This document outlines the planning and organizational responsibilities of the Communications (ESF #2) coordinating agencies for the Yolo Operational Area

Yolo Operational Area Communications Executive Summary

Emergency Support Function #2 - Annex to local Emergency Operations Plans

Version 1.0 Revised: September 2015

PARTICIPATING AGENCIES

HANDLING INSTRUCTIONS

1. The title of this document is the *Yolo County Operational Area Communications (ESF #2) Annex Executive Summary*
2. The information gathered herein is to be used for training and reference purposes within the Yolo Operational Area. Reproduction of this document, in whole or in part, without prior approval from the Yolo County Office of Emergency Services is prohibited.
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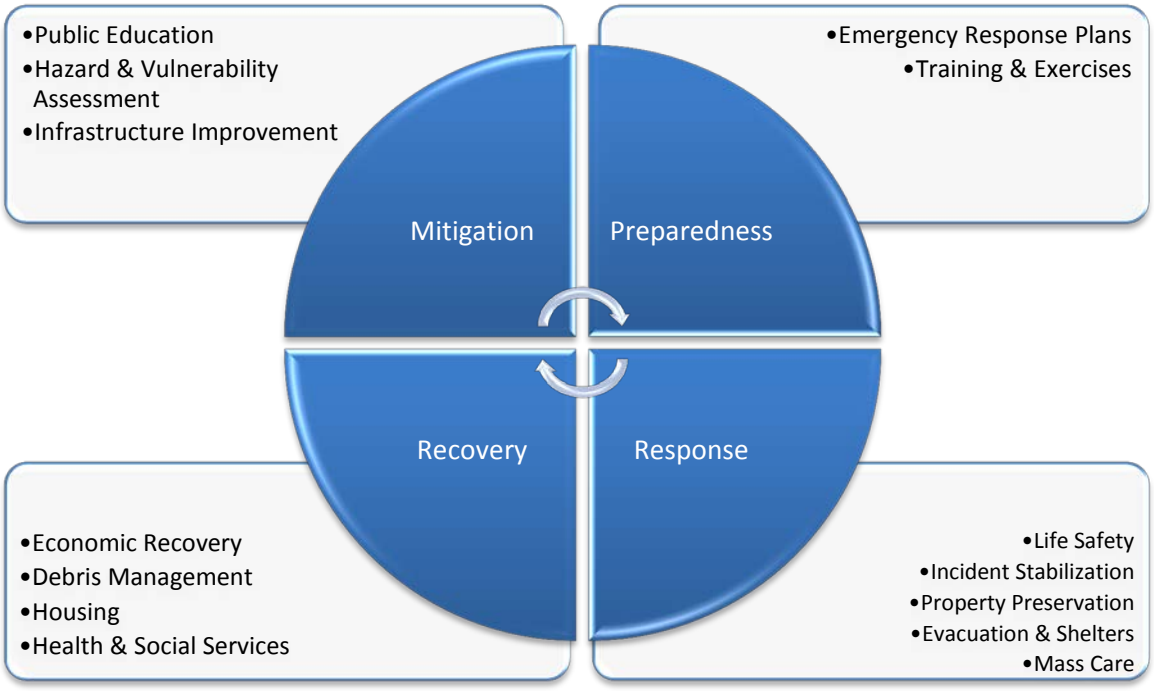
INTRODUCTION

OVERVIEW

Essential to all emergency organizations is an effective communications capability to support emergency operations. The magnitude of a particular emergency will determine the degree to which communications systems are used. Communications systems are relied upon to be used for direction/coordination of emergency operations, alerting and warning government and the public, and provide advice and instructions to the public. The function #2 stakeholders will work together within their statutory and regulatory authorities to effectively and efficiently coordinate during all four phases of emergency management.



PURPOSE

Emergency Support Function #2, Communications, supports the restoration of communications infrastructure; coordinates communications support to response efforts, facilitates the delivery of information to emergency management decision makers, and assists in the stabilization and reestablishment of systems and applications from failure during incidents.

SCOPE

Emergency Support Function #2 acts to meet the telecommunications and essential elements of information needs of local, state, and tribal agencies; nongovernmental organizations; industry essential service providers; other private sector partners; and individuals, families, and households, including individuals with disabilities and others with access and functional needs. The following are responsibilities of ESF #2:

- Provides disaster emergency communications, which consists of the technical means and modes required to provide and maintain operable and interoperable communications in an incident area.
- Supports the temporary re-establishment of the basic public safety communications infrastructure and assists in the initial restoration of the commercial telecommunications infrastructure.
- Coordinates the provisioning of priority and other telecommunications services at incident support facilities, provides capabilities and services to aid response and short-term recovery operations, and ensures a smooth transition to long-term recovery efforts.
- Facilitates the delivery of mission critical information to maintain situational awareness for emergency management decision makers and support elements.
- Develops and maintains a communications common operating picture.
- Coordinates and deconflicts incident radio frequencies.

GOALS

This section identifies the goals for the Function #2 to support the further development and ongoing maintenance of Function #2 over the coming years.

- Prepare for and prevent, cohesively respond to, and effectively mitigate and recover from the effects of an emergency.
- Integrate and standardize Function #2 emergency management activities within

SEMS/NIMS.
- Proactively develop and support mutual aid and other forms of assistance. Implement improvements to the Operational Area's Function #2 capabilities.
- Identify, coordinate, and engage the Operational Area's Function #2 stakeholders.
- Train and exercise the activities of Function #2.
- Provide input and planning assistance for any Hazard specific annexes developed which contain Communication information.

COMMUNICATION SYSTEMS

Communications used on a daily basis by most agencies, particularly public safety agencies, are the same as will be used in widespread disasters within the areas of the Yolo Operational Area as well for intra-jurisdictional communications. These agencies will also be expected, at least initially, to operate from their day-to-day offices and headquarters.

COMMUNICATION SYSTEM VULNERABILITIES

Telecommunications systems are composed of many subsystems, each may be interdependent or interconnected. A radio network, for example, may use a combination of telephone lines, microwave circuits, satellite interfaces, underground and overhead cables, and secondary radio paths. The failure of any one link in this chain can effectively disable or severely limit a large portion of the system.

Communications systems may be overloaded or even rendered inoperable in an emergency. Telephone communications may be overloaded by calls within or into affected areas. The situation may be further complicated by physical damage to equipment, loss of electrical power and subsequent failure of some auxiliary sources. Loss of emergency power has been the primary cause of communications failure in past disasters. Poor installation practices and inadequate preventative maintenance of backup power sources can contribute to the high failure rate. Scarcity of primary fuels during an emergency or disaster situation for back-up systems (gasoline, natural gas and diesel) may limit viability of surviving communications sites.

In situations arising from a radiological incident or detonation, high intensity, short duration electromagnetic pulse may cause damage or malfunctions to unprotected electrical and electronic systems. Electromagnetic pulse damage can occur instantaneously over very large areas. All communications equipment is susceptible to damage or destruction by electromagnetic pulse, including broadcast stations, radios, televisions, car radios, and battery-operated portable radios.

ANNEX MAINTENANCE AND ADMINISTRATION

Various members are responsible for the on-going maintenance and administration of function #2 plans, Field Operations Guides, Standard Operating Procedures, resource directories, exercises, etc., these are outlined in Appendix B.

STAKEHOLDERS

LEAD COORDINATORS

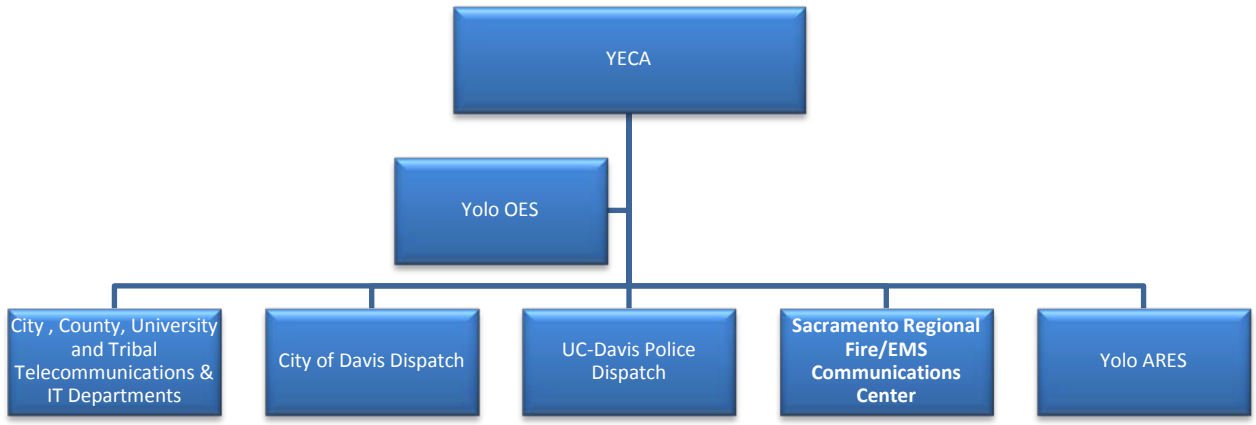
For the development of the Operational Area level, a lead agency has been designated based upon authorities and responsibilities. Yolo Emergency Communications Agency will fill the position of

lead agency for Emergency Support Function #2. The lead agency is responsible to facilitate the development, maintenance, and implementation of the ESF #2, with input and assistance from the stakeholders.

SUPPORTING AGENCIES AND DEPARTMENTS

Other agencies and departments that play roles assist in the development of the EF #2. These supporting stakeholders have responsibilities in assisting the coordination of all phases of emergency management.

Department/Agency	Division/Group	Responsibility
Yolo Emergency Communications Agency	Entire Agency	Serves as a PSAP to Woodland, West Sacramento, Winters, the Yocha Dehe Wintun Nation and Yolo County. YECA also provides dispatching for Arbuckle, and Robbins Fire Department which are located outside of Yolo County
City of Davis	Dispatch Center	Serves as a PSAP to the City of Davis, and UC – Davis Fire Department.
University of Davis Police	Dispatch Center	Serves as a PSAP to UC – Davis campus police department.
Sacramento	Communications Center	Serves as a PSAP to the Sacramento, Sacramento Metro, Folsom, Cosumnes, Courtland, Walnut Grove, Herald, and Wilton Fire Departments.
Yolo County ARES	Volunteer Group	Support emergency communications in the field through HAM radio frequencies.
City, County, University, and Tribal	IT & Telecommunications Departments	Provides support in the form of maintaining IT and telecomm infrastructure, security, and continuity.



EMERGENCY MANAGEMENT COMMUNITY

As described in the County of Yolo EOP, the Function #2 will also involve other stakeholders. As the group advances, planning should include for the future participation of these stakeholders (local, federal and tribal governments, public/private partnerships, and non-governmental /community

based organizations).

- Private Entities:
  - Instaconnect
  - Omnet
  - Winters Broadband
  - Wave
  - Comcast
  - AT&T
  - Verizon
  - Sprint
  - T Mobile
  - Motorola

YOLO COUNTY ARES

The ARES group in Yolo is composed of volunteer radio operators who own and manage privately owned radio equipment. The ARES members use a series of existing towers and repeaters in the county to broadcast on amateur radio bands. In the event that radio communications were not available in the field, ARES members would be tasked with supporting communications where possible.

FEDERAL ALERT AND WARNING SYSTEMS

Federal Agencies

The National Response Framework (NRF) organizes federal resources and capabilities under 15 Emergency Support Functions (ESF). ESFs have been developed and organized with the purpose of providing federally controlled resources to state and federal agencies during the response and recovery phases of a disaster or large-scale emergency.

- U.S. Department of Homeland Security
- Federal Emergency Management Agency

Integrated Public Alert and Warning System

The Integrated Public Alert and Warning System is a modernization and integration of the nation's alert and warning infrastructure and will save time when time matters most, protecting life and property.

Federal, State, territorial, tribal and local alerting authorities can use the Integrated Public Alert and Warning System and integrate local systems that use Common Alerting Protocol standards with the Integrated Public Alert and Warning System infrastructure. Integrated Public Alert and Warning System provides public safety officials with an effective way to alert and warn the public about serious emergencies using the Emergency Alert System, Wireless Emergency Alerts, the National Oceanic and Atmospheric Administration Weather Radio, and other public alerting systems from a single interface.

Emergency Alert System

The Emergency Alert System is a network of public broadcast stations and interconnecting facilities that have been authorized by the Federal Communications Commission to operate in a controlled manner during a state of public peril or disaster, or other large-scale emergency. The system's main purpose is to provide the President and Federal Government Officials the means by which to transmit emergency communications to the public. It may also be used for local, state and other national programming for public information on situations posing a threat to life and/or property.

National Warning System

This system is a nationwide wire-line communications 2-way voice system connecting subscribing emergency management organizations and designed primarily to warn of a nationwide attack. It may also be used for coordination and communications for major peacetime emergencies.

STATE ALERT AND WARNING SYSTEMS

State Agencies

The role of the State Agencies will be dependent upon the specific nature of the emergency including the type of material released, the scope of the response and recovery activities, and whether the incident affects the inland or coastal zone, on state streets, highways, or state-owned buildings or grounds. Supporting State Agencies are those who can provide technical, policy, and subject matter expertise, and are generally requested by stakeholder agencies or the Lead Coordinator(s) during an incident.

California Warning System

The California Alert and Warning System is the state portion of the National Alert and Warning System that extends to communications and dispatch centers throughout the state. Cal OES headquarters ties into the federal system through the Warning Center in Sacramento. Circuits then extend to county warning points. The California Highway Patrol headquarters in Sacramento is the state's alternate warning point. Both state and federal circuits are monitored 24 hours a day at the Warning Center, the alternate point and each of the local warning points. Counties not on this system will receive warning through other means (normally over the California Law Enforcement Telecommunications System.)

California Emergency Services Radio System

The California Emergency Services Radio System serves as an emergency communications system for Cal OES and county emergency services organizations. The system assists in the dissemination of warning information and supports disaster and emergency operations. The system may be used on a day-to-day basis for administrative emergency services business. Statewide communications are provided through a number of microwave interconnected mountain top relays. It operates under appropriate Federal Communications Commission rules and regulations and is administered by Cal OES.

California Law Enforcement Radio System (Inter-agency Radio)

California Law Enforcement Radio System is a microwave interconnected radio repeater system with statewide coverage. It may also have been referred to locally as Inter-agency Radio. This system was designed for use by law enforcement agencies for point-to-point communications and to provide a backup warning system to all counties in the state. Cal OES provides and maintains the statewide repeater system and microwave network for use by law enforcement agencies. System users are responsible for providing their own base station equipment and obtaining proper licensing from the Federal Communications Commission. The California Law Enforcement Radio System participation is voluntary, and many agencies no longer maintain the equipment.

California Law Enforcement Telecommunications System

California Law Enforcement Telecommunications System is a high-speed message switching system, which became operational in 1970. California Law Enforcement Telecommunications System provides law enforcement and criminal justice agencies access to various databases and the ability to transmit and receive point-to-point administrative messages to other agencies within California or via the National Law Enforcement Telecommunications System to other states and Canada. Broadcast messages can be transmitted intrastate to participating agencies in the Group Bulletin Network and to regions nationwide via National Law Enforcement Telecommunications System. The State provides the computer hardware, switching center personnel, administrative personnel, and the circuitry to one point in each county. The local agencies provide the circuitry and equipment, which link them to their county termination point. A number of agencies have message switching computer systems and computer aided dispatch systems, which directly connect to California Law Enforcement Telecommunications System.

Operational Area Satellite Information System

The Operational Area Satellite Information System project, funded under the Earthquake Hazards Reduction Act of 1986, was established to create the most robust communications system possible using leased transponder space from commercial satellite operators. The result is the establishment of a system, which allows virtually un-interruptible communication between state, regional and operational area level Emergency Operations Centers.

Operational Area Satellite Information System is a system that consists of a communications satellite, multiple remote sites and two hubs. The satellite is in a stationary or geo-synchronous orbit above the earth's equator. A high frequency radio system and a satellite communications network were constructed to link all 58 counties with Cal OES and other state agencies for disaster communications as well as day-to-day traffic. The system, which uses technology similar to cellular telephones, has more than 800 phone lines statewide.

The equipment necessary for the remote sites includes a six-foot diameter dish antenna using Very Small Aperture Terminal technology. These sites were originally set up by Cal OES and are capable of conducting eight simultaneous voice conversations and one data channel at DSL speed.

The final components are the hubs. The hubs are large external dish antennas and a network control station, which is managed by Cal OES personnel. The hubs provide access control for the

system and can control all 58 Operational Areas and 12 transportables. Cal OES personnel will use the hubs to define the network, detect trouble and serve as an emergency alert network for other Cal OES personnel.

California Health Alert Network

The California Health Alert Network is the State of California's web-based information and communications system available on a 24/7/365 basis for distribution of health alerts, dissemination of prevention guidelines, coordination of disease investigation efforts, preparedness planning, and other initiatives that strengthen state and local preparedness. California Health Alert Network participants have the ability to receive alerts and notifications via alphanumeric pager, e-mail, fax, and phone (cellular and landline).

In Yolo County, California Health Public Health Officials, the Emergency Services Coordinator, and local hospitals and clinics receive Alert Network alerts.

CONCEPT OF OPERATIONS

This section describes the Function #2 concept of operations, which documents how the emergency function stakeholders will, through collaboration and joint activities, support each phase of emergency management.

MITIGATION

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. This is achieved through risk analysis, which results in information that provides a foundation for mitigation activities that reduce risk. Mitigation activities for Function #2 include:

- Identify stakeholders and engage them in the development and maintenance of Function #2.
- Complete a vulnerability assessment and prioritize actions to reduce vulnerabilities within the scope of Function #2.
- Collaborate to pool Function #2 resources to prevent hazards and reduce vulnerability (leveraging funding, resources and people).
- Develop strategies and processes to prevent or reduce the impact of events and reduce the need for response activities.
- Support the Yolo Operational Area Multi-jurisdictional Hazard Mitigation Plan.
- Coordinate with the Yolo County Office of Emergency Services

PREPAREDNESS

Preparedness is a continuous cycle of planning, organizing, training, equipping, exercising, evaluating and taking corrective action in an effort to ensure effective coordination during incident response. Preparedness Activities for Emergency Support Function #2 include:

- Develop and maintain the Function #2 Functional Annex to the Emergency Operations Plan containing a concept of operations, plans, supporting documents and agreements.
- Establish decision-making and communication processes for Function #2.
- Identify stakeholder roles, responsibilities and statutory authorities.
- Initiate and oversee pre-emergency planning and coordination activities.
- Conduct resource inventories, categorize resources, establish agreements for acquiring needed resources, manage information systems, and develop processes for mobilizing and demobilizing resources with the Function #2 stakeholders.
- Plan for short-term and long-term emergency management and recovery operations.
- Integrate After Action Reports (AAR) and Corrective Action Planning (CAP) into the Function #2 Annex and Function #2 exercise process.
- Conduct regular Function #2 meetings and assist with training events.
- Support coordination for incident prioritization, critical resource allocation, integrates

communications systems and information coordination.
- Begin to identify and document resource types for Function #2.
- Create Emergency Resource Directory providing the list of Function #2 resources necessary to support operations.
- Inventory agreements that are in place to support sharing or resources.

RESPONSE

Response includes activities that address the short term, direct efforts of an incident. Response includes the execution of emergency operations plans and of mitigation activities outlined to limit the loss of life, personal injury, property damage and other unfavorable outcomes. Response activities for function #2 include:

- Discipline-specific subject matter expertise for all activities within the EOC organization. The Function #2 Coordinator provides subject matter recommendations and guidance involving its members.
- Assistance from support agencies.
- Guidance in resource request processing to EOC Sections.
- Recommendations on the appropriate use of resources.
- Expertise regarding the procedures, processes and methods for obtaining resources.
- Assistance in acquiring and processing discipline-specific intelligence and information.
- Coordination with Function #2 within other EOC levels.
- Provide linkage to discipline specific MAC Groups and provide:
- Collection of intelligence and information regarding the emergency to assist in setting priorities and objectives.
- Detailed information on scarce resources, resource allocation and inventory.
- Recommendations during the development of AARs.
- Identify and document the operating modes including:

    - **Trigger Points/Thresholds –** Identifies triggers that may indicate a need to increase the operational mode.
    - **Warning Procedures –** Identifies the procedures used to support warning emergency function stakeholder of an approaching or imminent danger prior to an incident to determine the need to increase the level of the operational mode. This should also include steps taken by the emergency function to increase readiness or to save lives and protect property prior to an incident.
    - **Alert and Notification –** Documents the alert and notification procedures for the emergency function when there is an increase in operational mode level. Confidential call lists may be developed as an appendix to the annex if not already developed in supporting operational documents.

- Documenting how stakeholders mobilize resources to support incident response and operations. This includes direct response under existing authorities or support and coordination of field-level response operations. In addition, document how resources will be tracked during mobilization and the demobilized when no longer needed. A separate, detailed Mobilization Plan will be developed as an appendix to the Function #2 Annex.
- Documenting how Function #2 organizes itself to support the emergency response within

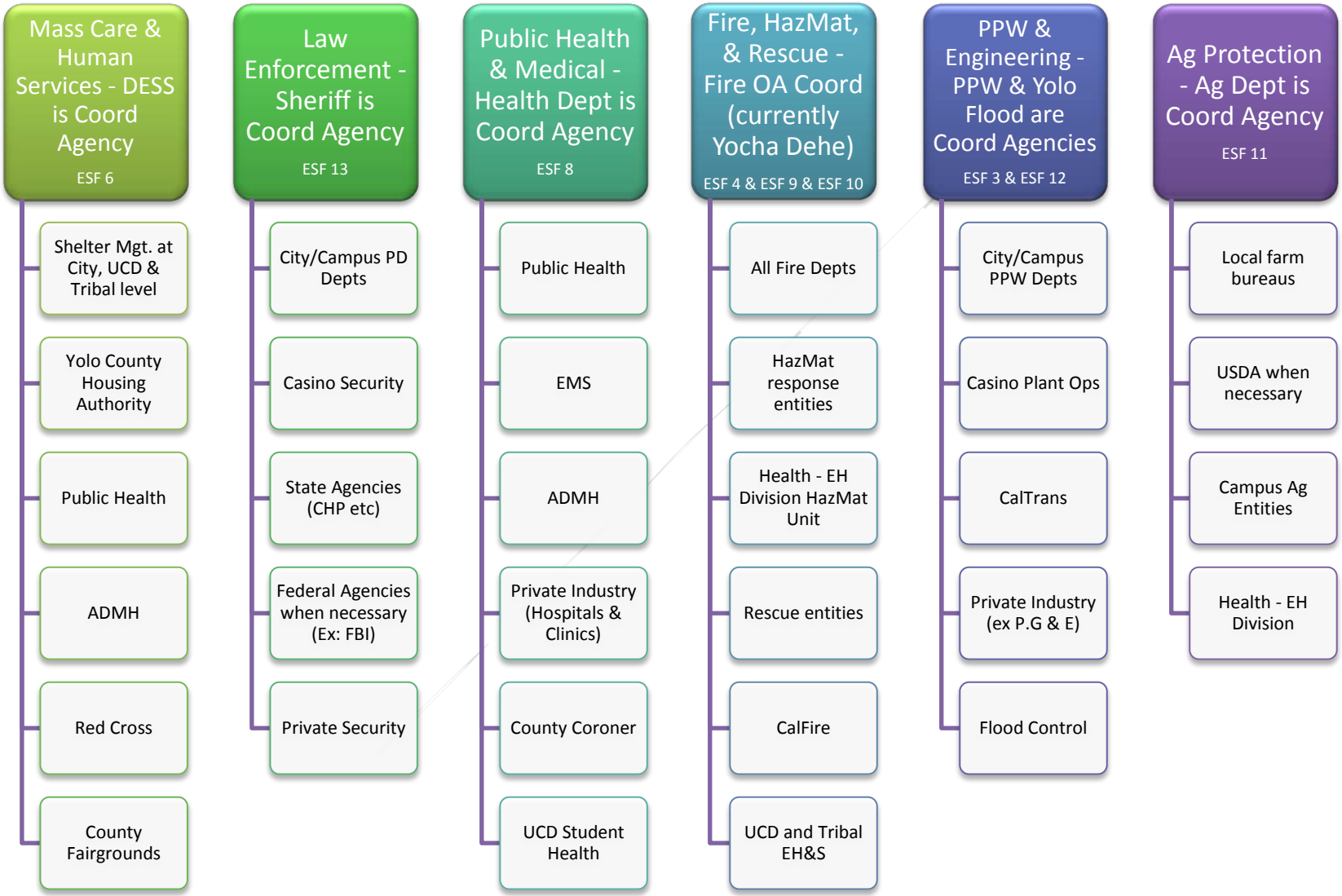
SEMS levels consistent with the MACS. Also documents how the emergency function will support the maintenance of the MACS.
- Documenting how Function #2 members communicate during an emergency, including primary and secondary systems and system redundancy.

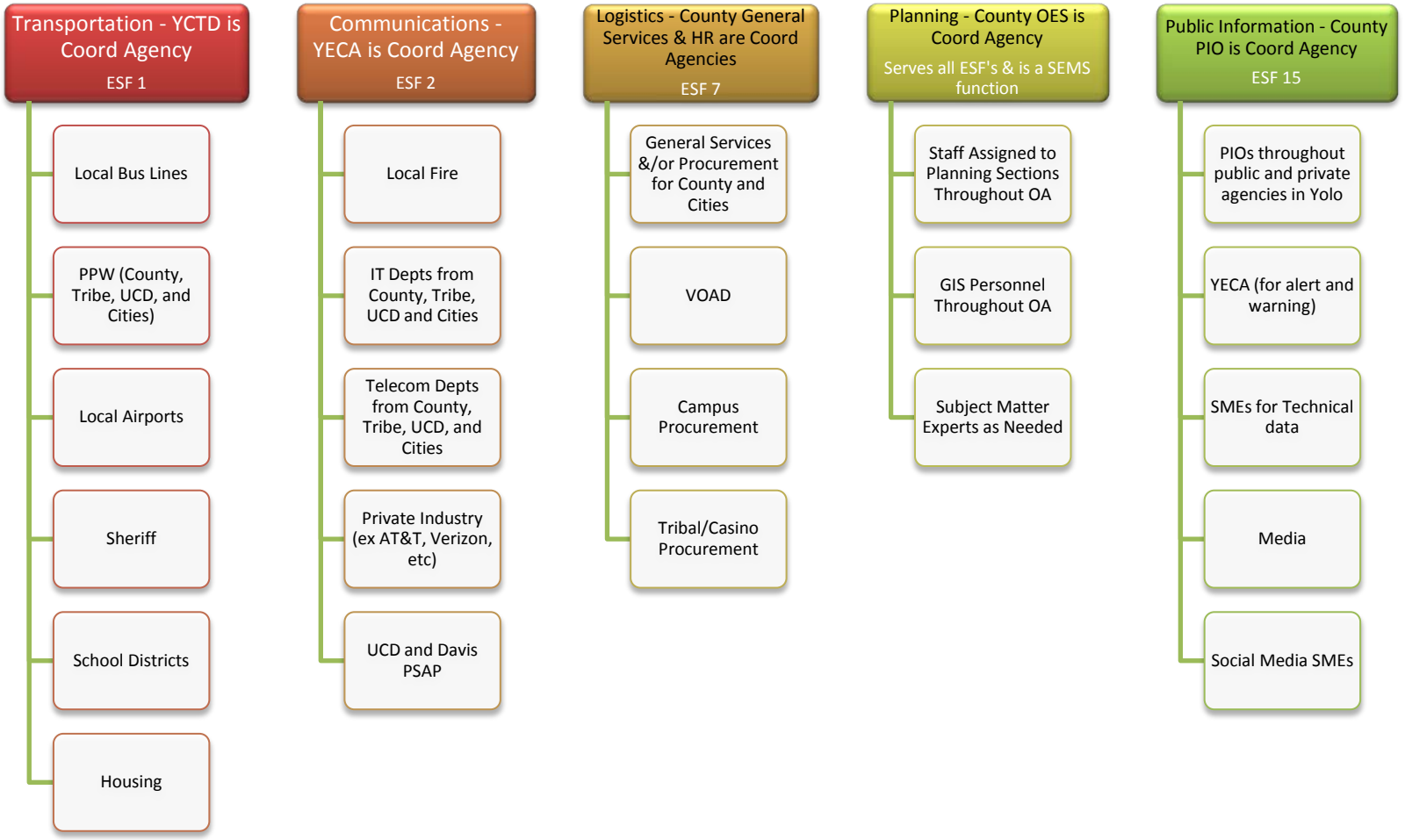
RECOVERY

The aim of the recovery phase is to restore the affected area to its pre-disaster state. It differs from the response phase in its focus; recovery efforts are concerned with issues and decisions that must be made after immediate needs are addressed. Recovery activities for Emergency Support Function #2 may include:

- Supporting recovery activities with roles and responsibilities of Emergency Functions members.
- Working with other Function #2 to organize rapid needs assessment teams to prevent duplication of efforts.
- Supporting efficient activation and sufficient staffing of Local Assistance Centers with Function #2 members as needed.

APPENDIX A: YOLO OPERATIONAL AREA PLANNING GROUPS





ESF5 is satisfied by OES involvement in all other ESF planning aspects & ESF 14 is satisfied by the recovery planning within each ESF.

APPENDIX B: DOCUMENTATION MAINTENANCE RESPONSIBILITIES

Plan/Document Name	Description	Emergency Management Phases	Owner	Last Updated
Yolo County Operational Area Communications (ESF #2) Annex Executive Summary	Overview of Function #2 for the Yolo Operational Area	Preparedness	Yolo County OES	September 2015
Tactical Interoperable Communications Plan(TICP)	The TICP outlines the radio based communications in county. Defining equipment, frequencies, and agency responsibilities	Response	YECA	2008
Regional Mass Notification System Plan	Defines the regional roles and responsibilities relating to the Yolo Alert (Everbridge) system. Explains regional agreements on alerting guidance.	Response	Yolo OES	2015
ARES EMCOMM	The ARES volunteers guidance for responding to and operating in an emergency capacity to support private, public, and non-profit agencies.	Response	Yolo AREA	2013

APPENDIX C: ACRONYMS

AAR – After Action Report

ADMH – Alcohol Drug & Mental Health

ARES – Amateur Radio Emergency Service

CAHAN – California Health Alert Network

Cal OES – California Office of Emergency Services

CAP – Corrective Action Plan

EAS – Emergency Alert System

EMCOMM – Emergency Communication Plan

EMS – Emergency Medical Services

EOC – Emergency Operations Center

EOP – Emergency Operations Plan

ESF – Emergency Support Function

GIS – Geographic Information Systems

MAC – Multi-agency Coordination

MACS – Multi-agency Coordination System

NRF – National Response Framework

NIMS – National Incident Management System

OES – Office of Emergency Services

OA – Operational Area

PPW – Planning and Public Works

SEMS – Standardized Emergency Management System

SERC – State Emergency Response Commission

TICP – Tactical Interoperable Communications Plan

UCD – University of California Davis

VOAD – Voluntary Organizations Active in Disasters

YECA – Yolo Emergency Communications Agency

APPENDIX D: VERSION HISTORY

Change Number	Section	Date of Change	Individual Making Change	Description of Change
0.1	All	05/06/2014	Howell Consulting	Initial draft
0.2	All	02/25/2015	Yolo OES	Edited all sections
0.3	All	05/19/2015	Comms Stakeholders	Inclusion of edits
1.0	All	09/01/2015	Yolo OES	Inclusion of edits from public comment period