

TO: **LAW ENFORCEMENT ADMINISTRATORS /
TELECOMMUNICATIONS MANAGERS**

The California Emergency Management Agency (Cal EMA) Law Enforcement Division and California Interoperability Communications Office (CICO) are pleased to provide you with the updated California Law Enforcement Mutual Aid Radio System (CLEMARS) Plan. Important updates have been made to the plan. The plan now reflects the California Statewide Interoperability Executive Committee's (CalSIEC) role in providing oversight of the system and includes a streamlined application process and new application forms.

An important issue over the next two years for CLEMARS is that of Narrowbanding. The Federal Communications Commission (FCC) has mandated that all non-Federal public safety licensees operating 25 kHz radio systems in the 150-174 MHz and 421-512 MHz bands (the VHF and UHF bands) migrate to more efficient 12.5 kHz (narrowband) channels by January 1, 2013. In other words, the FCC will no longer allow the use of wideband on VHF and UHF public safety frequencies, including the CLEMARS channels, from December 31, 2012 on and will not automatically issue new licenses.

To help with the transition to narrowband, the updated CLEMARS plan includes the frequencies for both pre-narrowbanding and post-narrowbanding channels. And, in an effort to comply with national standards and advance nationwide interoperability, this plan also presents the channels with both their legacy California identifiers and their National Public Safety Telecommunications Council (NPSTC)/ American National Standards Institute (ANSI) identifiers. After the January 1, 2013 narrowbanding mandate, the CLEMARS channels will be referred to by their NPSTC/ANSI channel identifiers only.

Cal EMA will release further information on the transition of interoperability channels from wideband operations to narrowband operations, including effective dates and policy changes, in the near future.

Your input is very important to us. Please email all feedback, comments, and questions on the updated CLEMARS Plan to Interop@calema.ca.gov.

NOTE: The Law Enforcement Division and CICO strongly encourage all entities licensed to use CLEMARS channels to apply for a modification to their existing FCC license(s) as soon as possible. This is crucial to comply with the new narrowband licensing requirements and to ensure interoperability with agencies that have already transitioned to narrowband.

Paul Walters
Law Enforcement Division Chief

Michael Crews
Statewide Interoperability Coordinator



California Law Enforcement Mutual Aid Radio System Plan (CLEMARS)

Table of Contents

| | |
|--|-----------|
| OVERVIEW | 4 |
| SYSTEM MANAGEMENT | 4 |
| ELIGIBILITY | 5 |
| APPLICATION PROCEDURE..... | 6 |
| 800 MHZ CLEMARS CHANNELS..... | 8 |
| OPERATIONAL STANDARDS | 10 |
| TECHNICAL STANDARDS AND PROCEDURES..... | 13 |
| ESSENTIAL INTEROPERABILITY GUIDELINES CHECKLIST..... | 16 |
| APPENDIX A: COMPLAINT PROCEDURE..... | 1+ |
| APPENDIX B: ACRONYM LIST | 1, |
| APPENDIX C: CLEMARS FREQUENCIES AND USAGE TABLE | 19 |
| APPENDIX D: CLEMARS REPEATER LOCATIONS..... | 22 |

Overview

The California Law Enforcement Mutual Aid Radio System (CLEMARS) is provided and managed by the California Emergency Management Agency (Cal EMA). CLEMARS enhances the ability of law enforcement agencies to communicate on common frequencies during emergencies and other special operations.

This plan governs the 12 CLEMARS channels (13 after narrowbanding) in each of the public safety radio bands and the National Law Enforcement Mutual Aid Channel (NALEMARS [VLAW31]) which is considered part of the CLEMARS pool of frequencies in California. As such, CLEMARS provides a communications option for Law Enforcement officials regardless of the band their equipment operates in or the jurisdiction with which they are communicating.

As the FCC mandated that States adopt a regional or county approach for 800 MHz planning, the 800 MHz CLEMARS channels are governed by their respective regional 800 MHz Communications Plans. However, all CLEMARS channels (including NALEMARS[VLAW31]) are bound by California's statewide standards and procedures as detailed in this plan.

Cal EMA enforces strict adherence to this plan and violations can result in loss of authorization to use CLEMARS channels.

System Management

The ultimate authority for operations on CLEMARS and other related channels rests with the FCC. Under their rules for the Public Safety Radio Services, use of these frequencies is subject to coordination and regulation.

The State of California holds all licenses for use of these channels in California. As such, the State is responsible for assuring proper utilization and operation and may revoke authority for use.

Cal EMA manages the system on behalf of the State of California. However, the California Statewide Interoperability Executive Committee (CalSIEC) provides oversight on CLEMARS and advises Cal EMA on the development and supervision of the system.

Within Cal EMA, the responsibility for managing CLEMARS is shared by two divisions: the Cal EMA Law Enforcement Division and the Telecommunications Branch. The Cal EMA Law Enforcement Division establishes and enforces procedures for participation in, and use of, the system. Cal EMA Law Enforcement Coordinators ensure that the system's frequencies are used properly and in a coordinated manner. The Cal EMA Telecommunications Branch is responsible for technical standards and procedures. The Telecommunications Branch Coordinators assist and advise on technical matters.

Police Chiefs and Sheriffs are responsible for ensuring that applications, licensing and operations on CLEMARS comply with the regulations and policies set forth in this document within their agency. Law Enforcement Mutual Aid Regional Coordinators are responsible for the compliance of system operations within each Mutual Aid Region.

Eligibility

Law enforcement entities, as defined by the California Commission on Peace Officer Standards and Training (POST), and agents authorized and designated by such entities are eligible to participate in the CLEMARS plan.

Agencies that have signed the California Master Mutual Aid Agreement, support other law enforcement agencies during emergencies, and are capable of rendering mutual aid are also eligible to participate in CLEMARS.

Draft

Application Procedure

There are two types of applications for CLEMARS, one for mobiles and another for fixed stations. Authorization to transmit on one CLEMARS frequency does not imply authorization for other channels in the system. Applicants must specify the channel(s) requested in their application.

FCC licenses are acquired by and in the name of the State of California.

Charges are levied on all applicant organizations when seeking a new frequency or making a license change, system modification, or any other technical change which requires an official FCC license modification or transaction to take place.

For more details on the fee structure and process, please visit the Public Safety Communications Division (PSCD) website or contact the Frequency Coordination and Licensing Unit at **(916) 657-6153**.

<http://www.cio.ca.gov/PSCD/Services/PubSafety/default.htm>

Mobiles Only (Car-to-Car or Direct Only)

| | |
|---|--|
| 1 | Draft a “letter of intent” (LOI) on your agency letterhead. The letter should contain information on the requested channels, proposed site(s) and area of operations. If the system is to serve more than a single political entity, provide additional details such as a list of all individuals responsible for the project. |
| 2 | Fill out the TDe 400 license request form included in the CLEMARS Application package. As needed, contact the California Interoperability Coordinator’s Office (CICO) or Cal EMA Telecommunications Duty Officer (TDO) for further assistance. |
| 3 | Send the LOI and completed form(s) via postal mail or email to the CICO: California Emergency Management Agency Attn: California Interoperability Coordinator’s Office 3650 Schriever Avenue Mather, CA 95655 Email: Interop@calema.ca.gov |
| 4 | Program Radios. Requestors may program channels into radios but may not transmit until final FCC authorization is received. Contact the PSCD FCC Unit at (916) 657-6153 for a status on FCC authorization. |

Fixed Sites

Fixed sites require extensive coordination on the part of the requestor to minimize interference with neighboring jurisdictions. Use of the interoperability spectrum requires oversight and endorsement from the CalSIEC before any license request can be approved.

| | |
|---|--|
| 1 | Draft a LOI on your agency letterhead. The letter should contain information on the requested channels, proposed site(s) and area of operations. If the system is to serve more than a single political entity, provide additional details such as a list of all individuals responsible for the project. |
| 2 | Fill out the TD 229 license request form included in the CLEMARS Application package. As needed, contact the CICO or Cal EMA TDO for further assistance. |
| 3 | Send the LOI and completed form(s) via postal mail or email to the CICO: California Emergency Management Agency Attn: California Interoperability Coordinator's Office 3650 Schriever Avenue Mather, CA 95655 Email: Interop@calema.ca.gov |
| 4 | Develop a proposal package. The proposal package should include coverage plots, applicable frequencies and channels, and other supporting documents. Supporting documents include Standard Operating Procedures, letters of recommendations or endorsements from neighboring jurisdictions, and/or concurrence from regional frequency coordination groups. The CICO and TDO will be available to assist with the coordination process. |

5

Submit proposal package for CalSIEC Planning Area Review and Endorsement

The application proposal package will require an endorsement letter from the requesting agencies respective CalSIEC Planning Area (the table below lists the counties in each Planning Area).

The CICO and TDO will be available to assist with the coordination process.

| North | Capitol/Bay | Central | Southern |
|--------------|--------------------|----------------|-----------------|
| Butte | Amador | Fresno | Kern* |
| Colusa | Alameda | Kern* | Imperial |
| Del Norte | Alpine | Kings | Inyo |
| Glenn | Calaveras | Madera | Los Angeles |
| Humboldt | Contra Costa | Mariposa | Mono |
| Lake | El Dorado | Merced | Orange |
| Lassen | Marin | Tulare | Riverside |
| Mendocino | Monterey | | San Bernardino |
| Modoc | Napa | | San Diego |
| Nevada | Placer | | San Luis |
| Plumas | Plumas | | Obispo |
| Shasta | Sacramento | | Santa Barbara |
| Sierra | San Benito | | Ventura |
| Siskiyou | San Francisco | | |
| Sutter | San Joaquin | | |
| Tehama | San Mateo | | |
| Trinity | Santa Clara | | |
| Yuba | Santa Cruz | | |
| | Solano | | |
| | Sonoma | | |
| | Stanislaus | | |
| | Tuolumne | | |
| | Yolo | | |

**Because it encompasses both sides of the mountain range that separates the Central Valley and Southern California, Kern participates in both Central and Southern Planning Areas.*

| | |
|----------|--|
| 6 | Forward the CalSIEC Planning Area endorsement letter to the State Interoperability Coordinator |
| 7 | <p>CalSIEC Formal Review</p> <p>Following the CalSIEC Planning Area endorsement, the CICO will forward the package to the CalSIEC Standing committees for review.</p> <p>Following the review, the application will go to the CalSIEC chairs for final endorsement.</p> <p>The CalSIEC endorsement letter will be forwarded to the PSCD FCC unit for administrative processing.</p> |
| 8 | <p>Program Radios/Equipment</p> <p>Requestors may program channels into radios but may not transmit until final FCC authorization is received.</p> <p>Contact the PSCD FCC Unit at (916) 657-6153 for a status on FCC authorization.</p> |

800 MHz CLEMARS CHANNELS

The regulations for the use and licensing of the 800 MHz CLEMARS channels are different from the other CLEMARS channels. In granting approval for use of frequencies in the 800 MHz band, the FCC required the States to utilize a regional or operational area planning approach to ensure coordinated use of the available spectrum. As such, Public Safety Region 6 (the 48 Northern California counties) and Public Safety Region 5 (the 10 Southern California counties) each developed regional 800 MHz Communications Plans. Agencies follow the procedure set forth in the Northern California 800 MHz Regional Communications Plan and the Southern California 800 MHz Regional Plan to obtain license authorizations for the use of 800 MHz CLEMARS channels.¹

¹ The Northern California 800 MHz Regional Plan can be downloaded at:
http://www.rgn6rpc.org/library/Region_%206-04_09-1.pdf

The Southern California 800 MHz Regional Plan can be downloaded at:
<http://www.cpra.org/doc/Reference/800MHzPlan.PDF>

For questions regarding the regional plans, contact the regional chairperson whose contact information can be found at <http://publicsafety.fcc.gov/pshs/public-safety-spectrum/800-MHz/regional-planning.htm>

Operational Standards

Permissible Communications

CLEMARS frequencies are for official use only.

All communications on the CLEMARS frequencies are in accordance with Part 90, Subpart B of FCC Regulations (Public Safety Radio Pool). CLEMARS participants transmit communications essential to official police activities of the licensee. Unofficial communications on CLEMARS are prohibited and can result in revocation of licensee authorizations.

CLEMARS is an open party line, only one user in a given area can use the channel at any one time.

Channel Identifiers

Only the Standard California Channel Identifiers are used for CLEMARS, i.e. CLEMARS is referred to as "CLEMARS" only.² It is strictly prohibited to assign a local identifier to a CLEMARS channel.

Monitor First

Personnel must monitor the CLEMARS channel prior to transmitting to minimize the possibility of interference with communications in-progress.

Identification

Mobile Units

1. Mobile units identify the unit or station they wish to contact and identify themselves by using their agency-assigned unit designator. These are not to be abbreviated and must include the entire alpha-numeric designator. For example:

"6 Paul 21, this is 6 Paul 20."

2. During interagency operations, mobile units identify their agency in addition to their agency-assigned unit designator. For example:

"CHP 58-501C, this is Sacramento 6 Paul 20."

Base Stations

Base stations identify themselves by using their agency name along with any other usual identifier. Base stations must use the FCC call sign shown on their CLEMARS license at least once every 30 minutes or at the end of a contact. For example:

"California KVZ29."

² After the CLEMARS channels are narrowbanded, they will be referred to by their NPSTC/ANSI channel identifiers.

Channel Use Priorities

CLEMARS use is governed by a system of priorities that must be respected at all times. Priority is given to disaster and emergency operations, urgent operations, special events, and drills tests and exercises. CLEMARS 1, 4, 5, 6, 7, 20, 21, and 22 may be used for secondary communications when not being used for a higher priority.

When a higher priority use is required, all lower priority traffic yields the frequency immediately.³

- **Priority 1:** Disaster and extreme emergency operations for mutual aid and interagency communications
- **Priority 2:** Emergency or urgent operations involving imminent safety of life or protection of property
- **Priority 3:** Special event control activities, such as a planned event involving the participation of two or more agencies
- **Priority 4:** Drills, tests and exercises
- **Priority 5:** Single agency secondary communications

Notification of Priority Traffic (Priority 1, 2, 3, 4)

- Plain language must be used when clearing a CLEMARS channel for use in high priority situations.
- Agencies inform other area user agencies when they are involved in high priority usage of CLEMARS channels by phone, email, or California Law Enforcement Telecommunications System (CLETS).
- Notify the Cal EMA Law Duty Officer (LDO) of high priority usage via phone (916-845-8911), email (warning.center@ops.calema.ca.gov), or CLETS.
- If two or more agencies in close proximity request a similar priority level clearance for simultaneous operations, contact the Cal EMA LDO (916-845-8911 or warning.center@ops.calema.ca.gov) for guidance.

Secondary Communications (Priority 5)

In the absence of Priority 1, 2, 3, and 4 situations, CLEMARS channels (except for CLEMARS 1 [CALAW1], 2 [CALAW2] and NALEMARS [VLAW31]) may be used for day-to-day communications as a local agency secondary channel. There are specific limitations relative to such use:

- Before using the channel for secondary communications, agencies first monitor the channel to ensure that no higher-priority communications are being conducted on CLEMARS.
- Use conforms to the operational standards outlined in this plan. This includes the ability to monitor CSQ (squelch) or PL Tone 156.7 simultaneously with Agency PL tone.
- The channel is immediately vacated if it needs to be used for a Priority 1, 2, 3, or 4 situation.

³ Please note that this 2010 update of the CLEMARS plan has changed the original numbering of the Priorities from 1, 2, 3, 3A, 4 to Priorities 1 through 5.

Message Precedence

Message Precedence is a classification system that establishes the priority of message content while a channel is in use – i.e., it helps determine which message has precedence over another on a channel. It is used for both verbal and written message traffic. The order of precedence of messages is:

1. **New Incident:** Messages pertaining to a new incident. Once the new incident is addressed, it no longer has precedence unless it has a higher priority.
2. **Emergency:** Messages involving the imminent safety of life or protection of property, including messages to request supplies, materials or instructions vital to relief of emergency operations.
3. **Priority:** Messages that are official and time-bound, but are not covered in the emergency category. Priority messages may include notice of deaths or injury in a disaster area.
4. **Welfare:** Messages involving the health and welfare of an individual in a disaster area.
5. **Routine:** Messages pertaining to routine operations.

Plain Language

All communications on CLEMARS are in plain language as radio codes, acronyms, and abbreviations can cause confusion between agencies and disciplines and jeopardize officer safety.

Voice Privacy

The use of CLEMARS channels for transmission of encoded, encrypted, digital, or scrambled messages is prohibited. However, under special circumstances, a one-time waiver may be granted to allow for encryption. All inquiries and requests for waivers should be addressed to the Cal EMA LDO (916-845-8911 or warning.center@ops.calema.ca.gov).

Out-of-Area/Itinerant Mobiles

Base stations are encouraged to monitor CLEMARS channels at all times. A CLEMARS channel can be the only means for personnel traveling outside their normal jurisdiction to obtain assistance or to report traffic collisions, fires, or other hazards. This includes the ability to monitor CSQ (squellch) or PL Tone 156.7 simultaneously with Agency PL tone. Likewise, law enforcement personnel on travel status should consider using CLEMARS or NALEMARS (VLAW31) to notify local law enforcement agencies when emergencies come to their attention. To hail a base station, a phrase such as: “Any car or station on CLEMARS (or NALEMARS [VLAW31]), this is [unit ID] with emergency traffic” can be used.

Supervisory Responsibility

Each agency manager and supervisor bears the responsibility for the compliance of operations on CLEMARS to the CLEMARS Plan. Violations are reported to Cal EMA who works with each agency's executives to correct reported problems. See Appendix A for the complaint procedure.

Technical Standards and Procedures

Point-to-Point Communications

CLEMARS frequencies are designed to be used as base to mobile/portable and mobile/portable to mobile/portable channels. Base station to base station communications are prohibited. The only exceptions involve transmission of emergency information directly affecting officer or public safety. The California Law Enforcement Radio System (CLERS) is designed to provide reliable, repeated point to point communications between law enforcement dispatch centers or offices.

Power Limitations

On all channels, with all equipment, transmit power may not exceed 120 watts [ERP]. The exceptions are CLEMARS 2 which is limited to a maximum of 10 watts of output power at all times and airborne transmitters, which may not exceed 10 watts with a 1 watt restriction on CLEMARS 7 through 10.

Antenna Limitations

High-Level installations are prohibited on CLEMARS. All base stations should be located at low antenna levels and not exceed the specified heights above the elevation of the primary dispatch center:

- UHF: 100 FT
- VHF: 500 FT
- 800 MHz: See Regional 800 MHz Plans

However, under special circumstances, one-site waivers may be granted as long as regional dispatch for other jurisdictions is provided by the requesting agency. In cases where interference occurs, Cal EMA will withdraw waivers. All inquiries and requests for waivers should be addressed to the Cal EMA LDO (916-845-8911 or warning.center@ops.calema.ca.gov).

Coded Squelch

Continuous Tone-Coded Squelch System (CTCSS) is a system incorporated in radios to reduce or eliminate nuisance type interference from co-channel users. Digital systems use a digital equivalent of CTCSS called Digital Coded Squelch (DCS) on analog systems and Network Access Code (NAC) on the new digital P-25 standard systems. Coded squelch will not prevent destructive interference where the signal strength of the interfering signal exceeds that of the desired signal. The universal CTCSS is 156.7 for analog systems and \$293 for digital systems.

Coded squelch is prohibited for priority 1 and 2 situations. A locally designated CTCSS is authorized for priority 3, 4, and 5 traffic if the agency has the ability to continuously monitor a receiver with the universal mutual aid tone (156.7/\$293) or has a receiver without the tone protection. These safeguards ensure that the channels can be used for communications with units from other agencies using carrier-squelch only or with the mutual aid tone.

Mobile Relay Control Provisions

Mobile relays must be equipped with a positive means of disabling the relay function from the primary control position to prevent system disruption by unwanted signals.

Voice Privacy

Speech scrambling, digital voice privacy [DVP], digital and analog encryption [DES/AES], inversion, and other forms of scrambling are prohibited on all CLEMARS channels. Under special circumstances, a one-time waiver may be granted to allow for voice privacy. All inquiries and requests for waivers should be addressed to the Cal EMA LDO (916-845-8911 or warning.center@ops.calema.ca.gov).

Paging or Signaling

Tone or digital signaling, paging and/or alerting is prohibited on all CLEMARS channels. However, simple alert tones [attention beeps] prior to broadcasts and automatic station identification are permitted.

Data Transmission

Transmission of data is prohibited on CLEMARS channels.

FCC Call Sign Announcements

All stations must identify in accordance with FCC Rules and Regulations, Part 90.425. Each station or system must be identified by transmission of its FCC call sign:

- During each transmission, or exchange of transmissions, or
- Once each 30 minutes during periods of continuous operation

The call sign is the FCC-assigned set of letters and numbers found on the license authorization. Mobiles and Portables must identify with their agency assigned unit or officer number. Violations may result in revocation of the offending agency's operating authority.

Temporary Base Station and Temporary Mobile Relay

Agencies may operate temporary base stations and/or mobile relays to handle Priority 1, 2, 3 or 4 traffic with Cal EMA authorization. Temporary authorizations are issued for the duration of the incident or event. To request authorization, an email specifying the dates, equipment, frequencies, and situation is sent to the Cal EMA LDO (warning.center@ops.calema.ca.gov). The LDO will notify the requestor, the Cal EMA Telecommunications Branch, and the Regional Law Enforcement Coordinator upon approval of the request.

Interoperability Operation

In the event of a public safety Priority 1 or 2 emergency, and in keeping with appropriate FCC Rules, other systems may be *temporarily* cross-banded into a CLEMARS channel through automatic or manual equipment. A cross band or use of a gateway switch must be discontinued when the operation requiring its use is finished. The same rules apply to cross banding between various CLEMARS channels. Contact the Cal EMA LDO for special coordination information (916-845-8911 or warning.center@ops.calema.ca.gov).

Please refer to Cal EMA's Statewide Gateway Units Standard Operating Procedure for more information on gateway procedures.

Airborne Operation

The operation of CLEMARS-equipped radios in aircrafts is permitted when the restrictions below and FCC Part 90.423 rules are respected.

- The output power for helicopter and patrol aircraft radios must not exceed 10 watts.
- The limit for the 800 MHz CLEMARS channels (8, 9, 20, and 21) is 1 watt.
- Operators always monitor the channel prior to transmitting as the long range of airborne operations can impede operations already using the channel.

Frequency Protection

Adjacent channel interference can occur between frequencies when used in close proximity. Mitigation strategies, such as limiting the use of one of the adjacent channels during mutual aid activities, can help minimize or eliminate interference problems.

Cal EMA will establish guidelines for protecting the channels adjacent to CLEMARS as the State transitions to narrowband operations.

Contact the Cal EMA TDO (916-845-8911 or warning.center@ops.calema.ca.gov) for additional information on limiting channel interference.

Exceptions and Deviations

The technical standards incorporated into the CLEMARS Plan preserve the integrity and reliability of the system while encouraging maximum use of the available channels. While applicants are expected to meet these requirements, it is understood that, under extraordinary circumstances, deviations from these regulations may be necessary. All such circumstances should be brought to the attention of the Cal EMA LDO (916-845-8911 or warning.center@ops.calema.ca.gov) at the time authorization is requested. A detailed description of the situation should be included in writing, as well as a justification for the action requested. Cal EMA, with the counsel of the CalSIEC, will serve as the final decision point in such cases. Officer safety and the integrity of the system are always the main considerations.

Essential Interoperability Guidelines Checklist

- ✓ **OBEY PRIORITIES:** When a higher priority use is required, all lower priority traffic yields the frequency immediately.
- ✓ **USE PLAIN LANGUAGE AT ALL TIMES.**
- ✓ **IDENTIFY WITH FULL AGENCY UNIT DESIGNATOR AND FCC CALL-SIGNS (BASE STATIONS AND MOBILES).**
- ✓ **MONITOR THE CHANNEL PRIOR TO TRANSMITTING.**
- ✓ **USE APPROPRIATE CODED SQUELCH:** Do not use local tones on interoperability channels without the capability of monitoring the mutual aid tone (156.7/\$293) and turning the tone protection off.
- ✓ **USE THE CHANNEL'S STANDARD ID:** Program the standard California channel ID into your radio's display.
- ✓ **DO NOT SCRAMBLE OR ENCRYPT MESSAGES.**
- ✓ **DO NOT PERMANENTLY OR SEMI-PERMANENTLY LINK MUTUAL AID CHANNELS TO EACH OTHER OR TO LOCAL AGENCY CHANNELS.**

Respect the policies and procedures set forth in each interoperability system's plan to ensure the interoperability channels are available for use in emergency situations.

Appendix A: Complaint Procedure

Report all operations on mutual aid channels that are detrimental to officer safety or to the management of an incident, which fail to follow the procedures outlined in this mutual aid plan, which cause interference to other users, or that violate FCC Regulations 90.20 and 90.405.

To report flagrant violations that endanger officer of peace safety, immediately contact the LDO via the California State Warning Center (CSWC) (Telephone: 916-845-8911).

To report interference issues from outside sources and other misuses of mutual aid channels:

1. Attempt to identify the offending station.
2. Contact the chief executive of that department.
3. If the problem persists, contact the Cal EMA LDO via the CSWC (916-845-8911 or warning.center@ops.calema.ca.gov) and relay:
 - The date and time of the problem
 - The circumstances regarding the interference or misuse
 - Information detailing how the misuse interfered with operations or safety
 - Information (identification, call signs, etc.) that would help locate the offending agency.
4. Keep audio logging tapes, tape cassettes, or digital files recording the misuse to send to Cal EMA. [If requested, Cal EMA will return the tape after its investigation.] On receipt of a complaint, Cal EMA will conduct an investigation.

Appendix B: Acronym List

AES: Advanced Encryption Standard

ANSI: American National Standards Institute

Cal EMA: California Emergency Management Agency

CalSIEC: California Statewide Interoperability Executive Committee

CICO: California Interoperability Coordinator's Office

CLEMARS: California Law Enforcement Mutual Aid Radio System

CLERS: California Law Enforcement Radio System

CLETS: California Law Enforcement Telecommunications System

CSWC: California State Warning Center

CTCSS: Continuous Tone-Coded Squelch System

DCS: Digital Coded Squelch

DES: Data Encryption Standard

DVP: Digital voice privacy

FCC: Federal Communications Commission

LDO: Law Enforcement Division's Duty Officer

NAC: Network Access Code

NALEMARS: National Law Enforcement Mutual Aid Channel

NPSTC: National Public Safety Telecommunications Council

PSCD: Public Safety Communications Division

POST: California Commission on Peace Officer Standards and Training

TDO: Telecommunications Duty Officer

Appendix C: CLEMARS Frequencies and Usage Table

| Before Rebanding/Narrowbanding | | | | | After Rebanding/Narrowbanding | | | | | |
|--------------------------------|------------|----------|------------|----------|-------------------------------|------------|----------|------------|----------|---|
| Legacy ID | Rx Freq | Rx CTCSS | Tx Freq | Tx CTCSS | CA ID (Short Name) | Rx Freq | Rx CTCSS | Tx Freq | Tx CTCSS | Notes |
| VHF Low | | | | | | | | | | |
| CLEMARS 7 | 39.4600 W | 156.7 | 45.8600 W | 156.7 | LLAW1 (LLAW1) | 39.4600 W | 156.7 | 45.8600 W | 156.7 | SC: R, FB, MO, P Priority: 1, 2, 3, 4, 5 |
| CLEMARS 6 | 39.4600 W | 156.7 | 39.4600 W | 156.7 | LLAW1D (LLAW1D) | 39.4600 W | 156.7 | 39.4600 W | 156.7 | SC: FB, MO, P Priority: 1, 2, 3, 4, 5 Simplex |
| VHF High | | | | | | | | | | |
| NALEMARS | 155.4750 W | None | 155.4750 W | None | VLAW31 (VLAW31) | 155.4750 N | 156.7 | 155.4750 N | 156.7 | SC: FB, MO, P Priority: 1, 2 only Simplex |
| | | | | | VLAW32 (VLAW32) | 155.4825 N | 156.7 | 155.4825 N | 156.7 | |
| CLEMARS 1 | 154.9200 W | None | 154.9200 W | None | CALAW1 (CALAW1) | 154.9200 N | 156.7 | 154.9200 N | 156.7 | SC: FB, MO, P Priority: 1, 2, 3, 4, 5 Simplex |
| CLEMARS 2 | 154.9350 W | None | 154.9350 W | None | CALAW2 (CALAW2) | 154.9350 N | 156.7 | 154.9350 N | 156.7 | Priority: 1, 2 only Portable for radios with a max of 10 watts of output power. On scene and command post channel only. No base stations can be licensed on this channel. Simplex |

| UHF | | | | | | | | | | |
|---------------|------------|--------|------------|--------|---------------------|------------|-------|------------|--------|--|
| CLEMARS 5 | 460.0250 W | Varies | 465.0250 W | Varies | CALAW4 (CALAW4) | 460.0250 N | 156.7 | 465.0250 N | Varies | SC: R, FB, MO, P Priority: 1, 2, 3, 4, 5 Tx CTCSS depends on the mobile relay being used. |
| CLEMARS 4 | 460.0250 W | Varies | 460.0250 W | Varies | CALAW4D (CLAW4D) | 460.0250 N | 156.7 | 460.0250 N | 156.7 | SC: FB, MO, P Priority: 1, 2, 3, 4, 5 Simplex |
| CLEMARS 22 | 484.2375 W | None | 484.2375 W | 156.7 | CALAW5D (CLAW5D) | 484.2375 N | 156.7 | 484.2375 N | 156.7 | SC: FB, MO, P Priority: 1, 2, 3, 4, 5 Available only for agencies with base stations located within 50 miles of Los Angeles City Hall (mobiles and portables within 80 miles). Simplex |

| 800 MHz | | | | | | | | | | |
|------------|------------|------|------------|-------|---------------------|------------|-------|------------|-------|--|
| CLEMARS 9 | 868.5125 W | None | 823.5125 W | 156.7 | CALAW8 (CALAW8) | 853.5125 W | 156.7 | 808.5125 W | 156.7 | SC: FB, MO, P Priority: 1, 2, 3, 4 Repeater pair for use of the 800 MHz channel in a mobile relay system. Special 800MHz licensing requirement. |
| CLEMARS 8 | 868.5125 W | None | 868.5125 W | 156.7 | CALAW8D (CLAW8D) | 853.5125 W | 156.7 | 853.5125 W | 156.7 | SC: R, FB, MO, P Priority: 1, 2, 3, 4 Simplex Special 800MHz licensing requirement. |
| CLEMARS 21 | 866.2000 W | None | 821.2000 W | 156.7 | CALAW9 (CALAW9) | 851.2000 W | 156.7 | 806.2000 W | 156.7 | Permitted for NPSPAC Region 6 (48 Northern California counties) only. SC: R, FB, MO, P Priority: 1, 2, 3, 4, 5 Special 800MHz licensing requirement. |
| CLEMARS 20 | 866.2000 W | None | 866.2000 W | 156.7 | CALAW9D (CLAW9D) | 851.2000 W | 156.7 | 851.2000 W | 156.7 | Permitted for NPSPAC Region 6 (48 Northern California counties) only. SC: R, FB, MO, P Priority: 1, 2, 3, 4, 5 Simplex Special 800MHz licensing requirement. |

Channeling: N = Reduced bandwidth according to current FCC Rules and Regulations (narrowband)

W = Existing bandwidth as currently defined in FCC Rules and Regulations (wideband)

Station Class (SC):

FB = Base station at a fixed location

MO = Mobile

P = Portable/Hand held

R = Repeater (Mobile Relay which are FB2s in FCC terminology)

NOTE: The universal analog coded squelch tone (CTCSS) is 156.7. Digital systems use the universal digital coded squelch tone which is \$293. When no coded squelch is used, it is identified in the table as "None". In general and for priority 1, 2, 3, and 4 situations, the universal coded squelch tones (156.7/\$293) should be used. For priority 5 operations, an agency assigned CTCSS may be used only if the agency monitors the universal CTCSS 156.7/\$293.

Appendix D: CLEMARS Repeater Locations

Provide Cal EMA with current or updated information on all the following locations:

| CLEMARS 7 VHF Low (39.460/45.860 MHz) LICENSED REPEATER LOCATIONS | | | | | |
|--|-------------------|-------------------|---------------|----------------------|------------------|
| MAR | RX Tone(s) | TX Tone(s) | County | City/Site | CALL SIGN |
| 1 | | | Orange | Santiago Peak | KBV892 |
| 1 | | | Orange | Sierra Peak | KBV892 |
| 1 | | | Orange | Signal Peak | KBV892 |
| 1 | | | Orange | San Clemente Peak | KBV892 |
| 1 | | | Orange | Moorhead Reservoir | KBV892 |
| 2 | | | San Francisco | Christmas Tree Point | KQS275 |
| 3 | | | Sutter | Sutter Buttes | Applied for |
| 4 | | | Nevada | Truckee | KAZ604 |
| 5 | None | | | | |
| 6 | None | | | | |

| CLEMARS 5 UHF (460.025/465.025 MHz) LICENSED REPEATER LOCATIONS | | | | | |
|--|-------------------|-------------------|---------------|----------------------|------------------|
| MAR | RX Tone(s) | TX Tone(s) | County | City/Site | Call Sign |
| 1 | | | Los Angeles | Culver City | WQCB548 |
| 1 | | | Orange | Ortega Hwy Site | WQFR948 |
| 1 | | | Orange | San Juan Capistrano | WQFR948 |
| 1 | | | Orange | Fullerton | WQFR948 |
| 1 | | | Orange | Santiago Canyon. Rd. | KBV892 |
| 1 | 103.5 | 103.5 | Orange | Santiago Peak | KBV892 |
| 1 | | | Orange | Sierra Peak | KBV892 |
| 1 | | | Orange | Signal Peak | KBV892 |
| 1 | | | Orange | San Clemente Peak | KBV892 |
| 1 | | | Orange | Moorhead Res. | KBV892 |
| 2 | | | Alameda | Albany | KKG946 |
| 2 | | | Alameda | Oakland | KQP502 |
| 2 | | | Contra Costa | Martinez | KRX568 |
| 2 | | | Contra Costa | Walnut Creek | KZO392 |
| 2 | | | Contra Costa | Antioch | KNNF498 |
| 2 | | | Monterey | Salinas | KTS628 |

| | | | | | |
|---|-------|-------|---------------|----------------------|-----------|
| 2 | 167.9 | 167.9 | San Francisco | San Francisco | KQS275 |
| 2 | | | San Francisco | Christmas Tree Point | KQS275 |
| 2 | | | Santa Clara | San Jose | KTV807 |
| 2 | 127.3 | 127.3 | Sonoma | Santa Rosa | KMK981 |
| 2 | | | Solano | San Francisco | KYJ331 |
| 2 | | | Solano | Vallejo | WNV904 |
| 3 | 156.7 | 156.7 | Sutter | Sutter Buttes | Projected |
| 4 | CSQ | CSQ | Nevada | Truckee | KAZ604 |
| 4 | | | Sacramento | Sacramento | WPMF457 |
| 4 | 127.3 | 127.3 | Sacramento | Sacramento CHP | KYK296 |
| 4 | | | Sacramento | Sacramento | WQJM400 |
| 4 | 186.2 | 186.2 | San Joaquin | Lodi | KXU225 |
| 4 | | | San Joaquin | Stockton | KZF907 |
| 4 | | | Stanislaus | Modesto | WQP824 |
| 5 | 146.2 | 146.2 | Fresno | Fresno | WNBM858 |
| 5 | | | Fresno | Fresno | WNBM858 |
| 5 | | | Fresno | Clovis | KYI953 |
| 5 | 131.8 | 131.8 | Kern | Bakersfield | WNFX713 |
| 5 | | | Madera | Chowchilla | KMK974 |
| 5 | | | Tulare | Visalia | KNEX656 |
| 6 | | | Riverside | Palm Springs | WNLB940 |
| 6 | | | Riverside | Box Springs | WPIZ329 |
| 6 | | | Riverside | Desert Center | WPIZ329 |
| 6 | | | Riverside | Elsinore Peak | WPIZ329 |
| 6 | | | Riverside | Santa Rose Mt. | WPIZ329 |
| 6 | | | Riverside | Indio | WPIZ329 |
| 6 | | | Riverside | Blyth | WPIZ329 |

| CLEMARS 21 (866.200/821.200 MHz) LICENSED REPEATER LOCATIONS | | | | | |
|---|-------------------|-------------------|-----------------|------------------------------|------------------|
| MAR | RX Tone(s) | TX Tone(s) | County | City/Site | CALL SIGN |
| 1 | None | | Orange | Santiago Peak, Riverside Co. | WPIT716 |
| 2 | | | Contra Costa # | Carriage Hills | WQIV969 |
| 2 | | | Contra Costa # | Hilltop | WQIV969 |
| 2 | | | Contra Costa # | Marina Way | WQIV969 |
| 2 | | | Santa Clara # | San Jose | WPES897 |
| 2 | | | San Francisco # | Airport | WQJR602 |

| | | | | | |
|---|------|--|--------------|--------------------------|---------|
| 3 | None | | | | |
| 4 | | | Sacramento # | Sacramento | WQIB408 |
| 4 | | | Sacramento # | Sacramento, Capitol area | WNXW544 |
| 5 | None | | | | |
| 6 | None | | | | |

| CLEMARS 9 (868.5125/823.5125 MHz) LICENSED REPEATER LOCATIONS | | | | | |
|--|-------------------|-------------------|---------------|------------------------------|------------------|
| MAR | RX Tone(s) | TX Tone(s) | County | City/Site | CALL SIGN |
| 1 | | | Los Angeles | Rolling Hills | WPPX553 |
| 1 | | | Los Angeles | Vurdugo Peak | WPPX553 |
| 1 | | | Orange | San Clemente Peak | WPIT431 |
| 1 | | | Orange | Orange, Santiago Canyon Rd. | WPIT439 |
| 1 | | | Orange | Brea, Olinda Site | WPIT443 |
| 1 | | | Orange | Signal Peak | WPIT451 |
| 1 | | | Orange | Moorehead Reservoir | WPIT718 |
| 1 | | | Orange | Carbon Canyon Reservoir | WPIT723 |
| 1 | | | Orange | Bolero Peak | WPIT724 |
| 1 | | | Orange | Yorba Linda | WPIT727 |
| 1 | | | Orange | Fullerton | WQFS553 |
| 1 | | | Orange | Seal Beach | WQFS553 |
| 1 | | | Orange | Sierra Peak, Riverside Co. | WPIT445 |
| 1 | | | Orange | Santiago Peak, Riverside Co. | WPIT716 |
| 2 | | | San Francisco | Christmas Tree Point | WQJR602 |
| 3 | | | Sutter | Sutter Buttes | Applied for |
| 4 | | | Sacramento | Vacaville, Solono Co. | WQIB408 |
| 4 | | | Sacramento | Carpentar Peak | WQIB408 |
| 4 | | | Sacramento | Davis Airport, Yolo Co. | WQIB408 |
| 4 | | | Sacramento | Davis, Yolo Co. | WQIB408 |
| 5 | None | | | | |
| 6 | | | Riverside | Santa Rosa Mt. | WQFU769 |
| 6 | | | Riverside | Mount Davis | WQFU769 |
| 6 | | | Riverside | Blythe | WQFU769 |
| 6 | | | Riverside | Indio | WQFU769 |
| 6 | | | Riverside | Elsinore Peak | WQFU769 |
| 6 | | | Riverside | Desert Center | WQFU769 |
| 6 | | | Riverside | Cactus City | WPIT743 |

| | | | | | |
|---|--|--|-----------|-----------------|---------|
| 6 | | | Riverside | Black Rock | WPIT742 |
| 6 | | | Riverside | Whitewater Hill | WPIT739 |
| 6 | | | Riverside | Box Springs | WPIT741 |
| 6 | | | San Diego | San Marcos Hill | WPNV382 |
| 6 | | | San Diego | Los Pinos Hill | WPNV382 |
| 6 | | | San Diego | Monument Peak | WPNV382 |
| 6 | | | San Diego | San Miguel Mt. | WPNV382 |
| 6 | | | San Diego | North Peak | WPNV382 |
| 6 | | | San Diego | Palomar Mt. | WPNV383 |
| 6 | | | San Diego | Red Mt. | WPNV383 |
| 6 | | | San Diego | Jacumba | WPNV383 |

Draft