based surveillance will be established to monitor potential spread of plague via natural methods.

B. Emergency Management/Response

1. The public will be notified of the incident, the symptoms of exposure and the proper precautions to take.
2. The mobilization of the National Strategic Stockpile (SNS) may occur if needed.
3. Traffic and access control points will be activated.
4. Treatment sites will be activated. Quarantine measures will be taken including shelter-in-place recommendations.
5. The State Emergency Operation Center (SEOC) will coordinate with the county EOCs in areas which the incidents occurred to manage and make requests for resources and assistance.

C. Incident/Hazard Characteristics

1. Pre-incident
 - a. Due to the nature of the event, pre-disaster mitigation may prove difficult.
 - b. Proper training and adequate resources may reduce the impact.
2. Post-incident
 - a. Short-term
 - (1) Persons with primary exposure to the plague need to receive antibiotic therapy within 24 hours in order to prevent near certain fatality.
 - (2) Epidemiological assessments, including contact investigation and notification, will be needed.
 - (3) Actions of incident-site personnel tested after the attack include hazard identification and site control, establishment and operation of the ICS, isolation and treatment of exposed victims, mitigation efforts, obtainment of PPE and prophylaxis for responders, site remediation and monitoring, notification of airlines and other transportation providers, provision of public information, and effective

coordination with local, state, national and international public health and governmental agencies.

b. Long-term

- (1) Planning and efficient distribution of resources will be essential.
- (2) All responders and health care providers should be equipped with PPE's and safety gear for possible plague incidents.
- (3) The nature of the disease spreads rapidly and public information dissemination needs to be immediate.
- (4) Long-term prevention will depend on identification and apprehension of terrorist before incidents occur.

D. Public Protection

1. The public should be informed of signs and symptoms of the plague.
2. Victims must be treated and/or quarantined.
3. Responders, health care workers, and exposed persons will receive antimicrobial prophylaxis.
4. The SNS may also be mobilized for additional critical supplies and antibiotics.

E. Victim Care

1. Responders and health care providers should wear masks and other personal protective equipment.
2. Several thousand people will require treatment or prophylaxis with ventilators and antibiotics.
3. Public information should provide measures an infected person can take to prevent secondary transmission. The timely dissemination of information is important to allow citizens to make informed plans and decisions.
4. Mortuary requirements and veterinary services will need to be considered.

F. Investigation/Apprehension

Local and state law enforcement will assist the Federal Bureau of Investigations and the Department of Homeland security in conducting an investigation.

G. Recovery/Remediation

1. Incident site personnel should close the sites of the incidents for at least 24 hours and conduct environmental testing.
2. Extensive clean-up and decontamination should not be needed because plague cannot live long in the environment. It is not viable when exposed to heat and sunlight.

IV. STATE RESPONSE

A. The SC Department of Health and Environmental Control (SCDHEC) is the primary state agency.

B. Secondary responsible agencies are SC Emergency Management Division (SCEMD), SC Law Enforcement Division (SLED) and SC Department of Social Services (SCDSS).

C. SERT Actions

1. The State will activate the State Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan) and Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
2. The State Emergency Operations Center (SEOC) will immediately activate at OPGON 2.
3. A recommendation will be made to the Governor to declare a state of emergency and to seek a possible Federal Disaster Declaration.
4. Begin support activities between the counties and the State.
5. The SEOC will notify the SC Forestry Commission to place a type III Incident Management Team (IMT) on standby.
6. Appropriate EMAC agreements will be implemented and assessment of additional needs will begin.
7. The SEOC will activate the following ESFs: 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Material), 13 (Law Enforcement), 15 (Public Information), and 19 (Military Support). The remaining ESFs may be activated as necessary to provide support to the affected counties Emergency Operations and Response Plans.
8. The SEOC will notify FEMA Region IV.

9. Establish the Unified Command Structure.
10. The State will also assist in the recovery, response, and mitigation to the event.
11. State operations will be incorporated into a federal Joint Field Office (JFO) if established.

V. RESOURCES AVAILABLE FOR RESPONSES

- A. The SEOC will serve as the Point of Contact for resource support from the State.
- B. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and DHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - DHEC mobile medical facilities
 - Federal Medical Facilities and related personnel
 - Strategic National Stockpiles
 - Mutual Aid Agreements
 - All resources of state agencies

VI. ACTIONS BY ESF

- A. SCEMD will assist in developing and coordinating response plans and with GIS information.
- B. ESF 4 (Firefighting)

The SC Department of Labor, Licensing and Regulation is available to provide resources through the Firefighter Mobilization Act, HAZMAT personnel to assist in the decontamination of the exposure sight.
- C. ESF 6 (Mass Care)
 1. SCDSS will activate plans and protocols to assist victims that may be displaced due to contamination of residences

- D. ESF 8 (Health and Medical Services)
1. SCDHEC will activate their Mass Casualty Plan and advise area hospitals to activate emergency operations plans.
 2. SCDHEC will make available their Mobile Medical Facilities to accommodate additional victims and establish quarantine procedures.
- E. ESF 10 (Hazardous Materials)
- SCDHEC will activate their WMD Response Team to assist the affected county in the decontamination process.
- F. ESF 13 (Law Enforcement)
1. SLED will coordinate the law enforcement response to include quarantine enforcement, investigation and prevention of subsequent attacks.
 2. SLED will liaise with federal law enforcement agencies involved with the response.
- G. ESF 15 (Public Information)
- ESF-15 in conjunction with local Public Information Officers will provide general incident information to include general disease information, quarantine information, and updates on efforts to control the spread of exposure.
- H. ESF 19 (Military Support)
1. The South Carolina National Guard (SCNG) will mobilize to provide possible support to law enforcement agencies.
 2. The SCNG may activate the CST in support of the decontamination process of victims and incident location.

VII. FEDERAL INTERFACE

For an incident of this magnitude with possible terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 5 - CHEMICAL ATTACK-BLISTER AGENT

EXECUTIVE SUMMARY:

Casualties	Over 100 fatalities
Infrastructure Damage	Minimal
Evacuations/Displaced Persons	More than 80,000
Contamination	Structures affected
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Weeks or months

I. SCENARIO OVERVIEW

A. General Description

1. Blister agents are chemical compounds that are named for their ability to cause painful water blisters. Blister Agents cause severe skin, eye, and mucosal pain and irritation.
2. Blister Agents are liquids that can form vapor that floats into the air, therefore making them easily absorbable through the lungs, eyes, and skin. People can be exposed by either touching the liquid or breathing the vapor.
3. Exposure to vapor becomes evident in 4-6 hours, and exposure to the skin becomes evident in 2-48 hours.
4. The longer the blister agent remains on the skin or is being inhaled, the sicker the exposed person will become. Flu-like symptoms or bronchitis may follow the initial symptoms. Days later, the body may be unable to fight off infection and this could lead to more serious illnesses such as pneumonia.
5. Most blister agents are in one of three groups: sulfur mustards, nitrogen mustards, and Lewisite. The effects of being exposed to Lewisite are immediate. The other two mustard agents usually do not show the effects from exposure immediately.
6. The main treatment for blister agents is to relieve symptoms. Those exposed to large amounts of blister agents can die, but a majority of the people exposed gets well.
7. In this scenario, a light aircraft sprays chemical agent Yellow (which is a 50/50 mixture of the blister agents mustard and lewisite) into a packed

college football stadium. The stadium is located in an urban area in the state. The agent directly contaminates the stadium and the immediate surrounding area and generates a downwind vapor hazard.

B. Event Dynamics

1. A low flying plane sprays chemical agent Yellow into the stadium.
2. Initially spectators are shocked by the sight of a yellow-brown color liquid with a strong garlic-like odor being released from the rear of the plane. Then quickly their shock turns into mass panic.
3. Victims will immediately evacuate the stadium. Many people are killed or injured from falling or being crushed as a result of the chaos that ensues during the evacuation.

C. Secondary Hazards/Events

1. Many injuries and fatalities occur as a result of the mass panic. Not only are people crushed while evacuating the stadium, but also motor vehicle accidents are expected to occur in the surrounding perimeter of the stadium.
2. The vapor hazard will persist until the stadium is decontaminated, but it will decrease with time.

II. KEY IMPLICATIONS

- A. The maximum seating capacity in the stadium has been reached, with a total of 80,000 occupants.
- B. Of the total stadium attendees, 70% or 56,000 people are exposed to the liquid during the attack. The remaining 30% (24,000) of attendees are exposed to vapor contamination.
- C. Eighty fatalities occur during the evacuation of the stadium. Motor vehicle accidents will result in 8 fatalities and 40 injuries. These casualties all occur within one hour of the attack.
- D. Liquid contamination results in 28 fatalities and 28,000 injuries with 2,800 people suffering permanent disability.
- E. In order to prevent the spread of the agent, decontamination should occur as soon as possible after the attack.
- F. Overwhelming demand will disrupt communications in the local area, and some fleeing victims may contaminate public transportation or other facilities.

III. INITIAL RESPONSE ACTIONS

A. Initial Emergency Assessment

1. The attack should be instantly recognized by on-scene personnel. The agent used in the attack should be identified by HAZMAT teams.
2. Agent detection, hazard assessment, monitoring, and sampling should be ongoing during and after the attack.

B. Emergency Management/Response

1. The public will be notified immediately by activating the State's notification system and utilizing the media.
2. The incident-site should be isolated and traffic and access control points should be manned.
3. The county Emergency Operations Center (EOC) in the affected area will coordinate with the State Emergency Operations Center (SEOC) for resource support and requests for assistance.
4. Several mass-decontamination lines will be set up at the perimeter of the site immediately following the attack.
5. Search and rescue teams will most likely be activated.

C. Incident/Hazard Characteristics

1. Pre-incident

- a. Due to the nature of the incident, pre-disaster mitigation may prove difficult.
- b. Through proper training of support staff and adequate resources, fatalities may be reduced.
- c. No-Fly-Zone ordinances should be in place.

2. Post-incident

a. Short-term

- (1) Adverse health effects caused by Lewisite depend on the amount people are exposed to, the route of exposure, and the length of time that people are exposed.
- (2) Victims should leave the area where the Lewisite was released and get to fresh air. Once outside victims should

move to the highest ground possible, because Lewisite is heavier than air and will sink to low-lying areas.

- (3) Clothing should be removed rapidly and entire body should be washed with soap and water. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head.
- (4) Decontamination sites should be established in a safe location near the incident site.
- (5) If Lewisite was ingested victim should not drink fluids or induce vomiting.
- (6) An antidote for Lewisite is available and is most useful if given as soon as possible after exposure.

b. Long-term. A stockpile of the Lewisite antidote should be procured and kept available for emergency responders and hospital staff.

D. Public Protection

The population located near the stadium will be evacuated and/or sheltered.

E. Victim Care

1. Thousands of people will require decontamination.
2. Many people will only be contaminated on their clothing. Those victims will promptly remove their clothing and wash off with soap and compounds like Fuller's Earth before the agent has a chance to penetrate the skin.
3. If contact with skin and eyes occur, then most likely decontamination will not significantly reduce the injury.
4. In order to significantly reduce tissue damage decontamination needs to occur within 1-2 minutes after coming into contact with the skin, but this would be nearly impossible to accomplish.
5. Thousands of people will also require long-term as well as short-term treatment.

F. Investigation/Apprehension

Local law enforcement will assist the Federal Bureau of Investigations and Department of Homeland Security in conducting a criminal investigation.

G. Recovery/Remediation

1. The stadium and any adjacent buildings that may be affected will be decontaminated.
2. Decontamination could be a lengthy process, lasting anywhere from weeks to months, because some materials may be difficult or impossible to decontaminate.
3. The entire site may need to be replaced because of the psychological impact on future usability.
4. There will be on-going environmental testing.
5. Cars located within the vicinity will be decontaminated, and any contaminated personal property and equipment would be incinerated.

IV. STATE RESPONSE

A. The SC Department of Health and Environmental Control (SCDHEC) is the primary state agency.

B. Secondary responsible agencies

1. The South Carolina Emergency Management Division (SCEMD) will support response agencies through the coordination of State and federal resources.
2. The South Carolina Law Enforcement Division (SLED) will lead the State's investigation in response to the incident.
3. The SC Department of Social Services (SCDSS) will assist victims' families that are impacted socially and economically.

C. SERT Actions

1. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan).
2. If it is determined to be an act of terrorism, The State will activate Appendix 8 (Terrorism Operations Plan).
3. Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.

4. State operations will be incorporated into a federal Joint Field Office (JFO) if established.
5. The SEOC will immediately activate at OPGON 2.
6. The SEOC will make a recommendation to the Governor to declare a State of Emergency and to seek a possible Federal Disaster Declaration.
7. Begin support activities between the counties and State.
8. The SEOC will notify the SC Forestry Commission to place a Type III Incident Management Team (IMT) on standby.
9. The SEOC will implement the appropriate EMAC agreements and assessment of additional needs will begin.
10. The SECO will activate the following ESFs: 1 (Transportation), 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Material), 13 (Law Enforcement), 15 (Public Information), 16 (Emergency Traffic Management) and 19 (Military Support). The remaining ESFs may be activated as necessary to provide support to the affected counties Emergency Operations and Response Plans.
11. The SEOC will notify FEMA Region IV.
12. Establish the Unified Command Structure.
13. The State will also assist in the response, recovery and mitigation to the event.

D. Resources Available For Responses

1. The SEOC will serve as the Point of Contact for resource support from the State.
2. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and SCDHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities

- Federal Medical Facilities and related personnel
- Strategic National Stockpile
- All resources of state agencies.

V. ACTIONS BY ESF

- A. SCEMD will assist in developing and coordinating response plans and with GIS information.
- B. ESF 1 (Transportation)
1. In conjunction with ESF 16 (Emergency Traffic Management) and Department of Transportation, identify alternate routes and provide signage to avoid the impacted area.
- C. ESF 4 (Firefighting)
- The SC Department of Labor, Licensing and Regulation is available to provide resources through the Firefighter Mobilization Act; HAZMAT personnel to assist in the decontamination of victims and the exposure site.
- D. ESF 6 (Mass Care)
- SCDSS will activate plans and protocols to assist victims that may be displaced due to contamination to residences caused by contaminated individuals.
- E. ESF 8 (Health and Medical Services)
1. SCDHEC will activate the Mass Casualty Plan and advise area hospitals to activate emergency operations plans
 2. SCDHEC will make available their Mobile Medical Facilities to accommodate additional victims.
- F. ESF 10 (Hazardous Materials)
- SCDHEC will activate their WMD Response Team to assist CSTs in the identification and decontamination process.
- G. ESF 13 (Law Enforcement)
1. SLED will coordinate the law enforcement response to include quarantine enforcement, investigation and prevention of subsequent attacks.

2. The SLED WMD team will coordinate the decontamination process. SLED will liaise with federal law enforcement agencies involved with the response.

H. ESF 15 (Public Information)

ESF 15 in conjunction with local Public Information Officers will provide general incident information to include general exposure information and updates on efforts to minimize exposure.

I. ESF 16 (Emergency Traffic Management)

1. The SC Department of Public Safety (SCPDS) will in conjunction with ESF 1 (Transportation) provide direction away from and restrict entry into the exposed areas

J. ESF 19 (Military Support)

1. The SC National Guard will be alerted to provide possible support to law enforcement agencies.
2. The CST may be activated in support of the decontamination process of victims, incident location, and agent detection/identification.

VI. FEDERAL INTERFACE

For an incident of this magnitude with possible terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 6 - TOXIC CHEMICAL ATTACK

EXECUTIVE SUMMARY:

Casualties	137 fatalities
Infrastructure Damage	50% of structures in area of explosion
Evacuations/Displaced Persons	50,000 are asked to shelter-in-place 10,000 are evacuated 70,000 self-evacuate
Contamination	Yes
Economic Impact	Billions
Potential for Multiple Events	Yes
Recovery Timeline	Months

I. SCENARIO OVERVIEW

A. General Description

1. Toxic Industrial Chemicals can be in a gas, liquid, or solid state.
2. TICs can be chemical (eg. carcinogens, corrosives, or agents that can affect the lungs or blood) or physical (eg. flammables or explosives) hazards. They can enter through the skin, inhalation, or digestion.
3. The time it takes for these chemicals to affect the body depends on where the agent enters. The time the chemical lasts in the environment depends on the physical state of the chemical, weather conditions, and chemical stability, whether it was released indoors or outdoors, quantity of release, and method of release.
4. Large quantities of Toxic Industrial Chemicals (TIC) are manufactured, stored, and transported in the United States making them a prime target for terrorists.
5. In this scenario, a wastewater treatment plant in an urban area of the state is attacked. The suspects use two, large Improvised Explosive Devices (IED) to carry out the attack.
6. The detonation of the IEDs releases two toxic chemicals into the air. One of the toxic chemicals released is chlorine and the other is hydrogen sulfide.

B. Event Dynamics

1. Two IEDs are placed in crates and then into shipping containers to be delivered to a wastewater treatment facility. Both of the IEDs are wired with remote triggers.
2. A huge explosion and fire occurs and the release of the toxic industrial chemicals is immediate.
3. Almost all of the workers in the treatment plant are killed. The few that survive are seriously injured.
4. Fires resulting from the attack would take many hours, possibly days, to extinguish.

C. Secondary Hazards/Event

1. First responders will order the evacuation of areas immediately threatened by the fire.
2. The plume is traveling down-wind.
3. As soon as the involvement of one or more TIC is clear, they will order a shelter-in-place of a 45 degree arc centered north-north-east of the site and extending 6 miles; this will affect 50,000 people.
4. Many people in this area will self-evacuate, clogging roads and delaying response assets.
5. Numerous injuries will occur as a result of the population panic once downwind casualties begin to occur. More injuries are expected to occur due to panicked motorists being involved in accidents in the surrounding roadways.
6. Significant contamination will occur in the surrounding waterways.

II. KEY IMPLICATIONS

- A. Injuries and fatalities will result due to panic during evacuation.
- B. Five fatalities and 40 injuries will occur within 1 hour of the attack, from motor-vehicle accidents and bodies being crushed during the chaotic evacuation of the stadium.
- C. The fires from the explosion will cause 30 fatalities and 80 injuries. Most of the injuries from the fire will be either from burns, smoke inhalation, blast/fragmentation, or a combination of all three.
- D. Liquid contamination will result in 2 fatalities and 70 injuries.

- E. Vapor, particulate, and aerosol exposure will account for the remaining 100 casualties and 1,000 injuries.
- F. Some of the injuries acquired during the incident or as a direct result of the incident will be permanently disabling.
- G. A total of 137 fatalities and 1,190 injuries are associated with the incident.
- H. The contaminated waterways may result in long-term prohibitions on swimming and fishing.
- I. Communications will be disrupted in the local area due to overwhelming demand.
- J. Significant disruptions in health-care occur due to the overwhelming demand of the injured and the “worried well”.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
 - 1. The detection of Toxic Industrial Chemicals will occur.
 - 2. Hazard assessment, prediction, monitoring, and sampling will also occur.
- B. Emergency Management Response
 - 1. Alerts and notification systems will be activated immediately to warn the public of the incident.
 - 2. Traffic and access control points are activated.
 - 3. The State Emergency Operation Center (SEOC) will coordinate resource support and requests for assistance with the Emergency Operation Center (EOC) in the county where the attack took place.
 - 4. Public information activities will begin.
- C. Incident/Hazard Characteristics
 - 1. Pre-incident

Deterrence measures must be taken by visibly increasing security and apprehension potential at the site before and during the attack.

2. Post-incident
 - a. Short-term
 - (1) Mitigation measures will be complicated by secondary device concerns (i.e., delayed detonation of IEDs).
 - (2) After the attack, incident-site personnel must
 - Isolate and define the hazard
 - Establish, plan, and operate incident command
 - Fight fires
 - Conduct bomb disposal dispatch and IED render-safe procedures
 - Preserve the scene
 - Decontaminate responders
 - Conduct site remediation and monitoring.
 - b. Long-term
 - (1) There will be significant damage to the treatment plant as a result of the attack and subsequent fires
 - (2) Cleanup of the site and other contaminated areas will occur.
 - (3) Decontamination of the waterway may present significant challenges.
 - (4) Environmental testing will be ongoing.

D. Public Protection

Evacuation and/or sheltering of downwind populations will be required.

E. Victim Care

1. There are more than 700 people with severe injuries such as trauma, burns, and smoke inhalation.
2. There are 100 more with severe respiratory distress. Several thousand may require respiratory assistance.
3. Victims may require short-term and long-term treatment.
4. Some victims will require decontamination.

5. Victims will receive emergency aid. Hospital and EMS personnel will triage and treat/stabilize victims.
6. Patients will be screened and decontaminated.

F. Investigation/Apprehension

Actions of the incident-site personnel after the attack include dispatch, site control, criminal investigation, pursuit and tactical deployment, and apprehension of suspects.

G. Recovery/Remediation

1. Decontamination of site and other contaminated areas will occur.
2. Disposal of decontaminated wastes.
3. Environmental testing and public information activities will continue.
4. Repair of destroyed or damaged buildings will begin.
5. Decontamination of the waterway may present a challenge.
6. Environmental issues are likely to significantly delay rebuilding efforts.

IV. STATE RESPONSE

- A. The SC Department of Health and Environmental Control (SCDHEC) is the primary state agency.
- B. Secondary responsible agencies are the South Carolina Emergency Management Division (SCEMD), the South Carolina Law Enforcement Division (SLED) and the SC Department of Social Services (DSS).
- C. SERT Actions
 1. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan). If it is determined to be an act of terrorism, the State will activate Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
 2. The SEOC will immediately activate at OPGON 2.
 3. The SEOC will make a recommendation to the Governor to declare a State of Emergency and to seek a possible Federal Disaster Declaration.
 4. Begin support activities between the counties and State.

5. The SEOC will notify the SC Forestry Commission to place a Type III Incident Management Team (IMT) on standby.
6. The SEOC will implement the appropriate EMAC agreements and assessment of additional needs will begin.
7. The SECO will activate the following ESFs: 1 (Transportation), 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Material), 13 (Law Enforcement), 15 (Public Information), 16 (Emergency Traffic Management) and 19 (Military Support). The remaining ESFs may be activated as necessary to provide support to the affected counties Emergency Operations and Response Plans.
8. The SEOC will notify FEMA Region IV.
9. Establish the Unified Command Structure.
10. The State will assist in the recovery, response, and mitigation of the event.
11. State operations will be incorporated into a federal Joint Field Office (JFO) if established.

D. Resources Available For Responses

1. The SEOC will serve as the Point of Contact for resource support from the State.
2. Resources available to respond include:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. National Guard Civil Support Team (CST)
 - SLED WMD Team
 - SCDHEC WMD Team
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities
 - Metropolitan Medical Response System (MMRS)
 - Strategic National Stockpile
 - Law enforcement personnel through mutual aid.

V. ACTIONS BY ESF

A. SCEMD will assist in developing and coordinating response plans and with GIS information.

E. ESF 1 (Transportation)

In conjunction with ESF 16 (Emergency Traffic Management) and the SC Department of Transportation (SCDOT), identify alternate routes and provide signage and barricades to avoid the impacted area.

F. ESF 4 (Firefighting)

The SC Department of Labor, Licensing and Regulation is available to provide through the Firefighter Mobilization Act, HAZMAT personnel to assist in the decontamination of victims and the exposure sight.

G. ESF 6 (Mass Care)

1. SCDSS will activate plans and protocols to assist victims that may be displaced due to contamination of residences and may be adversely economically impacted.

H. ESF 8 (Health and Medical)

1. SCDHEC will activate their Mass Casualty Plan and advise area hospitals to activate emergency operations plans.
2. SCDHEC will make available their Mobile Medical Facilities to accommodate additional victims.

I. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist in the identification and decontamination process.

J. ESF 13 (Law Enforcement)

1. SLED will coordinate the law enforcement response, investigation and prevention of subsequent attacks.
2. SLED will liaise with federal law enforcement agencies involved with the response.

K. ESF 15 (Public Information)

In conjunction with local Public Information Officers, provide general incident information to include general exposure information and updates on efforts to minimize exposure.

L. ESF 16 (Emergency Traffic Management)

In conjunction with ESF 1 (Transportation), provide direction away from the incident and restrict entry into the exposed areas.

M. ESF 19 (Military Support)

1. The SC National Guard will be alerted to provide possible support to law enforcement agencies.
2. The CST may be activated in support of the decontamination process of victims and incident location.

VI. FEDERAL INTERFACE

For an incident of this magnitude with possible terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 7 - NERVE AGENT ATTACK

EXECUTIVE SUMMARY: These estimates are based on large urban exposure

Casualties	2,375 casualties
Infrastructure Damage	Minimal, but building where attack occurs have to be destroyed
Evacuations/Displaced Persons	Evacuation and sheltering of approximately 3,000 may be required
Contamination	One building and contents
Economic Impact	\$150 million to replace building Some businesses may never recover
Potential for Multiple Events	Moderate
Recovery Timeline	Weeks to years Some victims and businesses may never fully recover

I. SCENARIO OVERVIEW

A. General Description

1. Nerve agents are the most toxic and rapidly acting chemical warfare agents. They are classified as Weapons of Mass Destruction(WMD) by the United Nations.
2. Symptoms of nerve agent poisoning include contractions of the pupils, convulsions and death by asphyxiation.

B. Event Dynamics

1. Two canister of Sarin nerve agent have been introduced into the air conditioning system of the tallest building in an urban area. The actual release of the gas takes about 10 minutes.
2. First responders will begin to arrive within 10 minutes of the initial call for assistance.
3. Two hundred people are made ill as vapor is released throughout the ventilation system.
4. Another 125 people, including first responders, have been affected by the gas.

C. Secondary Hazards/Events

1. People are being injured as they try to escape.

2. There will also be individuals that will present for medical care who incorrectly believe/fear that they have been impacted by the agent.

II. KEY IMPLICATIONS

- A. Outside of the initial fatalities, a substantial number of people will experience chronic, on-going health problems related to Sarin exposure including permanent damage to the central nervous system. Those who do survive usually recover in 4 to 6 weeks but most will never completely recover.
- B. There will be little direct physical damage to the building but the building interiors and contents will be highly contaminated by the agent condensing on surfaces.
- C. The building may have to be destroyed and rebuilt. Though the physical structure will not be impacted, some things cannot be decontaminated.
- D. It is probable many individuals and businesses would be reluctant to work in the building in the future because of the stigma of the attack.
- E. Some businesses may not recover from the attack. Those that do will be significantly impacted by loss of staff and financial losses during the recovery period.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
 1. First responders will arrive within 10 minutes of the initial call for help.
 2. Rapid and accurate assessment of the situation will be critical to the health and well-being of the first responders and the affected citizens.
 3. HAZMAT teams will be needed to assist in the initial response.
- B. Emergency Management/Response
 1. Dissemination of accurate, timely information will be critical to maintain public confidence and calm.
 2. Traffic and access control to the area will be an ongoing function until the total nature of the attack can be assessed.
 3. On-going access control will be necessary until decontamination/destruction is completed.

C. Incident/Hazard Characteristics

1. Pre-incident

- a. Law enforcement is charged with prevention of construction and detonation of WMDs.
- b. Citizens also have a role in prevention if they are aware of any efforts to obtain materials for or to construct such devices and should report such information to the law enforcement agencies.
- c. Building security should be at a level so as to control unauthorized access.

2. Post-incident

a. Short-term

- (1) Isolating and defining the hazard is one of the first steps in mitigating this type of attack as is establishing an Incident Command.
- (2) Gaining control of the infected population and preserving the scene for investigation are also important.

b. Long-term

There is little that can be done to mitigate a nerve agent attack except to try to prevent it.

D. Public Protection

- 1. Evacuation of downwind populations may be necessary.
- 2. Accurate, timely information to the public will be essential.

E. Victim Care

- 1. Most victims will require hospital treatment and long term monitoring.
- 2. Decontamination of survivors will also be required.
- 3. Many victims as well as citizens in general may require mental health services.

F. Investigation/Apprehension

Law enforcement and potentially the military will be involved in the investigation of the source of the nerve agent and the person or persons responsible for the construction and detonation of the delivery device.

G. Recovery/Remediation

1. Recovery will take years and cost millions of dollars.
2. Some victims and businesses may never recover completely.
3. The primary remediation will be prevention.

IV. STATE RESPONSE

A. Primary responsible agency is the South Carolina Department of Health and Environmental Control (SC DHEC).

B. Secondary responsible agencies are South Carolina Emergency Management Division (SCEMD), South Carolina Law Enforcement Division (SLED) and all law enforcement units of state agencies.

C. SERT Actions

1. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan). If it is determined to be an act of terrorism, the State will activate Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
2. The State Emergency Operations Center (SEOC) will immediately activate at OPCON 1.
3. The SERT will make a recommendation to the Governor to declare a State of Emergency and to seek a Presidential Disaster Declaration.
4. The response will begin with the activation of the Catastrophic Incident Response Plan (CIRP).
5. Begin support activities between the counties and State.
6. The SEOC will notify the SC Forestry Commission to activate a Type II Incident Management Team (IMT) and request a Type I Federal Incident Management Team.
7. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.

8. All ESFs will activate to provide support to the affected counties Emergency Operations and Response Plans.
9. The SEOC will notify FEMA Region IV.
3. Establish the Unified Command Structure.
10. The State will assist in the recovery, response, and mitigation of the event.
11. State operations will be incorporated into a federal Joint Field Office (JFO) if established.

D. Resources Available For Response

1. The SEOC will serve as the Point of Contact for State resources.
2. Resources available to respond include:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and SCDHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities
 - Federal Medical Facilities and related personnel
 - Strategic National Stockpile
 - Mutual Aid Agreements
 - All resources of state agencies

V. ACTIONS BY ESF

- A. SCEMD will assist in developing and coordinating response plans and with GIS information.
- B. ESF 1 (Transportation)

In coordination with ESF 16 (Emergency Traffic Management) and the SC Department of Transportation (SCDOT), identify alternate routes; provide signage to avoid the impacted area and possible road closures downwind of the impact site.

C. ESF 3 (Public Works and Engineering)

Public Works and Engineering are available through the SC Budget and Control Board to assist the affected counties in the clean-up and removal of possible contaminated debris.

D. ESF4 (Firefighting)

1. The SC Department of Labor, Licensing, and Regulation is available to provide additional firefighting and HAZMAT personnel to fight any related fires.
2. Assist in HAZMAT clean-up and decontamination.

E. ESF 6 (Mass Care)

1. SCDSS in conjunction with the SC Department of Health and Human Services (SCDHHS) will assist The American Red Cross in sheltering the displaced population.
2. Activate the Mass Shelter/Evacuation Plan.

F. ESF 7 (Finance and Administration)

The SC Budget and Control Board, Division of Procurement Services will provide the necessary support to purchase and distribute requested materials.

G. ESF 8 (Health and Medical Services)

1. SC DHEC will activate their Mass Casualty Plan, and make available mobile medical facilities as needed.
2. Hospitals will be asked to activate their emergency plans.

H. ESF 9 (Search and Rescue)

The SC Department of Labor, Licensing and Regulation, Division of Life Safety will activate their SC Task Force 1 to assist in ongoing search and rescue requirements.

I. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected counties in the identification and decontamination process.

J. ESF 11 (Food Services)

SCDSS will activate plans to provide food services to victims.

K. ESF 12 (Energy)

Concerned energy providers will monitor the energy related infrastructure for possible impacts and restoration.

L. ESF 13 (Law Enforcement)

1. In conjunction with local law enforcement and railroad officials, SLED will conduct a criminal investigation.
2. Law enforcement will assist in the evacuation and security of the overall incident scene.

M. ESF 14 (Recovery and Mitigation)

Coordinate with local and federal agencies to facilitate plans and programs for the recovery of the affected communities.

N. ESF 15 (Public Information)

1. In conjunction with local Public Information Officers, provide general incident information to include evacuation, sheltering, and the activation of the CODE RED system.

O. ESF 16 (Emergency Traffic Management)

1. In conjunction with ESF 1 (Transportation) will provide for the redirection, exclusion and reentry of traffic for the affected area.
2. Assist ESF 1 (Transportation) with traffic management.

P. ESF 17 (Animal/Agriculture Emergency Response)

Monitor possible animal exposure cases and provide support if required.

Q. ESF 18 (Donated Goods and Volunteer Services)

The SC Budget and Control Board, General Services Division will coordinate with Volunteer Organizations Active in Disaster (VOAD) to provide services and donated goods to victims and facilitate recovery operations.

R. ESF 19- Military Support

1. The SC National Guard may be activated to provide possible evacuation and security as well as assistance to law enforcement.
2. Activate the Civil Support Team.

VI. FEDERAL INTERFACE

For an incident of this magnitude with possible terrorism involvement, all federal agencies may be tasked to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 8 - CHLORINE TANK EXPLOSION

EXECUTIVE SUMMARY: These estimates are based on a large urban exposure

Casualties	3,750 fatalities
Infrastructure Damage	Multiple buildings, a trestle and a section of road in immediate explosion area
Evacuations/Displaced Persons	Up to 10,000 (self-evacuate); 5,000 will need assistance to evacuate
Contamination	At explosion site and waterways
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Weeks

VII. SCENARIO OVERVIEW

A. General Description

1. Nerve agents are the most toxic and rapidly acting chemical warfare agents. They are classified as Weapons of Mass Destruction by the United Nations.
2. Symptoms of nerve agent poisoning include contractions of the pupils, convulsions and death by asphyxiation.

B. Event Dynamics

1. Two canister of Sarin nerve agent have been introduced into the air conditioning system of the tallest building in an urban area. The actual release of the gas takes about 10 minutes.
2. First responders will begin to arrive within 10 minutes of the initial call for assistance.
3. Two hundred people are made ill as vapor is released throughout the ventilation system.
4. Another 125 people, including first responders, have been affected by the gas.

VIII. SCENARIO OVERVIEW**A. General Description**

1. Chlorine gas is used in many household cleaners and industries and is poisonous. It has a pungent, irritating odor which smells like bleach.
2. Chlorine gas is usually cooled and pressurized to change it from a gas to liquid form. Once it is changed into a liquid form it can be stored and shipped to chemical, paper, and textile industries. It is also used in sewage treatment plants.
3. When the liquid form is released it quickly turns into a gas. The gas is yellow-green in color and stays around ground level due to the density of the gas being greater than air. The fact that it stays low to the ground increases the amount of time for exposure.
4. Chlorine gas is not flammable alone, but if mixed with other chemicals such as ammonia, it can create compounds that will react explosively.
5. Chlorine gas is one of the most common single, irritant, inhalation exposures that people come into contact with environmentally and occupationally. Exposure can cause acute damage to the upper and lower respiratory tract.
6. There is no antidote for chlorine poisoning, but chlorine's effects are treatable. Most people make a full recovery.
7. In this scenario a section of railroad track has been tampered with causing a 10-car train to derail on a bridge in the middle of an urban area. The train is carrying large quantities of liquid chlorine which is released into the air.

B. Event Dynamics

1. A train derailed as it is crossing a bridge, and hits the busy city street below, crushing several motor vehicles. Immediately upon impact the train explodes.
2. Five out of the ten train cars are carrying liquid chlorine. Almost simultaneously with the explosion of the train, comes the initial release of chlorine gas.
3. All of the meteorological conditions are favorable for the attack to be successful.
4. The plume of chlorine gas travels downwind from the site of the incident.

- C. Secondary Hazards/Events
1. Immediately after the train explosion, the population surrounding the incident site experience confusion. The confusion is quickly followed by mass panic.
 2. Roughly 10% of the population will self-evacuate. One fatality per 10,000, of the population self-evacuating, are expected to occur.
 3. The three rivers running in and around the city will absorb the chlorine gas, creating hydrochloric acid. Due to the high concentration of hydrochloric acid, acidic mists forms which have a corrosive effect on the human tissue.
 4. Downwind casualties and numerous injuries will occur.
 5. The area located downwind will be scattered with deceased animals and fish washed up on the banks of the rivers.

IX. KEY IMPLICATIONS

- A. Approximately 150,000 people may be in the downwind area, which could extend as far as 20 miles.
- B. 7, 500 people will receive potentially lethal exposures, and half of these people will die.
- C. Another 22,500 will require hospitalization. However, approximately 100,000 people will seek treatment at local medical facilities.
- D. Major disruptions to healthcare and communications are expected to occur. Local hospitals and medical facilities will be overwhelmed with the number of people seeking treatment for real or perceived injuries/illnesses.
- E. It will be difficult for individuals to contact their loved ones due to the huge increase in demand on the telephone landlines and nearby cell phone towers.
- F. In the midst of the mass hysteria, a couple hundred automobile accidents are expected to occur.
- G. A majority of the affected population will recover in 7 to 14 days, excluding those with severe lung damage.

X. INITIAL RESPONSE ACTIONS

A. Initial Emergency Assessment

1. Chlorine monitors that show actual levels of chlorine in the ambient air will be used at and around incident site to provide information and technical data about maximum concentrations of chlorine.
2. Water sampling should also be conducted periodically throughout the areas downwind.
3. Areas farther outside of the IDLH (Immediate Danger to Life and Health) should be included in this, because air outside an IDLH can still be at harmful levels, certainly with chronic exposure.
4. Hazard Assessment/Analysis software tools should be used.
 - a. OREIS is a software tool that provides responders with real-time information about the chemical contents of railcars and trucks involved in an incident, schematics for passenger railroads and a host of other life and time saving features.
 - b. The ALOHA modeling program is another software tool responders could use to make at least an educated guess about how far away adverse effects of the chemical will be felt, as well as the infiltration of dwellings.

B. Emergency Management/Response

1. Activation of alert notification systems will be utilized. The public will be notified by phone, and television and radio stations will broadcast alerts for public awareness.
2. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
3. Local television and radio stations will also broadcast alerts to notify the public.
4. Traffic and access control points will be activated.
5. Resource support and requests for assistance will be managed and distributed as needed.

C. Incident/Hazard Characteristics

1. Pre-incident.

- a. Pre-incident mitigation may prove difficult due to the nature of the incident.
- b. Transportation ordinances should be in place restricting transportation of hazardous materials through urban areas, time restrictions (ex. not allowing transportation during peak hours of the day), and zoning requirements mandating open space around hazardous transportation routes.

2. Post-incident

a. Short-term

- (1) The incident site will be isolated and responders will be decontaminated.
- (2) An evacuation of residents and commuters in the affected area will be required.
- (3) Downwind populations may be asked to shelter in place.

b. Long-term

- (1) The National Transportation Safety Board (NTSB) conducted a study following the Graniteville, SC train collision which involved the release of chlorine gas.
- (2) NTSB found several factors that would mitigate future hazardous material spills involving tanker cars:
 - (a) Increase the thickness of tanker cars.
 - (b) Validate a predictive model that will quantify the dynamic forces acting on a tank car during an accident.
 - (c) Develop and implement tank car design-specific fracture toughness standards for materials used to manufacture pressure tank cars.
 - (d) The rear one-quarter of a train is the most desirable location for Hazardous Materials.
 - (e) Reducing speed.

(f) Reducing the length of the train.

D. Public Protection

1. There will be a requirement for evacuation/and or sheltering of downwind populations.
2. All unauthorized personnel will be kept away.
3. People will be directed to stay upwind and out of low lying areas.
4. There will be a need to immediately isolate the incident site for at least half mile in all directions.

E. Victim Care

1. Medical personnel will be notified of the chemical involved and take precautions to protect themselves.
2. Local hospitals and medical facilities should expect patients to be treated for traumas from vehicular accidents, post-stress disorder, and/or for respiratory problems.
3. Short-term as well as long-term care may be needed.
4. The event is expected to overwhelm the local jurisdictions capabilities to treat victims. With 10,000 severe injuries and approximately 23,000 hospitalizations expected to occur during this particular catastrophic event, local hospitals and medical facilities will have an insufficient number of beds, medical equipment, and qualified medical personnel to assist in patient recovery.
5. State and possibly federal assistance and resources will need to be utilized.
6. Victims will be transported to surrounding county hospitals and medical facilities, or they may receive treatment in make-shift hospitals.
7. The incident is estimated to cause approximately 10,000 casualties.

F. Investigation/Apprehension

Law enforcement will pursue a criminal investigation.

G. Recovery/Remediation

1. Actions of incident-site personnel include decontamination of contaminated areas, disposal of decontamination wastes, environmental testing, and public information activities.

2. Decontamination of waterways may present a significant challenge.
3. Environmental impacts, especially public safety concerns, are likely to significantly delay rebuilding efforts.

XI. STATE RESPONSE

- A. The SC Department of Health and Environmental Control (SCDHEC) is the primary agency tasked to respond to an incident site with hazardous materials.
- B. SC Department of Labor, Licensing, and Regulation is the secondary responsible agency tasked to respond to this incident.
- C. The State Law Enforcement Division (SLED) is a secondary responder tasked with providing quality manpower to law enforcement agencies, and to conduct criminal investigations on behalf of the State.
- D. South Carolina Emergency Management Division (SCEMD) will manage the State's response.
- E. SERT Actions
 1. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan). If it is an act of terrorism, the State will activate Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
 2. The SEOC will immediately activate at OPGON 2.
 3. The State Emergency Response Team (SERT) will make a recommendation to the Governor in reference to declaring a State of Emergency and requesting a Presidential Disaster Declaration.
 4. The response will begin with the activation of the Catastrophic Incident Response Plan (CIRP).
 5. The SEOC will begin support activities between the counties and State.
 6. The SEOC will notify the SC Forestry Commission to place a Type III Incident Management Team (IMT) on stand-by
 7. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.
 8. The following ESFs will activate: 3 (Public Works and Engineering), 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Materials), 13 (Law Enforcement), 15 (Public Information),

16 (Emergency Traffic Management), 17 (Animal/Agriculture Emergency Response), and 19 (Military Support) will provide support to the affected counties Emergency Operations and Response Plans. Additional ESFs may activate as required to support the State's response.

9. The SEOC will notify FEMA Region IV.
4. Establish the Unified Command Structure.
5. The State will assist in the recovery, response, and mitigation of the event.
10. Appropriate EMAC agreements will be implemented and assessment of additional needs will begin.
11. The State will assist in the recovery, response, and mitigation to the event.
12. State operations will be incorporated into a federal Joint Field Office (JFO) if established.

F. Resources Available For Response

1. The SEOC will serve as the point of contact for resource support from the state.
2. Resources available to respond include but are not limited to
 - I. Firefighter Mobilization Act
 - II. S.C. National Guard
 - III. S.C. State Guard
 - IV. Civil Support Team (CST)
 - V. SLED and SCDHEC WMD Teams
 - VI. Incident Management Teams
 - VII. Regional Medical Assistance Teams (RMAT)
 - VIII. SCDHEC mobile medical facilities
 - IX. Federal Medical Facilities and related personnel
 - X. Strategic National Stockpile
 - XI. Mutual Aid Agreements
 - XII. All resources of state agencies

XII. ACTIONS BY ESF

- A. SCEMD will assist in developing and coordinating response plans and with GIS information.
- B. ESF 1 (Transportation)
 - 1. In coordination with ESF 16 (Emergency Traffic Management) and the SC Department of Transportation (SCDOT), identify alternate routes, provide signage to avoid the impacted area, and repair damaged roadways.
 - 2. The railroad company will contact the National Response Center immediately following the incident as required by CERCLA 103 (Comprehensive, Environmental Response, Compensation, and Liability Act).
 - 3. Coordinate with the Federal Railroad Administration (FRA) and the owner of the tanker cars for repair and removal.
- C. ESF 3 (Public Works and Engineering)

Public Works and Engineering are available through the SC Budget and Control Board to assist the affected counties in the clean-up and removal of debris.
- D. ESF4 (Firefighting)
 - 1. The SC Department of Labor, Licensing, and Regulation is available to provide additional firefighting and HAZMAT personnel to fight any related fires.
 - 2. Assist in HAZMAT clean-up and decontamination.
- E. ESF6 (Mass Care)
 - 1. The SC Department of Social Services (SCDSS) in conjunction with the SC Department of Health and Human Services (SCDHHS) will assist the American Red Cross in sheltering the displaced population.
 - 2. Activate their Mass Shelter/Evacuation Plan.
- F. ESF 8 (Health and Medical)
 - 1. SCDHEC will activate the Mass Casualty Plan, and make available mobile medical facilities as needed.
 - 2. Hospitals will be asked to activate their emergency plans.

G. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected counties in the identification and decontamination process.

H. ESF 13 (Law Enforcement)

1. In conjunction with local law enforcement and railroad officials, SLED will conduct a criminal investigation.
2. Law enforcement will also assist in the evacuation and security of the overall incident scene.

I. ESF 15 (Public Information)

In conjunction with local Public Information Officers, provide general incident information to include evacuation, sheltering, and the activation of the CODE RED system.

J. ESF 16 (Emergency Traffic Management)

Assist ESF 1 (Transportation) with traffic control management.

K. ESF 17 (Animal/Agriculture Emergency Response)

1. In conjunction with local animal control, identify and open shelters available for animal/livestock.
2. Clemson University Livestock and Poultry Health (CULPH) has legal jurisdiction over most animal related situations dealing with emergency or disaster scenarios.

L. ESF 19 (Military Support)

1. The SC National Guard will be alerted to provide possible evacuation and security, as well as assistance to law enforcement.
2. Activate the CST.

XIII. FEDERAL INTERFACE

Federal agencies available to assist in the response may include:

- Federal Emergency Management Agency (FEMA)
- Department of Homeland Security (DHS)
- Federal Bureau of Investigations (FBI)
- Environmental Protection Agency (EPA)

- Federal Railroad Administration (FRA)
- National Transportation Safety Board (NTSB)

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

**SCENARIO 11 - RADIOLOGICAL ATTACK –
RADIOLOGICAL DISPERSAL DEVICES**

EXECUTIVE SUMMARY:

Casualties	140 Casualties
Infrastructure Damage	Moderate to blast area
Evacuations/Displaced Persons	Yes, potentially 20,000
Contamination	Detectable contamination found in over 50 buildings and on 4 major roads including part of an interstate highway.
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Years

I. SCENARIO OVERVIEW

A. General Description

1. A Radiological Dispersal Device (RDD) is detonated in an open park area on a weekend evening killing 140 and injuring over 100.
2. Over 2,000 citizens received detectable to acute radiation exposure.
3. Dozens of others are injured in the rush to leave the detonation area and are in subsequent automobile accidents as citizens evacuated the area.
4. The resulting plume carried by prevailing east winds carries contamination over a two mile area including a major metropolitan business area.
5. Fifty buildings are contaminated through intake air systems and four major roads and numerous subsidiary streets are contaminated.

B. Event Dynamics

1. The explosion is instantaneous and the plume dispersion continues for 20 minutes.
2. First responders do not recognize radioactive contamination immediately and information on containment is delayed.
3. Many who were exposed at the blast site are moving throughout the local area in the panic following the blast.

4. Many in the downwind area are exposed before they are notified to evacuate.
- C. Secondary Hazards/Events
1. Several small fires erupt as the result of broken gas lines in the area.
 2. Human remains present a biohazard and some are very radioactive.
 3. There will be individuals that will present for medical care who incorrectly believe/fear they have been impacted by the agent.

II. KEY IMPLICATIONS

- A. Radioactive contamination is present on both the inside and outside of buildings in a two mile area and there may be minor contamination further downwind as investigators perform more thorough surveys.
- B. Long term decontamination efforts will be successful but these efforts may include the destruction of some buildings.
- C. Many square blocks of the metropolitan area will not be available for business or citizen use for a number of years.
- D. Decontamination, destruction, disposal and reconstruction will cost millions of dollars.
- E. Although many of the businesses affected will be able to set up at alternate locations, the event will have a tremendous, negative impact on the business operations and the economy of the state.
- F. No one will suffer long term, acute radiation syndrome but there will most likely be a notable increase in life cancer risk for the affected population.
- G. Mental health services should be required at a higher level than would normally be found in populations not subject to an RDD attack.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
1. First responders are likely to be contaminated.
 2. The plume disbursement will be a significant component.
 3. Initial panic and rumor control will need to be dealt with efficiently and effectively.

B. Emergency Management/Response

1. First responders will be exposed and will need access to decontamination.
2. The sites impacted by the direct blast and the plume dissipation will need to be identified and a security perimeter established including roads and highways.
3. Incident command will be established.
4. Dissemination of accurate, timely information will be critical to maintain public confidence and calm.

C. Incident/Hazard Characteristics

1. Pre-incident

- a. Law enforcement is charged with prevention and detonation of RDDs.
- b. Citizens have a role in prevention in reporting information to law enforcement agencies if they are aware of any efforts to obtain materials for or to construct such devices.

2. Post-incident

a. Short-term

- (1) Isolating and defining the hazard is one of the first steps in mitigating this type of attack as is establishing an incident command.
- (2) Preserving the scene for investigation is also important.

- b. Long-term. There is little that can be done to mitigate a RDD attack other than attempting to prevent it.

D. Public Protection

1. Citizens will be evacuated and sheltered if necessary.
2. Pharmaceuticals such as oral Potassium Iodide (KI) will need to be distributed.
3. Accurate, timely public information on decontamination sites, appropriate actions and expectations can limit the spread of contamination and empower citizens to act appropriately.

E. Victim Care

1. Injured people will require some decontamination in the course of medical treatment.
2. Thousand more will likely need superficial decontamination and both long and short-term medical follow-up.
3. Many victims will require varying degrees of mental health services.

F. Investigation/Apprehension

Law enforcement, and potentially the military, will be involved in the investigation of the source of the radioactive agent and the person or persons responsible for the construction and detonation of the delivery device.

G. Recovery/Remediation

1. Recovery will take years and cost millions of dollars.
2. Some victims and businesses may never recover completely.
3. The primary remediation is prevention.

IV. STATE RESPONSE

A. Primary responsible agency is the SC Department of Health and Environmental Control (SCDHEC)

B. Secondary responsible agencies are South Carolina Emergency Management Division (SCEMD), South Carolina Law Enforcement Division (SLED) and all law enforcement units of state agencies.

C. SERT Actions

3. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan) and Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
4. The SEOC will activate at OPGON 2.
5. The State Emergency Response Team (SERT) will make a recommendation to the Governor in reference to declaring a State of Emergency and requesting a Presidential Disaster Declaration.
6. The response will begin with the activation of the Catastrophic Incident Response Plan (CIRP).

7. The SEOC will begin support activities between the counties and the State.
8. The SEOC will notify the SC Forestry Commission to activate a Type II Incident Management Team (IMT) on standby.
9. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.
10. The following ESFs will activate: 1 (Transportation), 3 (Public Works and Engineering), 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Materials), 13 (Law Enforcement), 15 (Public Information), 16 (Emergency Traffic Management), 19 (Military Support), and 24 (Business and Industry). Additional ESFs may activate as required to support the State's response.
11. The SEOC will notify FEMA Region IV.
12. Establish the Unified Command Structure.
13. The State will assist in the recovery, response, and mitigation of the event.
14. State operations will be incorporated into a federal Joint Field Office (JFO) if established.

D. Resources Available For Response:

1. The SEOC will serve as the Point of Contact for resource support from the State.
2. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and SCDHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities
 - Federal Medical Facilities and related personnel
 - Strategic National Stockpile
 - Mutual Aid Agreements

- All resources of state agencies

V. ACTIONS BY ESF:

A. ESF 1 (Transportation)

In conjunction with ESF 16 (Emergency Traffic Management) and the SC Department of Transportation (SCDOT), identify alternate routes, provide signage to avoid the impacted area, and repair damaged roadways and bridges.

B. ESF 3 (Public Works and Engineering)

Public Works and Engineering are available through the SC Budget and Control Board to assist the affected county/counties in the clean-up and removal of contaminated debris.

C. ESF4 (Firefighting)

1. The SC Department of Labor, Licensing, and Regulation is available to provide additional firefighting and HAZMAT personnel.
2. Assist in HAZMAT clean-up and decontamination.

D. ESF 6 (Mass Care)

1. SCDSS in conjunction with the SC Department of Health and Human Services (SCDHHS) will assist The American Red Cross in sheltering the displaced population.
2. Activate the Mass Shelter/Evacuation Plan.

E. ESF 8 (Health and Medical)

1. SCDHEC will activate their Mass Casualty Plan, and make available mobile medical facilities as needed.
2. Hospitals will activate their emergency plans.

F. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected county/counties in the identification and decontamination process.

G. ESF 13 (Law Enforcement)

1. In conjunction with local law enforcement and railroad officials, SLED will conduct a criminal investigation.

2. Law enforcement will assist in the evacuation and security of the overall incident scene.

H. ESF 15 (Public Information)

1. In conjunction with local Public Information Officers, provide general incident information to include evacuation, sheltering, and the activation of the CODE RED system.

I. ESF 16 (Emergency Traffic Management)

Assist ESF 1 (Transportation) with traffic control management.

J. ESF 19 (Military Support)

1. The SC National Guard may be alerted to provide possible evacuation and security as well as assistance to law enforcement.
2. Activate the CST.

K. ESF 24 (Business and Industry)

The SC Department of Commerce will seek to work with displaced businesses to restore their operations at non-contaminated locations.

VI. FEDERAL INTERFACE

A. Federal agencies available to assist in the response may include:

- Federal Bureau of Investigation (FBI)
- Federal Emergency Management Agency (FEMA)
- Department of Homeland Security (DHS)
- Department of Health and Human Services (DHHS)
- Environmental Protection Agency (EPA).

B. If the event is determined to involve terrorism, any and all federal agencies may be tasked to respond to support the State's response.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 12 - EXPLOSIVES ATTACK – BOMBING USING IMPROVISED EXPLOSIVE DEVICES

EXECUTIVE SUMMARY:

Casualties	200 fatalities
Infrastructure Damage	Several structures affected by blast and fire
Evacuations/Displaced Persons	Minimal
Contamination	None
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Months

I. SCENARIO OVERVIEW

A. General Description

1. Improvised Explosive Devices (IED) are used in asymmetrical warfare. They may incorporate military or commercially-sourced explosives (many times the two are combined) or even home-made explosives.
2. IEDs typically consist of an explosive charge, a detonator, and an initiation system.
3. IEDS fall into three categories:
 - a. Package Type
 - (1) Package type IEDS can be command detonated (either by wire or remote device) or time-delayed.
 - (2) There are many ways that package type IEDS can be used. They can be thrown from overpasses, and from the roadside in front of approaching vehicles, placed in potholes covered with dirt, and the list goes on.
 - b. Vehicle-Borne
 - (1) Vehicle-borne IEDS are devices that use the vehicle as the container or package of the device.
 - (2) One vehicle or multiple vehicles and anything from small sedans to large cargo trucks may be used.

- (3) When multiple vehicles are involved, the lead vehicle is usually used as a decoy or barrier buster.

c. Suicide Bomb

- (1) A Suicide Bomb IED is a “person-borne” bomb. The main goal of a suicide bomber is not to commit suicide, but to inflict as much bodily harm or kill as many people as possible.
- (2) Explosives with fragmentation can be concealed in clothing that has been modified to carry this material.

B. Event Dynamics

1. Two large vehicle-borne IED (VBIED) attacks occur in an urban area of the State.
2. The two VBIEDs are disguised as EMS vehicles.
3. The first attack occurs when a VBIED detonates in the first level of a packed college stadium.
4. A second attack occurs a mile or two away from the first attack at the State Fair Grounds.

C. Secondary Hazards/Events

1. Significant structural damage to the stadium and minor structural damage to a few surrounding buildings occurs as a result of the explosion.
2. After the blast, a portion of the stadium collapses.
3. Spectators panic and immediately evacuate the stadium.
4. When the second bomb detonates the panic and chaos increase. Victims trying to flee the scene as quickly as possible will cause many traffic accidents.
5. There may be toxic smoke resulting from fires and explosions.
6. Electrical power, natural gas lines, and water mains will be disrupted.
7. There will also be a loss of traffic control in the area.

II. KEY IMPLICATIONS

- A. The attacks result in a total of 200 fatalities.
 - 1. Motor-vehicle accidents account for 10 fatalities.
 - 2. Another 70 casualties occur from falling or being crushed during the pandemonium when people are evacuating the stadium and the fair grounds.
 - 3. The remaining fatalities were either a direct result of the explosion or the subsequent collapse of structures.
- B. Although emergency service workers and firefighters were beginning to arrive on scene of the first incident when the second incident occurred, none of them were injured.
- C. There were approximately 800 injuries, but half of them were minor scrapes and cuts. The other half had injuries that were severe enough to require hospitalization.

III. INITIAL RESPONSE ACTIONS

- A. Initial Emergency Assessment
 - 1. Immediately following the first explosion, the incident is recognized as an attack.
 - 2. After the attack, incident-site personnel will detect the agent, conduct hazard assessment, predict likely outcomes, and continue to monitor the situation.
- B. Emergency Management/Response
 - 1. The attacks will require mutual aid between fire, law enforcement, EMS, and other responders.
 - 2. Urban Search and Rescue Teams will be activated.
 - 3. The county in which the incidents occur will activate its Emergency Operations Center (EOC) along with the State Emergency Operations Center (SEOC).
 - 4. The public will be informed of the attacks via activation of notification systems and the media.
 - 5. The two incident-sites will be isolated and traffic and access control points will be established and manned.

6. The SEOC and county EOC will coordinate resource support and requests for assistance.
7. The incident sites will be preserved as a crime scene.

C. Incident/Hazard Characteristics

1. Pre-incident
 - a. Due to the nature of an IED, mitigation methods may prove difficult.
 - b. Proximity restrictions near or around critical facilities and large venues may reduce the impact.
 - c. Proper training of personnel in the identification of suspicious vehicles and packages may decrease risk.
2. Post-incident:
 - a. Short-term
 - (1) Mitigation measures will be complicated by secondary device concerns (i.e., delayed detonation of IEDs).
 - (2) After the attack, incident-site personnel must isolate and define the hazard; establish, plan, and operate incident command; fight fires; conduct bomb disposal dispatch and IED render-safe procedures.
 - (3) Bomb disposal units should perform inspections of all surrounding vehicles.
 - b. Long-term. Maintain training and increase security.

D. Public Protection

1. Additional evacuations may occur and additional threat assessments should be conducted of other likely targets for additional attacks.
2. Public facilities should increase security and restrictions should be established.
3. Barriers should be set up around the incident and the surrounding area to maintain security.

E. Victim Care

1. As soon as responders are on-scene, victims will be triaged and their treatment will be prioritized.
2. Injuries will range from minor cuts and bruises to severe trauma.
3. Local hospitals in the area will be overwhelmed and patients will have to be transported to hospitals in other counties.

F. Investigation/Apprehension

1. Law enforcement will work with the appropriate Federal Agencies to conduct a criminal investigation.
2. The investigation can begin during the rescue phase with photo documentation of the immediate scenes, victim locations, and injury patterns.

G. Recovery/Remediation

1. Significant clean-up of both incident sites will be needed.
2. After evidence search and recovery has been completed, the debris will need to be removed and disposed of.
3. Repair and restoration of the stadium and surrounding buildings will take over a year.

IV. STATE RESPONSE

A. The South Carolina Law Enforcement Division (SLED) will be the primary state agency to respond to this event.

B. South Carolina Emergency Management Division (SCEMD), SC Department of Health and Environmental Control (SCDHEC) and SC Department of Labor, Licensing and Regulation (SCLLR) will be secondary agencies.

C. SERT Actions

1. The State will activate the SC Emergency Operations Plan (SCEOP) along with Appendix 9 (Catastrophic Incident Response Plan). If it is determined to be an act of terrorism, the State will activate Appendix 8 (Terrorism Operations Plan). Activation of these plans will allow for lines of communication and necessary resource support to the affected counties.
2. The SEOC will immediately activate at OPCON 2.
3. The SEOC will begin support activities between the county and the State.

4. The SEOC will notify the SC Forestry Commission to activate a Type II Incident Management Team (IMT) on standby.
5. Appropriate EMAC agreements will be implemented and assessment of additional needs will begin.
6. The following ESFs will activate: 1 (Transportation), 3 (Public Works and Engineering), 4 (Firefighting), 8 (Health and Medical Services), 10 (Hazardous Materials), 13 (Law Enforcement), 15 (Public Information), 16 (Emergency Traffic Management), and 19 (Military Support), and 24 (Business and Industry). Additional ESFs may activate as required to support the State's response.
7. The SEOC will notify FEMA Region IV.
8. Establish the Unified Command Structure.
9. The State will assist in the recovery, response, and mitigation of the event.
10. State operations will be incorporated into a federal Joint Operations Center (JOC) if established.

D. Resources Available For Response

1. The SEOC will serve as the Point of Contact for resource support from the State.
2. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and SCDHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities
 - Federal Medical Facilities and related personnel
 - Mutual Aid Agreements
 - All resources of state agencies.

V. ACTIONS BY ESF

A. ESF 1 (Transportation)

In coordination with ESF 16 (Emergency Traffic Management), the SC Department of Transportation (SCDOT) will identify alternate routes, provide signage to avoid the impacted area, and repair damaged roadways.

B. ESF 3 (Public Works and Engineering)

Public Works and Engineering assets are available through the SC Budget and Control Board to assist the affected counties in the clean-up and removal of contaminated debris.

C. ESF4 (Firefighting)

The SCLLR, Division of Fire and Life Safety is available to provide additional firefighting and Search and Rescue personnel.

D. ESF 8 (Health and Medical)

SCDHEC will activate the Mass Casualty Plan, and make available mobile medical facilities as needed. Hospitals will also be asked to activate their emergency plans.

E. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected counties in the identification and investigation of the event.

F. ESF 13 (Law Enforcement)

SLED will lead the investigation of the event.

G. ESF 15 (Public Information)

In conjunction with local Public Information Officers, provide general incident information and the activation of the CODE RED system.

H. ESF 16 (Emergency Traffic Management)

In conjunction with ESF 1 (Transportation), redirect traffic, provide security, and restrict access.

I. ESF 24 (Business and Industry)

The SC Department of Commerce will seek to work with displaced businesses to restore their operations at undamaged locations.

VI. FEDERAL INTERFACE

- A. Federal agencies available to assist in the response may include:
- Federal Bureau of Investigation (FBI)
 - Federal Emergency Management Agency (FEMA)
 - Department of Homeland Security (DHS)
 - Department of Health and Human Services (DHHS)
- B. If the event is determined to involve terrorism any and all federal agencies may be tasked to respond.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

**SCENARIO 13 - BIOLOGICAL ATTACK –
FOOD CONTAMINATION**

EXECUTIVE SUMMARY:

Casualties	300 fatalities
Infrastructure Damage	None
Evacuations/Displaced Persons	None
Contamination	Sites where contamination was dispersed
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Weeks

I. INTRODUCTION

- A. The policy of the State of South Carolina is to be prepared for any emergency or disaster.
- B. Emergency response personnel, equipment, and facilities will maintain a state of readiness to save lives, prevent or minimize damage to property, and provide assistance to all who are threatened by an emergency or become victims of a disaster.

II. SCENARIO OVERVIEW

- A. General Description
 - 1. Food contamination is the presence of a harmful or objectionable foreign substance that is introduced into a food supply before, during, or after processing or storage. In a biological attack, food contamination can be used for the specific purpose of causing injury or death to the civilian populations and/or disrupting social, political, or economic stability. The biological agents could be communicably infectious or non-infectious pathogenic microorganisms, including viruses, bacteria, and parasites.
 - 2. There have been many instances in history where the civilian food supply has been deliberately sabotaged. This can be by putting harmful biological agents in the food during the packaging process so it is shipped to grocery stores all over the United States or the world, or by introducing a harmful biological agent to livestock or the food that they eat.
 - 3. Symptoms of a food borne illness typically begin several hours to several days after consumption. Depending on the agent involved, the consumer may have nausea, abdominal pain, diarrhea, vomiting, gastroenteritis,

fever, fatigue, and /or a headache. In most cases those infected make a full recovery. However, in some cases it can cause permanent health problems or even death for high-risk populations such as young children, babies, pregnant women, and the elderly.

4. In this scenario, an urban area of the state is exposed to contaminated poultry. The meat is contaminated with liquid anthrax. Subsequently the contaminated poultry is shipped out to grocery stores around the state. Many people become seriously ill or die as a result of consuming the tainted poultry.

B. Event Dynamics

1. Local hospitals see a sudden influx of patients with gastrointestinal symptoms. Roughly 10 days after the initial influx begins, 1,000 people have become ill and 200 have died. Doctors are unable to identify the illness, so the CDC becomes involved.
2. The U.S. Department of Agriculture (USDA) Food Safety and Inspection Service, Health and Human Services (HHS), and the Federal Drug Administration (FDA) pursue epidemiological investigations. Autopsies performed on victims indicate intestinal anthrax.
3. Hospitals around the State are inundated with ill people suffering the same severe gastrointestinal symptoms, and the contaminated products are traced back to a poultry production plant. The affected plant is closed and decontaminated.
4. A criminal investigation is initiated.

C. Secondary Hazards/Events

1. The general public becomes extremely concerned, resulting in hospitals around the state being swarmed with ill people and people that are fearful of becoming ill.
2. Medical facilities are overwhelmed. The public floods into medical facilities seeking prescription drugs to prevent or recover from sickness.
3. The public fear causes poultry sales to plummet and many workers in the poultry industry lose their jobs.
4. Additional cases may arise from frozen chicken used after the initial incident.

III. KEY IMPLICATIONS

- A. The attack results in a total of 300 fatalities, 500 hospitalizations, and 1,400 illnesses.
- B. The only property damaged is the poultry plant, and damage is minimal due only to contamination.
- C. Moderate disruption occurs in other food industries due to the public's concern about food safety in general.
- D. The general public's concern will mostly likely have a long-term financial impact, and they will demand that extra measures are taken to assure the safety of the food supply.

IV. INITIAL RESPONSE ACTIONS

A. Initial Emergency Assessment

The cause of illness must be determined and the contamination source must be tracked.

B. Initial Emergency Response

Decisions regarding population protective measures will be needed. Public notification and alert systems should be activated. The public should be informed and educated about the attack.

C. Incident/Hazard Characteristics

- 1. Pre-incident: Background checks must be performed on all employees. Video cameras should be installed.
- 2. Post-incident:
 - a. Short-term. Once the source of contamination is determined, consumption of the product should be halted.
 - b. Long-term. Due to the nature of the incident, long term mitigation may prove difficult.

D. Public Protection

- 1. The public will be alerted of the incident.
- 2. They will be provided with information and education.

E. Victim Care

Victim care will require diagnosis and treatment of affected population and distribution of prophylaxis for potentially exposed populations.

F. Investigation/Apprehension

1. Epidemiology will be critical to trace the source of contamination.
2. Investigation of the crime and apprehension of the suspect will be needed.

G. Remediation

1. The poultry plant will need to be decontaminated.
2. Contaminated food will require disposal.

V. STATE RESPONSE

A. The SC Department of Health and Environmental Control (SCDHEC) is the primary state agency tasked to respond.

B. South Carolina Emergency Management Division (SCEMD), South Carolina Law Enforcement Division (SLED), and Clemson University Livestock and Poultry Health (CULPH) are designated as secondary agencies for response.

C. SERT Actions

1. SCEMD will initially increase its response posture to support the affected jurisdiction. State resources will be made available assist in response, recovery and mitigation to the event.
2. The State Emergency Operations Center (SEOC) will immediately activate at OPGON 4.
3. The Governor may activate State Mitigation Plan.
4. Support activities between the counties and State begin.
5. ESFs 4, 6, 8, 10, 13, 15, 17 and 24 will be activated to support state response. Other ESFs may be activated if investigations determine terrorist activity.
6. If necessary, the State may implement EMAC agreements once assessment of additional needs begins.
7. FEMA Region IV notified.
8. The Unified Command Structure established.

D. Resources Available For Responses

1. The SEOC will serve as the point of contact for resource support from the state.
2. Resources available to respond include but are not limited to:
 - Firefighter Mobilization Act
 - S.C. National Guard
 - S.C. State Guard
 - Civil Support Team (CST)
 - SLED and SCDHEC WMD Teams
 - Incident Management Teams
 - Regional Medical Assistance Teams (RMAT)
 - SCDHEC mobile medical facilities
 - Federal Medical Facilities and related personnel
 - Strategic National Stockpile
 - Mutual Aid Agreements
 - All resources of state agencies

VI. ACTIONS BY ESF

A. ESF 13 (Law Enforcement)

1. SLED will lead the law enforcement response to include quarantine enforcement, investigation and prevention of subsequent contaminations.
2. SLED will coordinate with federal law enforcement agencies involved with the response.

B. ESF 4 (Firefighting)

The SC Department of Labor, Licensing and Regulation is available to provide through the Firefighter Mobilization Act, HAZMAT personnel to assist in the decontamination of the contamination site.

C. ESF 8 (Health and Medical Services)

1. SCDHEC will activate the Mass Casualty Plan and advise area hospitals to activate emergency operations plans.

2. SCDHEC will make available their Mobile Medical Facilities to accommodate additional victims.

D. ESF 10 (Hazardous Materials)

SCDHEC will activate their WMD Response Team to assist the affected county in the identification and decontamination process.

A. ESF 15–Public Information

ESF 15 will coordinate with local PIO officials to provide general incident information to include general disease information and updates on efforts to control the spread of exposed food products.

B. ESF 17–Animal Emergency Response

1. CULPH will coordinate with federal officials to test for additional poultry processing plants for contamination.
2. CULPH will quarantine poultry and make recommendations to state officials to limit exposure.

C. ESF 24–Business and Industry

The SC Department of Commerce will coordinate with industry representatives to mitigate the business impact and expedite the recovery of lost production and employment.

V. FEDERAL INTERFACE

A. The Federal agencies that will be tasked to respond include:

- Federal Bureau of Investigation (FBI)
- Center for Disease Control (CDC)
- USDA

B. Other federal agencies may be tasked if terrorism is determined through investigation.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 14 - BIOLOGICAL ATTACK -

FOREIGN ANIMAL DISEASE (FOOT AND MOUTH DISEASE)

EXECUTIVE SUMMARY:

Casualties	None
Infrastructure Damage	Significant loss of livestock
Evacuations/Displaced Persons	None
Contamination	None
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Months

I. SCENARIO OVERVIEW

A. General Description

1. Foot-and-Mouth Disease (FMD) is a severe and highly communicable Foreign Animal Disease caused by a virus. The virus can persist in contaminated animal food and the environment for up to one month. It affects cattle, swine, sheep, goats, deer, and other cloven-hooved animals.
2. FMD can be spread by people, animals, or materials that bring the virus into physical contact with susceptible animals.
3. The disease causes fever and blister-like lesions followed by eruptions on the tongue and lips and between the hooves.
4. Pregnant animals often abort and dairy cattle may dry up. It spreads rapidly among such animals and can be fatal in young animals.
5. The disease is not considered a human threat.
6. The United States has not had an outbreak of FMD since 1929. However, if the U.S. were to have another outbreak, it could cripple the agricultural industry and have severe effects on the economy.

B. Event Dynamics

1. In this scenario, perpetrators infect farm animals at several specific locations around the State simultaneously. One of the locations is a livestock transportation node where they contaminate an animal shipment.

2. A farmer in South Carolina notices some of his animals are sick and calls a veterinarian. The veterinarian is unsure of his diagnosis and contacts State Animal Health authorities.
 3. The next day, the State Animal Health authorities send a Foreign Animal Disease (FAD) diagnostician to the farm. The diagnostician becomes suspicious of a possible contagious FAD and sends samples to the FAD Diagnostic Laboratory.
 4. The same day the samples are sent to the lab, the diagnostician places the farm under quarantine as a precautionary measure. This process continues to happen with other farms within the state and a some farms in surrounding states.
 5. The results from the samples come back positive. In response, the sites are quarantined, decontaminated, and herds are destroyed.
 6. These events all occur within 5 days of the first known outbreak.
- C. Secondary Hazards/Events
1. Environmental issues pertaining to contaminated land and equipment will arise.
 2. Disposal of carcasses of culled animals must be done in an environmentally conscious way.
 3. A widespread animal disease will not hurt humans but could have psychological effects.

II. KEY IMPLICATIONS

- A. There are no human fatalities or injuries.
- B. Massive numbers of affected livestock are disposed of because the United States has a national policy not to vaccinate.
- C. Long-term effects will be on trade and the retail industry will suffer due to the false perception that one can contract a FAD.
- D. Livestock transportation into and out of affected areas will be disrupted.
- E. Movement will be limited in order to prevent further spread.

III. INITIAL RESPONSE ACTIONS

A. Emergency Assessment

Investigations using epidemiological trace-back, microbial forensics, and other approaches will be used to determine the source of the agent and identity of the perpetrators.

B. Initial Emergency Response

1. There will be central coordination between the State of South Carolina and other states that have experienced an outbreak.
2. The Multi-Agency Coordination (MAC) Group system and other established national crisis managements systems will be utilized to communicate effectively with each other and successfully allocate resources.
3. South Carolina and other states involved will emphasize the need for containment.
4. The public should be well informed of the threat and impact of the disease to lessen their fear.

C. Incident/Hazard Characteristics

1. Pre-incident

- a) Due to the nature of the event, hazard mitigation may prove difficult.
- b) Limiting the number of cattle in geographical regions may reduce the contamination of large quantities of livestock.
- c) Clearly identified trade routes will allow investigators to more easily predict future outbreaks.

2. Post-incident

a) Short-term

- (1) A stop movement order could halt the move of susceptible animals (and of conveyances and animals in transit, among other things) if considered by authorities.
- (2) The specific parameters of the stop movement, the duration of the stoppage, how it would be enforced, and the economic implications of the stoppage will be assessed based on the extent of the outbreak.

(3) Livestock should be quickly identified and properly destroyed.

b) Long-term

(1) Equitable indemnification and when to begin reconstitution of the herds to begin economic recovery will be a major consideration.

(2) The public should be well informed to prevent the long-term effects on trade and the retail industry.

D. Public Protection

The public should be well informed of the threat and impact of the disease to the human population.

E. Victim Care

Infected and exposed animals will be euthanized and then disposed of.

F. Investigation/Apprehension

Investigation and apprehension will involve the pursuit of a criminal investigation involving law enforcement and agricultural experts.

G. Recovery/Remediation

1. Farms, feedlots, and any transportation nodes carrying the infected cattle will need to be decontaminated.

2. Any materials or tools exposed to the disease should be disinfected.

IV. STATE RESPONSE

A. Clemson University Livestock and Poultry Health (CULPH) is the primary State agency.

B. Secondary responsible agencies are South Carolina Emergency Management Division (SCEMD), South Carolina Law Enforcement Division (SLED) and South Carolina Department of Health and Environmental Control (SCDHEC).

C. SERT Actions

1. SCEMD will initially increase its response posture to support the affected jurisdiction.

2. State resources will be made available to assist in the response, recovery and mitigation of the event.

3. The State Emergency Operations Center (SEOC) will activate at OPCON 4.
4. The State Emergency Response Team (SERT) may recommend the Governor activate the State Mitigation Plan.
5. Begin support activities between the counties and the State.
6. The following ESFs will activate: 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Materials), 13 (Law Enforcement), 15 (Public Information), 17 (Animal/Agriculture Emergency Response), and 24 (Business and Industry). Additional ESFs may activate as required to support the State's response.
7. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.
8. The SEOC will notify FEMA Region IV.
9. Establish the Unified Command Structure.

D. Resources Available For Responses

1. The SEOC will serve as the Point of Contact for resource support from the State.
2. The primary resource will be the staff of Clemson University with some support from the SC Department of Agriculture and SCDHEC.

V. ACTIONS BY ESF

A. ESF 10 (Hazardous Materials)

1. SCDHEC will activate teams and assets to assist in the local decontamination process.

B. ESF 13 (Law Enforcement)

1. The South Carolina Law Enforcement Division (SLED) will lead the law enforcement response to include quarantine enforcement, investigation and prevention of subsequent contaminations.
2. SLED will liaise with federal law enforcement agencies involved with the response.

C. ESF 15 (Public Information)

Coordinate with local PIO officials to provide general incident information to include general disease information and updates in an effort to minimize public concerns and ensure accurate information.

D. ESF 17 (Animal Emergency Response)

1. CULPH will coordinate with federal officials to test subsequent, potential outbreaks.
2. CULPH will oversee the destruction of herds and disposal of remains.

E. ESF 24 (Business and Industry)

The SC Department of Commerce will coordinate with industry representatives to mitigate the business impact and expedite the recovery of lost production and employment.

VI. FEDERAL INTERFACE

- A. The Federal agencies tasked to respond include the Federal Bureau of Investigation (FBI), The Center for Disease Control (CDC), and the U.S. Department of Agriculture (USDA).
- B. Other Federal agencies may be tasked if the investigation determines the event resulted from terrorism.

ANNEX D TO APPENDIX 9 (CATASTROPHIC INCIDENT RESPONSE PLAN)

SCENARIO 15 - CYBER ATTACK

EXECUTIVE SUMMARY:

Casualties	None directly
Infrastructure Damage	Water; possibly Chemical Sector
Evacuations/Displaced Persons	Yes
Contamination	Yes; HAZMAT
Economic Impact	Millions
Potential for Multiple Events	Yes
Recovery Timeline	Months

VII. SCENARIO OVERVIEW

A. General Description

1. SCADA (Supervisory Control and Data Acquisition) systems are relied on heavily within various critical infrastructure sectors to manage industrial process controls over geographically dispersed continuous distribution operations.
2. These process and control systems are subject to serious damage and disruption by cyber attack due to their standardization and connectivity to other networks.
3. A cyber based attack on the SCADA or process control system used to control, regulate, and monitor a water system can significantly degrade the system's performance and negatively impact public health and safety.
4. Many of our national critical infrastructure sectors are dependent on water and wastewater systems. Loss of water supply or wastewater treatment capability can create negative cascading effects that impact other sectors of US critical infrastructure.

B. Event Dynamics

1. Networked control systems are increasingly being deployed to facilitate the monitoring and control of geographically dispersed physical infrastructures. Since the late 1990's, there has been a dedicated effort throughout various critical infrastructure sectors to replace traditional hard-wired electromechanical devices with Internet-connected embedded devices.
2. In this scenario, cyber threat actors obtain unauthorized access to the corporate network of a software development firm. This firm is a

contractor that has been retained to update the existing SCADA system software at a medium sized municipal water supply and wastewater treatment facility. This facility provides both services to approximately 170,000 customers located throughout the county.

3. The contractor has administrative credentials to the water company's network so that they can perform the software updates. The threat actors access this information allowing them to access the Networked control systems (NCS) through the water company's IT network.
4. Once the threat actor(s) have administrative access, they launch a Denial-of-Service (DoS) attack against the regulatory control layer of the SCADA system. This layer interacts with the physical water system through field devices. These field devices engage with Programmable Logic Controllers (PLC).
5. Through the DoS attack, the PLCs are unable to control the pumps and valves they have been assigned to. This causes the pumps and valves to malfunction. In one part of the water service area, the pump malfunctions causing water distribution pipes to burst. This results in disabled water service in this area. In another part of the service area, the valve failures cause an incorrect amount of water treatment chemicals (Chlorine) to be applied to the water supply. This makes the water unsafe to drink resulting in citizens becoming ill and requiring medical care.
6. The DoS attack also affects the PLCs that control the wastewater treatment process. This results in an overflow of untreated sewage into public waterways.

C. Secondary Hazards/Events

1. Environmental issues pertaining to contaminated water, land and equipment will arise.
2. Decreased water pressure into fire hydrants will result in downgraded fire service capabilities.
3. The raw sewage and the under/over treated water will cause many to become ill taxing the emergency medical system and hospitals in the area.
4. Loss of water pressure will negatively impact the industrial processes at several local chemical plants.

VIII. KEY IMPLICATIONS

- A. There will be direct human fatalities or injuries.

- B. The public's loss of confidence in the water supply will have significant psychological effects on the population.
- C. The limited water pressure in some areas, combined with the wastewater spillage in other areas, could drive more citizens to rely on the under/over treated water adding to the medical impact of the event.
- D. Due to the geographic dispersion of the water infrastructure and the dispersion of effects, significant resources will be required to repair the water and wastewater infrastructure.
- E. The environmental impact will be significant.
- F. Other sectors of US critical infrastructure could be affected due to their first-order dependence on the water sector. These sectors include Energy, Emergency Services, Chemical, Information Technology, and Transportation. According to DHS, these sectors are dependent on water for daily operations, production processes, cooling, firefighting, and sanitation.

IX. INITIAL RESPONSE ACTIONS

A. Emergency Assessment

Investigations by law enforcement, DHS, and the water company using various methods of cyber analysis and forensics will take place to determine attribution and identify the location from where the attack was launched.

B. Initial Emergency Response

1. There will be central coordination between the State of South Carolina, the private sector, the federal government, and local government in both the crisis and consequence management responses.
2. The SERT will provide support to local emergency management agencies in consequence management and environmental response.
3. South Carolina and the Department of Homeland Security (DHS) will emphasize the need for identifying the network vulnerabilities that were exploited and the attack methodology used so the threat can be mitigated at other utilities located within South Carolina and the U.S.
4. Public information will be critical to lessen the physical and psychological impacts of the event.

C. Incident/Hazard Characteristics

1. Pre-incident

- a) Due to the nature of the event, hazard mitigation may prove difficult.
- b) Pre-identifying the dependencies and inter-dependencies will assist planners in identifying cascading effects.
- c) Developing strong working relationships with utility owners/operators will help to identify possible vulnerabilities and lessen impacts.

2. Post-incident

a) Short-term

- (1) A clean, sustainable supply of water will be required to not only lessen the physical impact but to calm the fears of the public.
- (2) The logistics involved in providing support to the medical, environmental, and meeting the basic needs of the public will need to be determined and adjusted as required throughout the event.
- (3) The duration of the water loss, and the economic implications of the event will be assessed based on the extent of the damages.

b) Long-term

- (1) Equitable indemnification and when to begin reconstitution of the herds to begin economic recovery will be a major consideration.
- (2) The public and private sector businesses should be well informed to help mitigate the long-term economic and physical effects.

D. Public Protection

The public should be well informed of the threat and impact of the event to the human population, pets, livestock, and the environment.

E. Victim Care

Individuals will require medical care, separation from the environmental impacts and a sustainable temporary supply of fresh water.

F. Investigation/Apprehension

Investigation and apprehension will involve the pursuit of a criminal investigation involving law enforcement, homeland security and cyber experts.

G. Recovery/Remediation

1. Water supply and waste water infrastructure will need to be repaired and disinfected.
2. Environmental impact will need to be mitigated.
3. Any individual and/or public assistance will be required.

X. STATE RESPONSE

A. The South Carolina Law Enforcement Division (SLED) is the primary State agency for crisis management.

B. South Carolina Department of Health and Environmental Control (SCDHEC) is the primary State agency for consequence management.

C. Secondary responsible agencies are South Carolina Emergency Management Division (SCEMD) and the South Carolina Department of Agriculture (SCDA).

D. SERT Actions

1. SCEMD will initially increase its response posture to support the affected jurisdiction.
2. State resources will be made available to assist in the response, recovery and mitigation of the event.
3. The State Emergency Operations Center (SEOC) will activate at OPGON 4.
4. The following ESFs will activate: 3 (Public Works), 4 (Firefighting), 6 (Mass Care), 8 (Health and Medical Services), 10 (Hazardous Materials), 12 (Energy), 13 (Law Enforcement), 15 (Public Information), 17 (Animal/Agriculture Emergency Response), and 24 (Business and Industry). Additional ESFs may activate as required to support the State's response.

5. The State Emergency Response Team (SERT) may recommend the Governor activate the State Emergency Operations Plan and/or the Cyber Incident Framework.
 6. Begin support activities between the counties and the State.
 7. The SEOC will implement the appropriate EMAC agreements and begin assessment of additional needs.
 8. The SEOC will notify FEMA Region IV.
 9. Establish the Unified Command Structure.
- E. Resources Available For Responses
1. The SEOC will serve as the Point of Contact for resource support from the State.
 2. The primary state consequence response resource will be SCDHEC.
 3. The primary state investigative/criminal response resource will be SLED.

XI. ACTIONS BY ESF

A. ESF 3 (Public Works)

Coordinate for resources to support utility and identify short-term mitigation measures to re-establish water service to effected area(s).

B. ESF 4 (Firefighting)

Coordinate with ESF 3 and fire services in the affected area to ensure firefighters have adequate water supplies.

C. ESF 6 (Mass Care)

Coordinate with ARC, Salvation Army, and others as required to provide mass care operations in support of affected members of the public.

D. ESF 8 (Health & Medical Services)

Coordinate the support to public health providers and shelters.

E. ESF 10 (Hazardous Materials)

1. Coordinate with SCDHEC to activate teams and assets to assist in the local decontamination process.

2. Coordinate with SCDHEC who will liaise with the US Environmental Protection Agency as required.

F. ESF 12 (Energy)

Coordinate with energy providers to assess any impacts to their operations.

G. ESF 13 (Law Enforcement)

1. Coordinate with SLED who will lead the State's law enforcement response.
2. Coordinate with who SLED will liaise with federal law enforcement agencies involved in the response.

H. ESF 15 (Public Information)

Coordinate with local PIOs to provide general incident information to include public health information and updates in an effort to minimize public concerns and ensure accurate information.

I. ESF 17 (Animal Emergency Response)

Coordinate with CULPH who will coordinate with state and federal officials concerning impacts to pets and livestock.

J. ESF 24 (Business and Industry)

Coordinate with the SC Department of Commerce who will coordinate with industry representatives to mitigate the business impact and expedite the recovery of lost production and employment.

XII. FEDERAL INTERFACE

A. The Federal agencies tasked to respond include:

- Federal Bureau of Investigation (FBI)
- Department of Homeland Security (DHS)
- Environmental Protection Agency (EPA)
- Centers for Disease Control and Prevention (CDC)
- Department of Agriculture (USDA).

B. Other Federal agencies may be tasked if the investigation determines the event resulted from terrorism.