

ANNEX 2 (ESF-2)
COMMUNICATIONS

PRIMARY: Budget and Control Board (B&CB), Division of the State Chief Information Officer (CIO)

SUPPORT: As directed within the SCEOP, each supporting agency will respond to coordinate the emergency activities of its department for a declared earthquake disaster. Selected state agencies or other organizations, as noted in this annex, are assigned additional hazard specific responsibilities for earthquake response.

SC Office of the Adjutant General, Military Department (OTAG)

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. 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 communications support provided by radio amateur services. However, a catastrophic earthquake similar to the 1886 event will cause most communication systems in the state to be inoperable.
- B. ESF-2 will prepare for disaster response using the Operational Area Concept and worst case loss estimation data in Attachment C to the Basic Plan.

II. MISSION

To provide a means to support communications through coordination with appropriate federal, state, and local agencies and organizations to minimize loss of life and property in the event of an earthquake disaster.

III. CONCEPT OF OPERATIONS

- A. Hazard analysis indicates a catastrophic earthquake will disrupt commercial communication services to and within the Operational Areas. 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 communications from the SEOC to local emergency management offices and other critical facilities. Other communications support services such as state government radio systems, Radio Amateur Civil Emergency Services (RACES), and CAP will become available as resources and conditions permit.

- B. Response operations will use an Earthquake Checklist that will be executed following a strong earthquake. Activities in the Earthquake Checklist do not replace required activities normally assigned to ESF in the SCEOP and supporting ESF SOP. The Checklist activities are to ensure that critical actions are completed or continuing at the appropriate time during an earthquake response. See Attachment A to this Annex for Checklist.

- C. SERT will implement the Operational Area Communications Plan and deploy the Operational Area Communications Teams according to the deployment response for an earthquake. The response can be found in Attachment A to this Annex. The Operational Area Communications Plan can be found in the Catastrophic Incident Response Plan, which is Appendix 9 to the SCEOP. However due to the uniqueness of an earthquake response, a specific deployment response is prepared and is Attachment B to this Annex.

- D. ESF-2 functions include but are not limited to:
 - 1. Activating communications systems between the SEOC and the county EOCs and other agencies as needed.
 - 2. Evaluate the need and deploy 800 MHz radios for Operational Area Communications Teams and others agencies as specified in ESF-2 SOP.
 - 3. ESF-2 will implement the State Frequency Management Plan to assign common calling frequencies. ESF-2 will test the frequencies identified for priority use to determine what is available before announcing the emergency frequency.

NOTE: ESF-2 will use the following approach as necessary should there be problems with radio systems or frequency utilization:

- a. Telephone Network: There are currently 200 Government Emergency Telephone Services (GETs) cards. These cards will be issued to selected SERT members to allow priority SEOC calls. SCEMD will activate the State-National Advance Warning System (NAWAS) and EAS to communicate with the public and local governments.

- b. Amateur Radio: RACES has identified members within each Operational Area. The RACES team will attempt to contact county EOCs using calling frequencies identified in the State Frequency Management Plan. If unable to

communicate with the EOCs, the RACES team will attempt contact with other RACES stations within the Operational Area.

- c. CAP: CAP will deploy airborne repeaters to set up VHF/UHF/800 MHz communications for the regional area to relay information and restore limited communications. Operational Area Communication Teams: Teams will deploy with high frequency (HF) and satellite telephone and radio equipment to the affected county EOCs or to the command center in the Operational Areas. The team(s) will establish two-way communication with the SEOC.
 - d. Operational Area Communication Teams: Teams will deploy with high frequency (HF) and satellite telephone and radio equipment to the affected county EOCs or to the command center in the Operational Areas. The team(s) will establish two-way communication with the SEOC. See Operational Area Communications Plan, Appendix 9, State Catastrophic Incident Response Plan.
 - e. Mobile Communication Systems: The Emergency Communications Vehicle (ECV) will deploy as directed, and ESF-2 will deploy, portable communications towers, satellite communications trailer county mobile command posts with satellite communications capabilities as available and requested by the SEOC.
 - f. State Agency Communication Systems: State agencies, including Educational Television Network (SCETV), State Law Enforcement Division (SLED), SC Department of Natural Resources (SCDNR), SCEMD Local Government Radio (LGR), SC Department of Transportation (SCDOT), SC Forestry, State Department of Education (Bus transportation radio network) and), have Statewide systems available for use to augment communication systems.
4. Coordinate with ESF-1 to provide transportation requirements for communication teams and equipment.

IV. ESF ACTIONS

Operations necessary for the performance of this function include but are not limited to:

A. Preparedness

1. In coordination with SCEMD, annually review the communications deployment response procedures for an earthquake. See Attachment B.
2. Analyze the Loss Estimation Reports prepared by SCEMD for communication infrastructure damages by Operational Areas.
3. Exercise and test the communications deployment response for an earthquake.
4. Within the Operational Areas, identify and coordinate the assignment of RACES operators.
5. Prepare and coordinate with ESF-1 to provide transportation requirements for communication teams and equipment.
6. Identify and maintain a listing of potential communication shortfalls by Operational Area including sources, acquisition methods, and delivery timeline.

B. Response

1. Implement the ESF-2, Earthquake Checklist, Attachment A to this Annex.
2. Implement the Operational Area Communications Response procedures for an earthquake.
3. Implement State Frequency Management Plan and announce the activated frequencies.
4. Upon activation of Operational Area Communications Teams, coordinate the actions of the deployed teams.

C. Recovery

See SCEOP, Annex 2 (ESF-2), Section IV.C.

D. Mitigation

See SCEOP Annex 2, (ESF-2) Section IV.D.

V. **RESPONSIBILITIES**

A. B&CB, CIO

1. Analyze the Loss Estimation Reports prepared by SCEMD for communication infrastructure damages by Operational Area.
2. In coordination with SCEMD, review the Operational Area Communications Plan to include the deployment response procedures for an earthquake.
3. In conjunction with SCEMD, coordinate provisions of communications equipment and deployment of Operational Area Communication Teams.
4. Prepare and coordinate with ESF-1 to provide transportation requirements for communication teams and equipment.
5. Identify and maintain a listing of potential communication shortfalls by Operational Area.
6. Review and update as necessary the Earthquake Checklist for ESF-2.

B. CAP

Participate in reviewing the Operational Area Communications deployment response procedures for an earthquake.

C. Radio Amateur Civil Emergency Services (RACES)

1. Assist ESF-2 in reviewing the Operational Area Communications deployment response procedures for an earthquake.
2. Identify members and coordinate assignments for each Operational Area to support the earthquake response effort.
3. Ensure RACES equipment in the SEOC and counties is operable.

D. SCEMD

1. Participate in the review and update of the Operational Area Communications Plan to include deployment response procedures for an earthquake.

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2. In coordination with CIO, coordinate provisions of communications equipment and deployment of Operational Area Communication Teams.

E. OTAG

1. Participate in the review and update of the Operational Area Communications Plan to include deployment response procedures for an earthquake.
2. In coordination with CIO, coordinate provisions of communications equipment and deployment of Operational Area Communication Teams.

VI. FEDERAL INTERFACE

The National Response Framework (NRF) ESF-2, Communications, supports this Annex.

VII. ATTACHMENT

Attachment A	ESF-2 Earthquake Checklist
Attachment B	Operational Area Communications Plan for an Earthquake Response

ESF-2 (Communications)

Date/Time complete

1. * _____ Implement the Operational Area Communications Deployment procedures for an Earthquake.
2. * _____ Determine operability of telephone and radio networks, cell systems, local government radios, 800 Mhz systems, and phone systems of State agencies in the Operational Areas.
3. * _____ Complete communication checklists to determine status of communications systems.
4. * _____ Implement and activate the State Frequency Management Plan.
5. * _____ Establish radio frequencies to be used by SERT and county emergency managers.
6. * _____ Establish communications contact with RACES members and support agencies for mobilization and deployment as Operational Area Communications B-Team.
7. _____ Test RF/TELCOM/DATA communications.
8. _____ Request ESFs to complete and submit ICS 205 to ESF-2.
9. _____ Support / coordinate operational area communications teams deployments and monitor activities.
10. _____ Identify and obtain additional communications equipment for use.
11. _____ Assign available communications equipment to response agencies.
12. _____ Validate and initiate resource requests from EMAC or federal government for additional satellite phones and 800 Mhz radios.
13. _____ Provide ESF-1 transportation requirements into the area.
14. _____ Establish contact and coordinate with the commercial telephone companies to install emergency communication systems to provide telephone services at the SEOC and designated locations affected by the earthquake.

***NOTE:** All Checklist activities listed are essential, and should be completed. However, Checklist activities denoted with an asterisk are critical, and should be completed first. Other action items can be executed simultaneously to expedite response actions.

I. CONCEPT OF OPERATIONS

1. The scenario earthquake used in this Plan is forecast as a possible worst case. It is a magnitude 7.3 earthquake, similar to the 1886 Summerville/Charleston earthquake that impacted the entire State. This earthquake remains the most severe earthquake to occur in South Carolina. A magnitude 7.3-earthquake occurring at the epicenter of the Charleston 1886 earthquake would affect the entire State, with most of the destruction and damage occurring within Berkeley, Charleston, and Dorchester Counties. This communication deployment will focus on deploying communication teams to Berkeley, Charleston, and Dorchester counties operational areas due to the probability of receiving the most damage from the catastrophic event.
2. SC Emergency Management Division (SCEMD) uses the Operational Area Concept to prepare for disaster response. The operational areas concept allows the counties and SCEMD to provide a focused response to a disaster, allows pre-impact planning for amounts and types of resources, and allow better command and control of county during emergency operations. Most operational areas will initially only be accessible by air or sea. Currently there are 21 Operational Areas identified in Charleston, Dorchester, and Berkeley counties. The optimal planning is to provide three communications teams to each operational area requiring a total of 63 teams. The team make-up can range from two to four persons requiring a maximum total of 252 persons (4 persons per team). However, for the first 12-24 hours post-disaster only three teams will be available with one team being assigned to each county EOC. See Figure 1, Response Structure.
- C. An earthquake response requires communication to be established immediately for lifesaving requirements. The teams will following the Standard Operating Procedures (SOP) as described under separate cover; however, due to the urgency of the situation, the teams will self-deploy after any strong earthquake (M > 6.0) affecting the State.

II. RESPONSE LEVELS

There are three response levels: Level A, B, and C. The three response levels will ensure that a redundant communication operation will occur.

- A. Level A is the initial response and represents the state's most rapid response capability.
 1. Level A-1 Team will deploy within four (4) to six (6) hours of notification.
 2. Level A-2 response will deploy within six (6) to twelve (12) hours upon notification.

Attachment B to Annex 2 (ESF-2)

Operational Area Communications Plan for Earthquake Response

- B. The Level B response will consist of B-Team members and deployment is within 24 to 48 hours after notification.
- C. The Level C response will consist of the CST and JISCC from the SCNG and SCARNG. Deployment is within 48-72 hours after notification.
- D. The coordinating instructions, transportation, support, and reporting requirements for the Operational Area Communications Teams are maintained in the SOP which can be found in the Catastrophic Response Plan.

III. ORGANIZATION AND DEPLOYMENT

A. A- Teams

1. A-1 Teams: One communication team will be deployed to each Berkeley, Charleston, and Dorchester Emergency Operations Center (EOC) for a total of three teams. Each team will have two (2) members of the SC Emergency Management Division (SCEMD) Regional Emergency Manager (REM) and two (2) members of State Operational Area Liaison Team (SOALT) for a total of four (4) persons. Civil Support Team (CST) from the SC National Guard (SCNG) and SC Air National Guard (SCANG) may also be available to deploy with A-1 Teams.
 - a) Deployment: Within four (4) hours after notification and on scene within six (6) hours.
 - b) Operational: Immediately.
 - c) Function: To provide point-to-point communication from county EOC to SEOC and to evaluate area's communication status and capabilities.
 - d) Equipment: 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.

Operational Area Communications Plan for Earthquake Response

2. A-2 Teams: Upon assessment by A-1 Teams and county director's up to eighteen (18) teams could be deployed to locations in the operational areas to provide point-to-point communication. The team members would be made up with REMs, SOALT members, other state employees, and if available, SCNG Tactical Satellite (SCTAC) teams and CST.
 - a) Deployment: Within 6 to 12 hours after notification.
 - b) Operational: Immediately.
 - c) Function: To provide point -to-point communication and to serve as back-up communication to A-1 Teams. Based on A-1 Teams and county director's evaluation, A-2 Teams assignment locations will be accordingly to communication priorities established by county director and SERT Executive group. A-2 Teams could be assigned to alternates EOCs, transportation entry points, staging areas, Incident Command Posts (ICP), and critical facilities in the operational areas.
 - d) Equipment: Each A-Team will be provided 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.

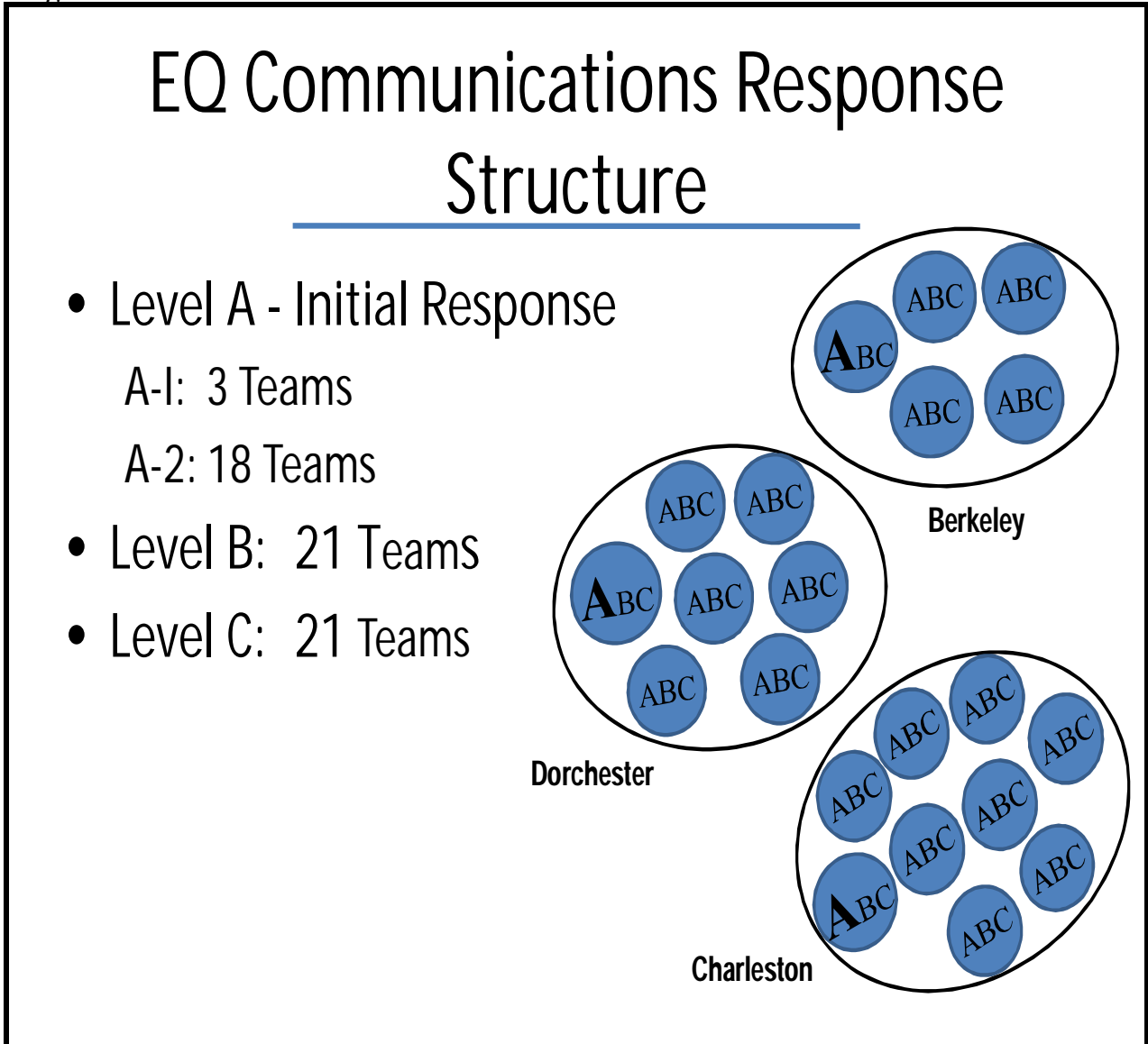
B. **B-Teams:** Up to 21 teams consisting of two (2) or three (3) persons representing SCNG Tactical Satellite (SCTAC) teams, volunteer organizations, CST, Joint Incident Site Communications Center (JISCC), and EMAC contracts. The teams will deploy to locations in the operational areas as assigned by SERT to provide point-to-point communication. These locations could be transportation entry points, Incident Command Posts (ICP), and Logistical Staging Areas (LSA) in the operational areas.

1. Deployment: Within 24 to 48 hours after notification.
2. Operational: Within three (3) hours.
3. Function: Level B Teams provide communication from locations assigned by SERT in the operational areas. Level B teams will provide a second level of redundancy and may or may not be co-located with Level A teams but could relay information to Level A teams, if necessary. However, Level B teams must maintain the capability to communicate outside of the operational area should the Level A capability diminished.

4. Equipment:
 - a) Primary: Satellite radio/telephone.
 - b) Secondary: High Frequency (HF), 800 MHz, and Ultra High Frequency (UHF) and Very High Frequency (VHF) radios.
 - c) SCTACSAT will be supported with AN/PSC-5 Spitfire. It is an UHF band from 22.50 megahertz (MHZ) to 399.995 MHz. This provides narrow band voice, 5-kilohertz (kHz) and 25-kHz (wideband) operation.

- C. **C-Teams:** Up to twenty-one teams from JISCC and CST from the SC National Guard (SCNG) and SC Air National Guard (SCANG) will deploy to the assigned locations in the operational areas. These locations could be the transportation entry points, Incident Command Post (ICP), Logistical Staging Areas (LSA), and/or critical facilities in the operational areas.
 - a) Deployment: Within 48 to 72 hours after notification.
 - b) Operational: Within twenty-four (24) hours.
 - c) Function: Level C Teams provide point-to-point communication from locations in the operational areas as assigned by SERT. Level C teams will provide a third level of redundancy and may or may not be co-located with Level A-1 and A-2 or B teams but will relay information to the SEOC from assigned locations. Level C teams should have the capabilities to support an operation longer than five days as required by SERT. The teams must maintain the capability to communicate outside of the operational area should the Level A or B capability be diminished.
 - d) Equipment: Maintained under separate cover.

Figure 1



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