Unified San Diego County Emergency Services Organization And County Of San Diego

Operational Area Emergency Plan

ANNEX I

Communications And Warning Systems

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Unified San Diego County Emergency Services Organization

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ACKNOWLEDGEMENTS

Principal Planners

Don Root, Communications Systems Manager, Wireless Services Unit
County of San Diego Sheriff's Department

Operational Area Plan Review Committee

Deputy Chief Dismas Abelman, Solana Beach Fire Department
Donna Faller, Program Manager, City of San Diego Office of Homeland Security
Scott Hansen, Emergency Preparedness Coordinator, San Marcos Fire Department
Joe Urban, Emergency Preparedness Coordinator, Oceanside Fire Department
Chief Dave Hanneman, Chula Vista Fire Department
Deputy Chief Richard Mattick, Santee Fire Department

Staff and Principal Planners

Marisa Balmer, Emergency Services Coordinator, Office of Emergency Services

Edited and Printed

San Diego County Office of Emergency Services

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ANNEX I
COMMUNICATIONS AND WARNING SYSTEMS

I. General

Essential to all organizations is an effective communications capability to support their daily operations. In a disaster, these communications systems become critical. The magnitude of a particular emergency situation will determine the degree to which communications systems are utilized.

The San Diego County Operational Area has 19 jurisdictions, numerous Special Districts and many military facilities which support a number of communications systems. In addition to wired and cellular telephones, the Operational Area has developed robust interagency and interoperable wireless voice and data communications capabilities.

Most of the jurisdictions in the San Diego County Operational Area operate in the 800 MHz spectrum. The majority of these agencies operate on the San Diego County – Imperial County Regional Communications System (RCS), a voice network which provides a coordinated communications capability for the San Diego County Operational Area.

Many Fire and support agencies also operate on 150 MHz (VHF High Band) spectrum to facilitate voice Fire communications under the California Master Mutual Aid Agreement.

In addition to an effective communications capability, government must have an effective means to provide warning alerts to the population impacted or at risk as the result of an emergency. There are two Operational Area alert and warning systems designed to provide our citizens with emergency warning information. These systems are the Emergency Alert System (EAS) and the AlertSanDiego system.

II. Purpose

The purpose of this Annex is to address the communications systems and the Alert and Warning systems that are currently in place in the San Diego County Operational Area. This Annex will be updated as new systems are developed.

III. Types Of Communications Systems

The County of San Diego and most of the jurisdictions within the County have joined the San Diego County – Imperial County Regional Communications System (RCS). This network provides voice communications coverage over the entire San Diego County Operational Area utilizing trunked 800 MHz frequencies, and provides individual agency and system-wide common talk groups to all participating agencies. The RCS network also provides access to conventional mutual aid / interoperability frequencies that can be used to communicate with non-member agencies when there is a need to coordinate information and / or operations.

The City of San Diego operates a separate 800 MHz public safety trunked radio network serving the City's Fire and Rescue, Law Enforcement, and Emergency Medical Services voice communications operations. In addition, the City network supports the safety voice communications needs of the San Diego Unified School District and the San Diego Community College District.

Military facilities within San Diego County are served by UHF trunked networks. Non-military Federal agency and many State agency voice operations are typically in the VHF (30 – 300 MHz) and UHF (300 – 500 MHz) spectrum using conventional communications networks. Some Tribal safety communications are conducted on the RCS, while others operate in the VHF and UHF bands.

The San Diego Operational Area has developed a data communications capability (the Regional Command and Control Communications [3Cs] Network) to remove much of the operational coordination communications load from the field voice communications networks.

The Operational Area has established varying levels of interoperability among the voice communication networks within the County. The San Diego Urban Area Tactical Interoperable Communications (TIC) Plan has been developed and is maintained by the Interoperable Communications Committee. The TIC Plan documents the interoperable communications resources available within the San Diego County Operational Area, including which agency controls each resource, and what rules of use or operational procedures exist for the activation and deactivation of each resource.

IV. Functional Element Communications

The communications systems available to the various functional elements within the Operational Area are as follows.

Operational Area Direction and Control Communications

Emergency Management Direction and Control communications between the Operational Area Emergency Operations Center (EOC), County departmental and jurisdictional EOCs, and Incident Command Posts within the San Diego Operational Area are conducted using a mix of systems and technologies, including:

Regional Command and Control Communications Network

The Regional Command and Control Communications (3Cs) Network is a dedicated high speed private data microwave and fiber communications network interconnecting EOCs, Public Safety Answering Points and other key decision making facilities in the San Diego Operational Area. The 3Cs Network is equipped to support video teleconferencing, transmission of video signals from the region's airborne public safety operations platforms, digital telephone services, Geographic Information Systems data, and WebEOC data, among other applications. 3Cs Network endpoints and services are listed in **Attachment I-A**.

Regional Communications System (RCS)

The San Diego County – Imperial County Regional Communications System provides four dedicated talk groups under the control of the Operational Area EOC for use as needed for Direction and Control communications.

Radio Amateur Civil Emergency Services (RACES)

The Radio Amateur Civil Emergency Services (RACES) provides redundant voice and low-speed data communications circuits to EOCs and other key decision making facilities as needed.

Fire and Rescue Communications

The majority of the fire agencies in the San Diego County Operational Area use the RCS and the City of San Diego's 800 MHz systems for day-to-day fire and EMS response operations. A unified 800 MHz fire communications fleet map has been developed and programmed into every Fire and Rescue user radio on the RCS and the City networks. This unified fleet map provides command, tactical and support channel resources for incident operations, while allowing apparatus to move within the county and operate with any other 800 MHz-based agency as needed.

A large area of rural San Diego County is undeveloped wild land for which fire protection is the responsibility of the State or Federal fire protection agencies. These agencies primarily operate in the VHF Hi-Band spectrum, but they also have 800 MHz capabilities in dispatch and their field units.

The State Fire and Rescue Mutual Aid system primarily operates mutual aid incidents on the VHF-Hi-Band spectrum. The majority of local agency resources that would participate in wild land or mutual aid operations are equipped with VHF Hi-Band voice radios.

Unified fleet map, Fire and Rescue agency Mutual Aid Zone and agency Dispatch center assignments and contact information are listed in the San Diego Urban Area Tactical Interoperable Communications (TIC) Plan**, Attachment I-B.**

In an incident where mutual aid has been requested, the responsible Dispatch center will inform responding resources what the command frequency will be - either 800 MHz or VHF. Command vehicles have 800 MHz (trunked and conventional) and VHF capabilities. Talk groups within the unified fleet map have been established on 800MHz for the purpose of on-scene and enroute coordination, and are grouped by dispatch center / response area of the County. Assignments will be given to the incoming command units on a compatible frequency with the Incident Commander, and then passed to the other members of the strike team on their identified frequency or talk group.

Due to the complex nature of communications and the varied systems and networks in place, it is imperative that a qualified Communications Unit Leader (COML) be assigned to the incident and/or to the Operational Area Coordinator's office. The persons filling this position must have knowledge and an understanding of all radio systems used by the Fire Service within the County, including but not limited to the RCS, CalEMA and CDF networks, USFS, BLM and BIA communications resources.

When the Operational Area Emergency Operations Center has been activated, each incident-based COML needs to communicate on a regular basis with the Communications Unit Coordinator in the

OA EOC to ensure that incident operations are not in conflict with other incidents using frequency resources within the County.

Law Enforcement Communications

The majority of the Law Enforcement agencies in the San Diego County Operational Area use the RCS and/or the City of San Diego's 800 MHz systems for day-to-day response operations. The California Highway Patrol primarily uses VHF Low Band, but the El Cajon Area Office of the CHP uses the RCS as their primary system and the low band frequencies as backup. Other State and Federal law enforcement operations take place on VHF Hi-Band and UHF frequencies.

While different types of radios and frequencies are used, the Operational Area has established varying levels of interoperability among the voice communication networks within the County. Mutual Aid fleet map, Law Enforcement agency Mutual Aid Zone and agency Dispatch center assignments and contact information are listed in the San Diego Urban Area Tactical Interoperable Communications (TIC) Plan, **Attachment I-B.**

Emergency Medical Services (EMS) Communications System

The San Diego County Operational Area does not have established communications capabilities for the National UHF EMS radio frequencies in the 462 MHz band.

The Operational Area EMS Radio System is a component of both the RCS and the City of San Diego's 800 MHz networks. All ambulances and hospitals are using 800 MHz radios for communications. The Base hospitals are contacted by incoming EMTs and Paramedics directly.

There are currently seven Base Hospitals in the County. These Base Hospitals are:

1. Tri-City Medical Center
2. Sharp Grossmont Hospital
3. Scripps Mercy Hospital and Medical Center
4. Palomar Medical Center
5. Scripps Memorial Hospital - La Jolla
6. Sharp Memorial Hospital
7. U.C.S.D. Medical Center

In the event of a disaster, the facilitating Base Hospital for the affected area is responsible for gathering patient bed availability information from the satellite receiving hospitals.

County Government Communications System

Various agencies of County Government utilize voice radio communications in the furtherance of their duties. These agencies operate on the RCS and have been assigned their own talk groups. Countywide and mutual aid talk groups provide the ability for these agencies to talk to each other and with other RCS using agencies. When required, these agencies coordinate via the Sheriff's Communications Center (Station M). Some of the County agencies which are on this system include:

A. Medical Examiner
B. Parks and Recreation
C. Environmental Health
D. Public Works
E. Probation
F. Animal Control
G. Humane Society
H. Office of Emergency Services

Amateur Radio

There are volunteer Amateur Radio Operators in San Diego County who devote many hours to supporting and improving the communications capabilities of all of our emergency services. RACES and ARES operate across jurisdictional borders in San Diego County. There are also local jurisdiction radio groups that support communication efforts during disasters.

Radio Amateur Civil Emergency Services (RACES)

RACES is supported by the County Office of Emergency Services and the Sheriff's Department Wireless Services Division. These volunteers have registered with the County as Disaster Service Workers, and have trained to provide communications and other services to Emergency Management, Fire and Rescue, Law Enforcement and other Public Safety agencies as requested when other normal communications systems need to be augmented or replaced. They also have established radio stations in each city to provide communications between that city and the Operational Area EOC.

RACES volunteers have the ability to obtain a great deal of information for local government even when other communications systems are unavailable. Their ability to communicate over a long distance is vital in the absence of primary communications links.

Operational Area RACES network operations and procedures are covered in the Unified San Diego County Radio Amateur Civil Emergency Services Plan, **Attachment I-C.**

The services of RACES can be requested through the Sheriff's Communications Center or the Office of Emergency Services.

Amateur Radio Emergency Service (ARES)

ARES is an organization under the auspices of the American Radio Relay League (ARRL), the national association of Amateur Radio Operators. ARES members volunteer their services primarily to agencies involved in health and welfare activities. ARES works closely with the County's EMS agency, the American Red Cross, and the Salvation Army, and provides emergency communications to all of the area hospitals.

ARES can be requested through the Sheriff's Communications Center or the County EMS.

V. Operational Area Alert And Warning

Emergency information, advice, and action instructions are given to the public by various media. The Emergency Alert System (EAS), AlertSanDiego and mobile loudspeakers are the primary media. Other available media are bulletins, handbills, and the press. The Office of Emergency Services maintains pre-scripted, hazard-specific warning messages for high impact events which require time sensitive warnings.

Emergency Alert System (EAS)

General

The State of California has been divided into "EAS Operational Areas" for the purpose of disseminating emergency information. The San Diego EAS Operational Area encompasses the entire County. Under Federal guidelines, local EAS operational plans are written by the broadcast community. Two radio stations, KOGO (600 AM) the LP-1 and KLSD (1360 AM) the LP-2 have emergency generators and have volunteered to be the local primary stations for the San Diego County Operational Area. Other radio and television stations continue to operate as conditions permit.

All radio and television stations in San Diego County along with all cable TV providers will be broadcasting emergency public information in the event of an activation of the EAS. The system is designed so that all of the radio, TV and cable stations/systems monitor the LP-1 and LP-2 stations and forward the information to their listeners and viewers.

The San Diego EAS Operational Area Plan is **Attachment I-D.**

Users

Most of the EAS broadcasts will originate at the National Weather Service facility in Rancho Bernardo. The Office of Emergency Services is also authorized to activate the EAS. Any jurisdiction in the San Diego County Operational Area can contact the Office of Emergency Services to activate the system in the event of the need to notify its citizen of the need to evacuate or to provide them with emergency information.

AlertSanDiego

In 2006, the County of San Diego implemented the AlertSanDiego (ASD) communications system. ASD is currently available throughout the San Diego Region. ASD enables emergency dispatchers to call residents, via a reverse 911 callout system, and alert them to emergency actions which may need to be taken. ASD combines GIS mapping technologies with 9-1-1 calling data in an easy-to-use interface. The system, which is hosted by Twenty First Century Communications Inc., has the capability of making thousands of calls per hour by using automated calling technology. The Office of Emergency Services, incorporated cities, or Sheriff's Communications Center are responsible for the activation of ASD.

AlertSanDiego has limitations which include:

1. Phone lines and power must be working for residents to receive call and/or messages. If residents have registered their cell phone through AlertSanDiego, then it is still possible for them to receive messages.
2. Cell phone or private branch exchange (PBX- most businesses have their phones hooked up to a PBX) numbers are not in the database and those residents will not receive the call, unless they have registered their cell phones through AlertSanDiego.
3. If residents are still on a dial-up internet connection or subscribe to call blocking services, they will not receive the call, unless they are registered through AlertSanDiego.

VI. Federal And State Alert And Warning

This warning system is the means for relaying to the public, notice from the Federal, State or local government of impending or actual disaster or attack. Appropriate responses and the most effective use of warning information may be limited by the amount of time available.

Actions

Warning actions are characterized by requiring high priority for a short period of time, the use of mass media systems for passing warning to the public, the small number of workers necessary to operate the system, the demand for fast activation of the system on short notice, and the need to maintain readiness to repeat all actions in the event of successive alerts or attacks.

The California Warning System (CALWAS), a component of the National Warning System (NAWAS) sends out warning information, which is received at the Sheriff's Communication Center and relayed to the Office of Emergency Services. The public is then warned by means of the Emergency Alert System (EAS) and any other means, including mobile loudspeakers.

Alternate means of warning are via the California Law Enforcement Telecommunications System (CLETS), public safety radio systems, and the Radio Amateur Civil Emergency Services (RACES) network.

Notice of warning is also broadcast from the various county and city communications centers to special facilities (schools, hospitals, fire stations, utility stations, etc.). Key workers of emergency organizations may be alerted by telephone or radio. The EAS and the AlertSanDiego systems are expected to provide coverage for a large part of the population.

Types Warning

Attack Warning
A warning that an actual attack against this country has been detected.

Fallout Warning
A warning of radiation hazards resulting from a nuclear cause.

Warning Information

Authorized EAS stations will broadcast warning information as requested under the EAS Operational Area Agreement.

The California Emergency Management Agency (Cal EMA) operates the Emergency Digital Information Service. The EDIS delivers official local and state-wide information about emergencies and disasters to government agencies, the public and news media in California.

War Emergency
Emergency Services authorities will route war emergency warnings via designated EAS program entry points to the media.

Peacetime Emergencies
Warning of an extraordinary peacetime emergency may be received by local government over the California Law Enforcement Telecommunications System (CLETS), public safety radio systems, NAWAS, and/or other means.

VII. Other Communications Capabilities

OASIS
OASIS is an acronym for Operational Area Satellite Information System. It is a State of California owned satellite system which has been set up at the Operational Area EOC. OASIS provides the EOC with several phone lines for voice and data.

Cellular Telephones

Most, if not all agencies have cellular phone capabilities. All agencies should have cellular phone numbers for all of their staff who have cellular phones, and the cellular phone numbers for their closest jurisdiction.

VIII. EOC Communications Systems

The communications systems installed in or controlled from the Operational Area Emergency Operations Center (EOC) support the field activities of the emergency organization. Other communications systems provide links to nearby jurisdictions and to higher levels of the statewide emergency organization. The communications systems in the EOC include the radio systems licensed to the County. Such radio systems are augmented, in an emergency, by radio systems licensed to other governmental agencies, to private industry, and to individuals. During a State of War emergency, privately owned radio systems, equipment, and facilities, subject to approval of the licensee, will generally be used to support field activities of the emergency services not already linked directly to the EOC.

The Communications Unit is a technical support position in the Logistics Section which provides communications for the management of emergency operations. Messages sent outside the EOC are handled by operators assigned to the communications section. The County communications operation is under command of the Sheriff.

The Sheriff's Wireless Services Division provides staff to make provisions for additional equipment in addition to maintaining communications equipment. The operations personnel assess their communications requirements and advise the Communications Unit Leader. Procurement of communications resources and services will be managed by the County Technology Office, in consultation with and on advice from the resources group.

A listing of the communications networks available in the Operational Area EOC is found in **Attachment I-E.**

IX. Mobile Communications And Command Vehicles

In the event the Operational Area EOC or a jurisdictional EOC must be relocated, the County has two mobile communications and command vehicles ("ECHO III" and "RACES 1") available to support EOC communications operations. These vehicles are maintained by the Sheriff's Department Wireless Services Division and are operated by volunteers the County's RACES Unit. These vehicles are also available to support incident operations as necessary.

To support incident-based management and operations, there is an extensive inventory of Mobile Command Vehicles owned by the various jurisdictions in the San Diego Operational Area. These vehicles are listed in the TIC Plan, **Attachment I-B.**

ATTACHMENTS:

I-A: Regional Command and Control Communications (3Cs) network

(*Under Initial Development)*

I-B: San Diego Urban Area Tactical Interoperable Communications Plan

(2006 Edition under revision by the ICC)

I-C: Unified San Diego County Operational Area Radio Amateur Civil Emergency Services Plan

(2001 Edition under revision by RACES Staff)

I-D: San Diego EAS Operational Area Plan

(Insert current edition of EAS Plan)

I-E: San Diego Operational Area EOC Communications Systems Overview

(Wireless Services is updating list in 2006 Annex I)