

SAN DIEGO COUNTY MUTUAL AID RADIO PLAN

1.1 General

Mutual aid channels are a critical part of San Diego County's radio system requirements. The San Diego County Mutual Aid Radio Plan will utilize new 800 MHZ spectrum to provide mutual aid communications capabilities at the local, County, State, National, and International levels. In addition, provisions will be provided for interfacing with agencies operating in other frequency bands.

The following sections describe the various levels of mutual aid capabilities that will be incorporated in the Mutual Aid Radio Plan.

1.2 Local 800 MHZ Mutual Aid Channels

Local mutual aid talkgroups are the County's lowest level of mutual aid capability. These talkgroups will normally be utilized by cities for coordination between different departments within that jurisdiction. This may include communications between the local police department and local public service agencies, between local fire agencies and local police or public service departments, and local emergency service departments and their local police, fire, and public service agencies.

In some cases, neighboring cities or districts may, by mutual agreement, elect to equip their mobiles and portable radios with one or more of their neighbor's talkgroups to provide mutual aid communications when operating within each other's jurisdiction. However, in most cases it is anticipated that mutual aid communications between different cities and districts will be handled on County-level mutual aid talkgroups.

Mutual aid at the local level will be provided by equipping those agency's portable and mobile fleets with specific trunked talkgroups that are dedicated for mutual aid communications.

1.3 County-Level 800 MHZ Mutual Aid Channels

The next higher level of mutual aid communications is the County level. The purpose of the County-Level channels is to provide mutual aid communications capabilities between the different jurisdictional entities that operate within the County. This includes communications between the different law enforcement, fire, medical, and public service agencies that are located within San Diego County.

The following methods will be utilized to provide county-level mutual aid channels.

The primary method of mutual aid communications at the County-Level will be accomplished on the shared trunked backbone systems. Mutual aid talkgroup

zones will provide most of the daily mutual aid capability. Incidents occurring in regional areas will normally use talkgroups designated for mutual aid within the functionality of the responding agencies. Large Multi-Agency incidents will use designated county-wide mutual aid talkgroups.

Since there is a significant presence of VHF non-trunked activity in and out of the County, existing VHF mutual aid frequencies will also be utilized. These include Fire Red and White and Police CLEMARS frequencies.

A conventional 800 MHZ channel has been designated as the San Diego Mutual Aid Radio System (SDMARS) channel. This will be a voted, steered high-level channel that will be in active repeat mode at all times. The primary CTCSS tone will be 156.7 Hz. in accordance with the State Mutual Aid radio plan. A secondary CTCSS tone, individual to each site, will allow command vehicles and some control stations to have switchable steering. This will allow this channel to be used during failure of the microwave or voting systems.

1.4 State-wide 800 MHZ Mutual Aid Channels

The third level of mutual aid capability is through the use of the Statewide Mutual Aid Channels designated by the Southern California 800 MHZ Regional Communications Plan. This plan designated two conventional channels for Statewide mutual aid purposes. One of these channels is an 800 MHZ CLEMARS channel dedicated to Law Enforcement applications and the other is a FIREMARS 800 channel reserved for Fire and Emergency Medical Services (EMS) uses. These channels will provide for mutual aid communications with properly equipped out- of-county units.

Remote base/mobile relay stations for the two Statewide Mutual Aid Channels will be provided and installed at the locations designated in Table 1. These stations will utilize limited ERP and incorporate downtilt and other patterned antennas to provide cellular coverage and allow some reuse of the frequencies.

These available radio system resources would be requested via the designated "MONITORING AGENCY " titled as Master Communications Center (MCC) in this plan. The term MONITORING AGENCY is from the Southern California 800 MHZ Regional Radio Plan section 4.0 - Mutual Aid. Generally, the State Office of Emergency Services (OES) has authority to regulate operations on the International and State mutual aid radio channels provided. When requested the MCC will make the required radio frequency resources available for the incident. Fixed radio sites and radio channels will be selected for best possible radio communications enhancement at the scene of the incident. If fixed radio system equipment is not adequate, specially equipped mobile tactical radio system vehicles, "Augmented Radio Systems (ARS)", can be dispatched to the area of the incident. The primary MCC for the Regional Communications System will be the Sheriff's Communications Center at the Emergency Communications Complex. The Alternate MCC will be the ECHO I dispatch center.

The MCC will be equipped with a "Enable/Disable" function that will control the repeat mode when the MCC receives a request for use of these resources.

Stations on the Statewide Mutual Aid Channels will be interfaced to consoles at the primary and secondary MCCs, via the County Microwave System.

In the normal mode of operation, these stations will function as remote base stations when receiving signals encoded with the 156.7 Hz Statewide tone and will remain in the "Disable" mode until specifically activated by operators at the MCC or a properly equipped mobile command post.

The "Enable/Disable" functions will be controlled by industry standard DTMF tones and will be configured to function from both the microwave/wireline interface and over-the-air DTMF signals.

1.5 International 800 MHZ Mutual Aid Channels

The fourth level of mutual aid capability is through the use of the mutual aid channels designated by the FCC as International Common Mutual Aid Channels (ICALL, ITAC1-4). Five Channels have been designated on a nationwide basis for mutual aid communications. One channel has been designated as a "calling" channel and the remaining four channels are for "tactical" operations. These channels will provide for mutual aid communications with properly equipped out-of-county and out-of-state units.

The International Common Mutual Aid Calling (ICALL) Channel will be designed to provide wide-area coverage. Remote base/mobile relay stations will be installed at the locations designated in Table 1. These stations will incorporate a receiver voting system. This system will be configured to operate with a transmit and receive CTCSS tone of 156.7 Hz as mandated by the Regional and National Plans.

In the normal mode of operation, the stations on the International calling channel will function as remote base stations and will remain in the "Disable" mode until specifically activated by operators at the MCC or a properly equipped mobile command post. Control of the "Enable/Disable" functions will be via industry standard DTMF tones. Stations on this channel will be interfaced to consoles at the primary and secondary MCCs, via the County Microwave System.

Remote base/mobile relay stations for the four International Tactical Mutual Aid Channels (ITAC1-4) will be provided and installed at the locations designated in Table 1¹. The majority of these stations will utilize limited ERP and incorporate downtilt and other patterned antennas to provide cellular coverage. The channels assigned to each location have been specifically selected to allow reuse of the frequencies. Some of

¹ *International Tactical Mutual Aid channels on high-level transmitter sites are subject to licensing approval.*

these stations, however, will be specifically designated for intercounty mutual aid communications and will, therefore, be designed for wider operational areas.

The MCC will be equipped with an "Enable/Disable" function that will enable or disable the repeat mode when the station receives a carrier with the 156.7 Hz CTCSS tone.

Stations on the International Common Mutual Aid Channels will be interfaced to consoles at the primary and secondary MCCs via the County Microwave System.

In the normal mode of operation, these stations will function as remote base stations when receiving signals encoded with the 156.7 Hz nationwide tone and will remain in the "Disable" mode until specifically activated by operators at the MCC or a properly equipped mobile command post.

The "Enable/Disable" functions will be controlled by industry standard DTMF tones and will be configured to function from both the microwave/wireline interface and over-the-air DTMF signals.

1.6 *Mutual Aid with the California Highway Patrol*

The California Highway Patrol (CHP) does all traffic enforcement on unincorporated County roads and, in addition, because of the extensive freeway network within San Diego County, the capability for mutual aid communications between county public safety agencies and the CHP is an important issue. Because the CHP system operates in the 42 MHz VHF low band spectrum, direct car-to-car communication is not feasible. One plan is to purchase control stations for installation in the CHP Border Division dispatch consoles. This will provide dispatch center-to-dispatch center coordination capabilities between the CHP and county agencies, but will not provide the desired mobile-to-mobile communications capabilities.

San Diego County understands that a new "low band" VHF CLEMARS mobile relay system is being developed (CLEMARS 6-7) that could be accessed by CHP units operating in the San Diego County area, and supports this development. It would then be possible to cross-patch it with an International Common Tactical or other 800 MHZ Mutual Aid Channel and develop a mutual aid system that will provide mobile-to-mobile communications capabilities between the CHP and San Diego County agencies. When implemented, cross-connection/patching will be on an on-demand basis only.

SAN DIEGO COUNTY MUTUAL AID SYSTEM OPERATIONAL POLICIES

2.1 General

This section of the Plan defines the operational policies for use of the San Diego County Mutual Aid System.

2.2 System Management

The primary MCC, operated by the Sheriff's Communications Division, is the County's designated monitoring and control point for mutual aid systems. It will be the responsibility of this Communications Center to operate, manage, control, and police the County's mutual aid systems. The secondary MCC, ECHO I, will assume these duties in cooperation with or in place of the primary MCC.

The MCC will have the capability of monitoring all County, State, and International Common Mutual Aid Channels. The MCC will also be responsible for the "Enable" and "Disable" repeaters on the State and International Common Mutual Aid Channels when required for communicating with agencies from outside of San Diego County. The Center will also have the capability of cross-patching the 800 MHZ mutual aid channels to mutual aid channels in other bands.

2.3 Priority Levels

San Diego County agencies requiring the use of mutual aid channels shall use the lowest level of mutual aid channel that will provide the communications capabilities required for the incident. The channel usage priority arranged from lowest to highest is as follows.

- Local Mutual Aid Channels
- County-Level Mutual Aid Channels
- Statewide Mutual Aid Channels
- International Common Mutual Aid Channels

Where possible, agencies requiring mutual aid communications should utilize the simplex (car-to-car) mode of operation to maximize reuse of the channels. If the simplex mode does not provide adequate coverage, agencies should utilize the appropriate mutual aid trunked talkgroup.

Permissible traffic on County-Level, Statewide, and International Common Mutual Aid Channels shall conform to the priority level 1 through 3A as defined in the Southern California 800 MHZ Regional Plan. These levels are defined as follows.

- Priority 1:** Disaster and extreme emergency operations, for mutual aid and interagency communications.
- Priority 2:** Emergency or urgent operations involving imminent danger to the safety of life or property.
- Priority 3:** Special event control activities, generally of a pre-planned nature, and generally involving joint participation of two or more agencies.
- Priority 3A:** Drill, test, and exercises of a civil defense or disaster nature.

These channels are to be used primarily for coordination of activities between different agencies in a mutual aid situation or emergency activities of a single agency. When a higher priority use is required, all lower priority use must cease in ANY area where interference could occur.

2.4 Channel Designations

After consultation with many of the Southern California Region's Public Safety agencies, San Diego County has adopted the following local "San Diego County Mutual Aid Radio Plan" designators for the National Common and Statewide Mutual Aid Channels, which will be programmed into the displays of the San Diego County radios.

<u>Channel</u>	<u>Frequencies (MHZ)</u>	<u>Proposed Designator</u>
601	821/866.0125	International Calling Channel ("ICALL")
639	821/866.5125	International Tactical Channel 1 ("ITAC1")
677	822/867.0125	International Tactical Channel 2 ("ITAC2")
715	822/867.5125	International Tactical Channel 3 ("ITAC3")
753	823/868.0125	International Tactical Channel 4 ("ITAC4")
792	823/868.5125	Statewide Law Enforcement ("CLEMARS 8-9")
830	823/868.9875	Statewide Fire/EMS ("FIREMARS 800")
673	821/866.9500	Intra-County Interservice Command (SDMARS)

It is noted that a proposal was unanimously adopted by the APCO National Public Safety Communications Plan Steering Committee to standardize the nomenclature for the five International Common Mutual Aid channels to "ICALL" and "ITAC1" through "ITAC4" to indicate the "International" nature of these mutual aid channels now that agreements have been reached for common usage among Canada, Mexico, and the U.S.

2.5 Mutual Aid Channel Usage

The mutual aid channels utilized in San Diego County have designated applications and some channels are restricted to certain types of users. The following paragraphs describe the purpose and eligibility requirements for the mutual aid channels.

2.5.1 Local Mutual Aid Channels

The use of local mutual aid channels will depend on the applications of the using agency. In general, these channels will be available to a jurisdiction's Law Enforcement, Fire/Ems, Public Service, and General Government users.

2.5.2 County-Level Mutual Aid Channels

The trunked backbone systems utilized by the new Regional Communications System will provide the capability for a considerable number of mutual aid channels. These channels have been divided into four categories: Law Enforcement, Fire/Ems, Public Service, and combined Law Enforcement/Fire/Ems/Public Service use.

Law Enforcement Mutual Aid Channels - The trunked talkgroups on the San Diego County radio system that are designated for law enforcement mutual aid purposes will only be authorized for use by law enforcement agencies and personnel from other agencies with peace officer status.

Fire/EMS Mutual Aid Channels - The trunked talkgroups on the San Diego County radio system that are designated for Fire/Ems mutual aid purposes will only be authorized for use by Fire/Ems agencies.

Public Service Mutual Aid Channels - The trunked talkgroups on the San Diego County radio system that are designated for public service mutual aid purposes will only be authorized for use by public service or other general government agencies.

Combined Law Enforcement/Fire/EMS/Public Service Mutual Aid channels - The trunked talkgroups on the San Diego County radio system that are designated for combined Law Enforcement/Fire/Ems/Public Service mutual aid purposes will be available for use by all Public Safety/Public Service agencies within the County.

San Diego Mutual Aid Radio System (SDMARS) - The SDMARS conventional 800MHz channel is designated for use by all Public Safety/Public Service agencies within the County.

2.5.3 State-wide Mutual Aid Channels

800 MHZ CLEMARS Channel - The State 800 MHZ CLEMARS Channel is designated for law enforcement mutual aid purposes and will only be authorized for use by law enforcement agencies and personnel from other agencies with peace officer status. All use of this channel shall be in accordance with the State of California, Governor's Office of Emergency Services, CLEMARS Plans.

800 MHZ "FIREMARS 800" Channel - The State 800 MHZ "FIREMARS 800" Channel is designated for fire and emergency medical mutual aid purposes and will only be authorized for use by fire agencies and EMS personnel from local government agencies. All use of this channel shall be in accordance with the State of California, Governor's Office of Emergency Services, State Mutual Aid Radio System Plan (SMARS).

2.6 International Mutual Aid Channels

The five International Common Mutual Aid Channels (ICALL, ITAC1-4) are authorized for use by all public safety agencies within San Diego County. All use of these channels shall be in accordance with the Southern California 800 MHZ Regional Communications Plan.

2.7 Voice Privacy, Signaling or Paging

The use of tone or digital signaling (other than Automatic Transmitter Identification System-ATIS) or paging shall be prohibited on the International Common and Statewide Mutual Aid Channels. Voice Privacy shall be permitted in the simplex mode or on portable mobile relay stations on the International Common Tactical Channels (1 through 4) ONLY, and such use shall be coordinated through the MCC. Such use shall cease in the event of a higher priority incident requiring use of the channel. This is in accordance with Section 4.5 of the Southern California Regional Plan.

2.8 Use of Radio Codes

All communications on the County-Level, Statewide, and International Common Mutual Aid Channels shall be conducted in "clear text" using the English language, except for the voice privacy use as described above in "Voice Privacy, Signaling or Paging."

2.9 Unit Identifiers

Units operating on the International Common and Statewide Mutual Aid Channels shall include their agency name in their unit identification (e.g., "San Bernardino County, Anaheim Unit 615-Kilo").

2.10 Aircraft Operation

Use of the 800 MHZ mutual aid channels in aircraft is authorized providing that such operation is in accordance with all applicable FCC rules and regulations.

2.11 Mutual Aid Policy Committee

Recognizing that the San Diego County Mutual Aid Radio Plan may require periodic revisions, the Regional Communications System (RCS) Board of Directors has established a Mutual Aid Policy Committee to oversee the San Diego County Mutual Aid

Radio Plan. This Committee consists of representatives of the Regional Communications System, the San Diego County Chiefs' of Police and Sheriff's Association, the San Diego County Fire Chiefs' Association and the San Diego County Office of Disaster Preparedness. It is the responsibility of this committee to periodically review the San Diego County Mutual Aid Radio Plan and recommend any required changes.

Any changes to this Plan that are recommended by the Committee that affect the use of the Statewide or International Common Mutual Aid Channels will be submitted to the State Office of Emergency Services for approval.

REGIONAL COMMUNICATIONS SYSTEM MOBILE MUTUAL AID RESOURCES

3.1 General

This section of the manual describes the mobile communications resources available through the RCS, their operational characteristics, and their authorized uses.

3.2 Mobile Resources

The RCS will operate and maintain two mobile communications resources.

Echo III will be a mobile command and control center. This apparatus will provide radio control stations, telephone and intercom facilities, mobile data and fixed data systems, and a planning area. This apparatus will be capable of being deployed to a Command Post or Field Camp area for the purpose of providing sustained incident communications support.

There will be one² “transportable radio facility (TRF)” resource. This apparatus will independently provide a four channel analog trunked radio system (channel resources may be shared when a second unit is available), 8 conventional 800 MHz repeaters with International, State and Local mutual aid conventional channels, 8 VHF repeaters with National State and local mutual aid channels installed, and a microwave restoration unit³ with 4 t-1 capability over digital microwave radio. This apparatus will be capable of sustained operations in remote locations and will be capable of some level of off-road deployment.

3.3 Mobile Resource Operation

The RCS mobile resources will be maintained at the Emergency Communications Complex.

When requested for an incident Echo III will be operated by personnel from the Sheriff's Communications Center, members of the Radio Amateur Civil Emergency Service (RACES) or Sheriff's reserve personnel. Upon deployment at the scene communications operations will be conducted by the requesting agency or by personnel from the Sheriff's Communications Center or RACES.

²One TRF resource will be purchased as a system resource during the implementation of the RCS project. A second unit may be purchased as funding becomes available.

³Purchase of the microwave restoration unit is subject to funding.

When requested for an incident the TRF resource will be operated by San Diego County Department of Information Services, Telecommunications Division personnel. These personnel will drive and deploy this equipment as appropriate.

3.4 *Authorized Use of Mobile Resources*

Echo III will be deployed upon the request of any member agency for the following purposes.

1. A Mutual Aid incident which requires establishment of a Command Post and dedicated incident communications services,
2. A public event which requires coordination of communications resources.
3. A training exercise where coordination of communications resources is required or training to coordinate communications resources is in the curriculum.

The TRF resource will be deployed upon the request of any member agency for the following purposes.

1. A Mutual Aid incident which requires establishment of a Command Post and dedicated incident communications services and where system resources will be depleted to the point of impacting daily operations.
2. A public event which requires coordination of communications resources and where system resources will be depleted to the point of impacting daily operations.
3. A training exercise where coordination of communications resources is required or training to coordinate communications resources is in the curriculum and where system resources will be depleted to the point of impacting daily operations.
4. An incident occurs in an area where communications are inadequate due to terrain blocking or other technical difficulties.

Table 1

REMOTE MOUNTAIN RADIO SITE	MUTUAL AID CHANNEL CAPABILITY
North Peak	Red, White, CLEMARS, ICALL, ITAC (1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Lake San Marcos Peak	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Palomar Mountain (County site)	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
White Star	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Red Mountain	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Los Pinos or Lyons Peak	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Mt. San Miguel	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS
Monument Peak	Red, White, CLEMARS, ICALL, ITAC(1-4), CLEMARS 8-9, FIREMARS 800, SDMARS