



Multi-Agency Coordination System

Radio Communications Guidelines

MACS 441-1

JANUARY 1, 2022

This document contains information relative to the Incident Command System (ICS) component of the National Interagency Incident Management System (NIIMS). This is the same Incident Command System developed by FIREScope.

Additional information and documentation can be obtained from the following resources:

FIREScope
Document Control
23300 Castle Street
Riverside, CA 92518
(951) 782-4174
Fax (951) 782-4239
www.firescope.ca.gov

Red Font indicates 2022 revisions from previous editions

The information contained in this document has been approved by the Fire and Rescue Service Advisory Committee/FIREScope Board of Directors for application in the statewide California Fire and Rescue Mutual Aid System. This material is a development of the FIREScope Program.

Contents

[FIRESCOPE radio communications guidelines](#)..... 1

[Important communications issues](#) 1

[FIRESCOPE statewide channel plan](#) 3

[Usage notes for ICS 217A communications resource worksheets](#)..... 3

[FIRESCOPE Statewide channel plan, VHF 217A](#)..... 6

[FIRESCOPE Statewide channel plan, UHF 217A](#) 28

[FIRESCOPE Statewide channel plan, 700/800 217A](#)..... 31

[California standard 32 tones and 16 NACs](#)..... 36

FIRESCOPE RADIO COMMUNICATIONS GUIDELINES

FIRESCOPE Radio Communications Guidelines are derived from the Cooperative Agreements for Use of Radio Frequencies between fire service agencies of California allowing for mutual use of radio channels during mutual aid efforts. VHF high band is the default radio frequency band utilized by the California fire service.

Currently, the minimum channel capacity for a radio in California is 240 channels (covers the mandatory load and local load requirements). Effective January 2024, agencies will be required to provide a mobile and portable radio in all responding units with a channel capacity of at least 400 channels. This information is being provided in advance to give participating agencies sufficient time to facilitate this transition.

The FIRESCOPE statewide channel plan now includes 3 categories: Category 1 channels are required in all VHF radios utilized by fire service agencies providing mutual aid in California. Category 2 channels are highly recommended and Category 3 channels are considered optional. It is recommended that Category 2 and Category 3 channels be included based on anticipated operation need and radio capacity.

Fire service agencies whose normal dispatch system is on a band other than VHF high band should ensure that their mobile and portable radios and dispatch centers are properly programmed to operate on the UHF, 700 and 800 MHz interoperability channels contained within the FIRESCOPE STATEWIDE CHANNEL PLAN.

IMPORTANT COMMUNICATIONS ISSUES

Travel Channel

The **C**alifornia **E**mergency **S**ervices **R**adio **S**ystem (CESRS) is the only VHF statewide channel authorized for use as a Travel Channel within the State of California. As a Travel Channel, CESRS must be used in the Direct Mode (no tones) for line-of-sight travel communications. Agencies with a need to contact a State ECC or OES resources during an emergency are authorized to use Repeat Mode.

7DATA69D and 7DATA89D have been approved for statewide use as travel channels. 7DATA69D is primary for Fire/EMS and 7DATA89D is primary for Law Enforcement. Agencies may add a notation to the end of the channel name identifying the usage as long as the original name precedes the notation (e.g. 7DATA69D TRVL)

Narrowbanding

ALL VHF and UHF radios **MUST** be both FCC Part 90 and narrowband compliant.

Federal Frequency Use

All radios utilizing Federal frequencies must be National Telecommunications and Information

Administration (NTIA) compliant. Radios are approved for use but may not be supported at incident. (i.e., programming, repair, battery replacement, etc.)

GUIDELINES

1. While numerous radio channels/talkgroups can be pre-programmed into radios, it is important to note that in order to legally transmit on those channels/talkgroups (including channels listed in the FIRESCOPE STATEWIDE CHANNEL PLAN) the user: 1) must be authorized by the FCC or NTIA to transmit on those frequencies, or 2) must have a radio use agreement or Memorandum of Understanding with the agency which is licensed for the channels, or 3) must be assigned to an incident with that channel/talkgroup listed on the Incident Radio Communications Plan (ICS Form 205).
2. Any agency requesting mutual aid will advise responding agencies of an initial contact channel for the incident. Generally, the initial VHF contact channel will be VFIRE21. Incident Communications Centers (ICC's) and Staging Area Managers should monitor VFIRE21 or another specified initial contact channel to assist resources arriving at the incident. For incidents using 400/700/800 MHz, the initial contact channel should be UCALL40, 7CALL50 or 8CALL90.
3. Local policy will dictate radio channel/talkgroup assignments for an incident until a Communications Unit Leader (COML) establishes the Incident Radio Communications Plan (ICS Form 205).
4. The Incident Commander or, if assigned, the Communications Unit Leader is responsible for managing assigned radio channels/talkgroups and must clear the use of local, state and federal frequencies with the controlling agencies prior to inclusion in an Incident Radio Communications Plan (ICS Form 205).
5. Clear text (plain English) should be used for all communications. CODES SHALL NOT BE USED! Standardized channel/talkgroup names should be stated, e.g. "VFIRE22", or "NIFC Tac 2". Channel/talkgroup numbers corresponding to how a specific radio is programmed should not be used except if published in an IAP (e.g. "Channel 1", or "Channel A14".)
6. When calling another unit/ICS position, the standard is to identify who you are calling first, followed by your call sign (e.g. "Engine 211, Battalion 217" or "Division B, Strike Team 6412C"). Recognize that on large mutual aid incidents, there may be several units with the same radio ID. In those cases, the agency name should also be used (e.g. Oceanside Engine 211, Oceanside Battalion 217").
7. Land Mobile Radio (LMR) data communications [i.e. automated or push button status keeping for "computer aided dispatch" (CAD) systems] **SHALL NOT** be used outside the local agency's normal area of operation.
8. Radio programming that enables data signaling (e.g. MDC1200 push-to-talk identification) is prohibited on interoperability channels (e.g. VFIRE22, VFIRE23, etc.).
9. Vehicular repeater systems (mobile extenders) **SHALL NOT** be used outside the local agency's normal area of operation.

10. The use of gateways (including portable, mobile or fixed) shall be limited to the smallest geographical area of coverage to meet the temporary needs of the incident. Gateways shall only be used on channels/talkgroups that are specifically licensed for that type of operation (e.g. temporary mobile relay) and must be specifically authorized based upon an approved Incident Radio Communications Plan (ICS Form 205) or be recognized as a fixed gateway, included in the California Statewide Communications Interoperability Plan (Cal-SCIP).
11. Family Radio Service (FRS) or any non-narrow band compliant radio, are **prohibited** from use on Federal and State of California incidents. Use of any non-public safety radio (e.g. FRS, GMRS, etc.) or use of a frequency/talkgroup not identified on the Incident Radio Communications Plan (ICS Form 205) is prohibited.
12. The use of any frequency outside the agency's normal licensed area of operation is prohibited by FCC rules and will likely cause harmful interference to other users (e.g. Strike Teams using a local jurisdiction channel in a distant part of the state). **The FCC will enforce this rule.**

FIRESCOPE STATEWIDE CHANNEL PLAN

The FIRESCOPE Statewide Channel Plan was developed to assist California Fire Service agencies in buying and programming synthesized radios so as to maximize their effectiveness for mutual aid responses.

Regardless of the radio system used on a daily basis, all California Fire Service agencies should maintain an adequate number of VHF mobile and portable radios to support mutual aid operations. In addition to the VHF interoperability channels, UHF, 700 and 800 MHz interoperability channels are also available to support mutual aid and All-Risk incidents.

USAGE NOTES for ICS 217A COMMUNICATIONS RESOURCE WORKSHEETS:

1. VFIRE channels are for fire/fire-based EMS inter-agency use. No single-agency/routine communications permitted. Tone 6 (156.7 Hz.) is used as the common tone (transmit and receive). Additional VFIRE operational policies are outlined in California's Office of Emergency Services (OES) Fire Operations Bulletin #28 and the California Statewide Communications Interoperability Plan (Cal-SCIP).
2. Use of CALCORD is subject to the CALCORD Plan, under an executed CALCORD agreement with OES and/or in accordance with the California Statewide Communications Interoperability Plan (Cal-SCIP). Contact OES Telecommunications for information.

3. The listed thirty-two standard tones and sixteen standard NACs are used by the Fire Service in California for repeater access and/or tone protection in radios. However, if radios can only be programmed with 16 tones, then program tones 1 through 16. See Tone/NAC chart on page 30.
4. Mobile transmitters are to be set to lowest available power setting* on; VFIRE's, VTAC's, UTAC's, Cal-Fire Tac's, NIFC Command and Tac's and all Air-to-Ground channels, etc.
*Lowest available power setting means operations shall be at 10 watts or the lowest power setting above 10 watts available in the radio.
5. Use of the NIFC Command, Tactical and Logistics channels is based upon an approved Incident Radio Communications Plan (ICS Form 205). Communications Unit Leaders **must** obtain authorization for the use of these channels through the NIFC Communications Duty Officer.
6. For use based upon an approved Incident Radio Communications Plan (ICS Form 205). Communications Unit Leaders must obtain authorization for the use of these channels through the Cal-Fire Southern Region/South Operations GACC or Northern Region/North Operations GACC.
7. These channels are for inter-agency/inter-discipline use. No single-agency/routine communications permitted. Tone 6 (156.7 Hz.) is used as the common tone (transmit and receive).
8. **Not available for use** in Imperial, Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties.
9. AIR GUARD – 168.625 MHz – A National Interagency Air Guard frequency for government aircraft assigned to incidents. It is used for emergency communications by aviation. A separate receiver is required to permit continuous monitoring in aircraft. Transmitters on this channel **must** encode a CTCSS of 110.9 Hz. All Incident Radio Communications Plans (ICS Form 205) on incidents that use federal or Cal-Fire aircraft **SHALL** have AIR GUARD programmed in the last available channel slot of all portable radios. Communications Unit Leaders shall place AIR GUARD in channel slot 16 (Bendix-King GPH & DPH and other manufacturers who use 16 channels in a zone/group) and channel slot 20 (Bendix-King GPH-CMD and DPH-CMD).
AIR GUARD is restricted to the following use:
 - a. Air-to-Air emergency contact and coordination.
 - b. Ground-to-Air emergency contact.
 - c. Initial call, recall, and re-direction of aircraft when no other contact frequency is available.
10. The **California Emergency Services Radio System (CESRS)** is the only VHF statewide channel authorized for use as a Travel Channel within the State of California. As a Travel Channel, CESRS must be used in the Direct Mode for line-of-sight travel communications. Agencies with a need to contact a State ECC or OES resources during an emergency are authorized to use Repeat Mode.

11. Users with radios that are capable of switching between direct and repeat should program the repeat channel (and not two separate channels, a direct channel and a repeat channel).
12. Users with radios that are NOT capable of switching between direct and repeat should program both the repeater and direct version of each repeated channel and place a "D" in the display to identify the direct version.
13. Radios **shall** be programmed so as to enable the end-user with the ability to choose from the first 16 (minimum) or all 32 (preferably) CTCSS tones listed in Usage Note #3 [e.g. Channel Guard (CG), Operator Selectable Tone (OST), Multiple Private Line (MPL), etc.].
14. Cal-OES and the FIRESCOPE Communications Specialist Group are no longer authorized to publish Federal frequencies not identified as National Interoperability channels. These radio frequency assignments are Freedom of Information Act (FOIA) release exempt and are to be protected as Sensitive but Unclassified (SBU) data (Controlled Unclassified Information//Basic). To obtain frequency information for this channel, please contact your OES Region Assistant Chief. For after-hours needs contact the CAL OES State Warning Center (916-845-8911).
15. Unless otherwise specified by NIFC, utilize tone 7 (167.9 Hz) on transmit and receive.
16. 7DATA69D and 7DATA89D can be used as travel channels in the direct mode. 7DATA69D is primary for Fire/EMS and 7DATA89D is primary for Law Enforcement.
17. UTAC41D – UTAC43D have been approved for use by Cal-OES as in camp logistical support nets. Cal-OES controls the usage of these channels and they must be requested before use.

For the use as a "Camp Net" the user must comply to the following parameters:

- A COML (All-Hazards or NWCG) is present and makes the request through the normal ordering process.
 - Portable use only not to exceed 4 watts.
 - All radios assigned to the incident are FCC Part 90 compliant.
 - COML assigned to the incident is required to inspect the radios and ensure correct programming of the radios.
18. **With the exception of an emergency aircraft shall not transmit over NIICD command repeaters.**
 19. **These channels may be licensed for national mobile itinerant mobile use. See NIFOG for further information.**

NOTE: For additional information concerning the appropriate usage of channels identified in the FIRESCOPE STATEWIDE CHANNEL PLAN, contact OES Telecommunications or your respective Communications Unit Leader (COML).

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA											
1	Mobile-Portable	AG-08	4, 5, 6, 14	166.8750	0.0	166.8750	0.0	N	L	A	IA Air/Ground Secondary CAO1
2	Mobile-Portable	AG-14	4, 5, 6, 14	167.5000	0.0	167.5000	0.0	N	L	A	IA Air/Ground Primary CAO2
3	Mobile-Portable	AG-24	4, 5, 6, 14	168.6375	0.0	168.6375	0.0	N	L	A	IA Air/Ground Secondary CAO3
4	Mobile-Portable	AG-41	4, 5, 6, 14	167.4750	0.0	167.4750	0.0	N	L	A	IA Air Ground Primary CAO3
5	Mobile-Portable	AG-43	4, 5, 6, 14	167.6000	0.0	167.6000	0.0	N	L	A	IA Air/Ground Primary CAO1
6	Mobile-Portable	AG-53	4, 5, 6, 14	168.4875	0.0	168.4875	0.0	N	L	A	IA Air/Ground Secondary CAO4
7	Mobile-Portable	AG-59	4, 5, 6, 14	169.1125	0.0	169.1125	0.0	N	L	A	IA Air/Ground Secondary CAO2 & CAO4 PRI
8	Mobile-Portable	BDC A/G		153.9650	167.9	153.9650	167.9	N	L	A	San Bernardino County Air to Ground
9	Mobile-Portable	CALCORD	2	156.0750	156.7	156.0750	156.7	N	H	A	
10	Mobile-Portable	CDF A/G 1	4	151.2200	192.8	151.2200	192.8	N	L	A	CDF Air to Ground #1
11	Mobile-Portable	CDF A/G 2	4	159.2625	192.8	159.2625	192.8	N	L	A	CDF Air to Ground #2
12	Mobile-Portable	CDF A/G 3	4	159.3675	192.8	159.3675	192.8	N	L	A	CDF Air to Ground #3
13	Base-Fixed-Mobile	CDF C1	3, 6, 11, 13	151.3550	103.5	159.3000	OST	N	H	A	CDF COMMAND 1

14	Base-Fixed-Mobile	CDF C2	3, 6, 11, 13	151.2650	103.5	159.3300	OST	N	H	A	CDF COMMAND 2
15	Base-Fixed-Mobile	CDF C3	3, 6, 11, 13	151.3400	103.5	159.3450	OST	N	H	A	CDF COMMAND 3

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

16	Base-Fixed-Mobile	CDF C4	3, 6, 11, 13	151.4000	103.5	159.3750	OST	N	H	A	CDF COMMAND 4
17	Base-Fixed-Mobile	CDF C6	3, 6, 11, 13	151.2500	103.5	159.3600	OST	N	H	A	CDF COMMAND 6
18	Base-Fixed-Mobile	CDF C7	3, 6, 11, 13	151.4600	103.5	159.3900	OST	N	H	A	CDF COMMAND 7
19	Base-Fixed-Mobile	CDF C8	3, 6, 11, 13	151.4450	103.5	159.3450	OST	N	H	A	CDF COMMAND 8
20	Base-Fixed-Mobile	CDF C9	3, 6, 11, 13	151.1750	103.5	159.4500	OST	N	H	A	CDF COMMAND 9
21	Base-Fixed-Mobile	CDF C10	3, 6, 11, 13	151.1900	103.5	159.2250	OST	N	H	A	CDF COMMAND 10
22	Mobile-Portable	CDF C11	3, 6, 11, 13	151.1675	103.5	159.3975	OST	N	L	A	CDF COMMAND 11 (PORTABLE)
23	Base-Fixed-Mobile	CDF C12	3, 6, 11, 13	151.2425	103.5	159.2625	OST	N	H	A	CDF COMMAND 12

24	Mobile-Portable	CDF T1	4, 6	151.2575	192.8	151.2575	192.8	N	L	A	CDF TAC 1
25	Mobile-Portable	CDF T2	4, 6	151.1600	192.8	151.1600	192.8	N	L	A	CDF TAC 2
26	Mobile-Portable	CDF T3	4, 6	151.1750	192.8	151.1750	192.8	N	L	A	CDF TAC 3
27	Mobile-Portable	CDF T4	4, 6	151.1900	192.8	151.1900	192.8	N	L	A	CDF TAC 4
28	Mobile-Portable	CDF T5	4, 6	151.2500	192.8	151.2500	192.8	N	L	A	CDF TAC 5
29	Mobile-Portable	CDF T6	4, 6	151.3250	192.8	151.3250	192.8	N	L	A	CDF TAC 6
30	Mobile-Portable	CDF T7	4, 6	151.3400	192.8	151.3400	192.8	N	L	A	CDF TAC 7

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

31	Mobile-Portable	CDF T8	4, 6	151.3700	192.8	151.3700	192.8	N	L	A	CDF TAC 8
32	Mobile-Portable	CDF T9	4, 6	151.3850	192.8	151.3850	192.8	N	L	A	CDF TAC 9
33	Mobile-Portable	CDF T10	4, 6	151.4000	192.8	151.4000	192.8	N	L	A	CDF TAC 10
34	Mobile-Portable	CDF T11	4, 6	151.4450	192.8	151.4450	192.8	N	L	A	CDF TAC 11
35	Mobile-Portable	CDF T12	4, 6	151.4600	192.8	151.4600	192.8	N	L	A	CDF TAC 12
36	Mobile-Portable	CDF T13	4, 6	151.3775	192.8	151.3775	192.8	N	L	A	CDF TAC 13

37	Mobile-Portable	CDF T14	4, 6	159.2250	192.8	159.2250	192.8	N	L	A	CDF TAC 14
38	Mobile-Portable	CDF T15	4, 6	159.2700	192.8	159.2700	192.8	N	L	A	CDF TAC 15
39	Mobile-Portable	CDF T16	4, 6	159.2850	192.8	159.2850	192.8	N	L	A	CDF TAC 16
40	Mobile-Portable	CDF T17	4, 6	159.3150	192.8	159.3150	192.8	N	L	A	CDF TAC 17
41	Mobile-Portable	CDF T18	4, 6	159.3450	192.8	159.3450	192.8	N	L	A	CDF TAC 18
42	Mobile-Portable	CDF T19	4, 6	159.3600	192.8	159.3600	192.8	N	L	A	CDF TAC 19
43	Mobile-Portable	CDF T20	4, 6	159.3750	192.8	159.3750	192.8	N	L	A	CDF TAC 20
44	Mobile-Portable	CDF T21	4, 6	159.3900	192.8	159.3900	192.8	N	L	A	CDF TAC 21
45	Mobile-Portable	CDF T22	4, 6	159.4050	192.8	159.4050	192.8	N	L	A	CDF TAC 22

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

46	Mobile-Portable	CDF T23	4, 6	159.4500	192.8	159.4500	192.8	N	L	A	CDF TAC 23
47	Mobile-Portable	CDF T24	4, 6	151.3325	192.8	151.3325	192.8	N	L	A	CDF TAC 24
48	Mobile-Portable	CDF T25	4, 6	159.2775	192.8	159.2775	192.8	N	L	A	CDF TAC 25
49	Base-Fixed-Mobile	CESRS-D	10, 11, 12	153.7550	0.0	153.7550	OST	N	H	A	CA TRAVEL NET - Direct

50	Base-Fixed-Mobile	FS ANF		172.3750	0.0	164.9375	OST	N	H	A	USFS Angeles NF
51	Base-Fixed-Mobile	FS BDF		171.4750	0.0	168.1500	OST	N	H	A	USFS San Bernardino NF
52	Base-Fixed-Mobile	FS CNF		171.4250	103.5	164.8000	OST	N	H	A	USFS Cleveland NF
53	Base-Fixed-Mobile	FS ENF		171.5250	156.7	162.7500	OST	N	H	A	USFS El Dorado NF
54	Base-Fixed-Mobile	FS HTF		170.5250	0.0	164.1875	OST	N	H	A	USFS Toiyabe NF (Bridgeport)
55	Base-Fixed-Mobile	FS INF N		173.8000	0.0	165.0125	OST	N	H	A	USFS Inyo NF North
56	Base-Fixed-Mobile	FS INF S		173.8375	0.0	166.2625	OST	N	H	A	USFS Inyo NF South
57	Base-Fixed-Mobile	FS KNF		171.5250	0.0	165.4125	OST	N	H	A	USFS Klamath NF
58	Base-Fixed-Mobile	FS LNF		173.1875	0.0	164.8000	OST	N	H	A	USFS Lassen NF
59	Base-Fixed-Mobile	FS LPF		170.4625	0.0	164.9125	OST	N	H	A	USFS Los Padres NF
60	Base-Fixed-Mobile	FS MDF		170.7375	0.0	164.9875	OST	N	H	A	USFS Modoc NF

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A							Frequency Band			Description		
							VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks	

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

61	Base-Fixed-Mobile	FS MNF		171.5500	0.0	164.5000	OST	N	H	A	USFS Mendocino NF
62	Base-Fixed-Mobile	FS PNF		170.5500	0.0	164.8750	OST	N	H	A	USFS Plumas NF
63	Base-Fixed-Mobile	FS SHF		171.5750	0.0	165.0125	OST	N	H	A	USFS Shasta-Trinity NF
64	Base-Fixed-Mobile	FS SNF		172.2250	0.0	164.7875	OST	N	H	A	USFS Sierra NF
65	Base-Fixed-Mobile	FS SQF		169.9000	0.0	165.7000	OST	N	H	A	USFS Sequoia NF
66	Base-Fixed-Mobile	FS SRF		172.3750	0.0	164.1750	OST	N	H	A	USFS Six Rivers NF
67	Base-Fixed-Mobile	FS STF		170.5000	0.0	168.7500	OST	N	H	A	USFS Stanislaus NF
68	Base-Fixed-Mobile	FS TMU 1		172.3750	156.7	164.9625	OST	N	H	A	USFS Lake Tahoe MU Basin 1 Net
69	Base-Fixed-Mobile	FS TNF		170.6000	0.0	164.9375	OST	N	H	A	USFS Tahoe NF
70	Mobile-Portable	GUARD	9	168.6250	0.0	168.6250	110.9	N	L	A	AIR GUARD - emerg. use only
71	Base-Fixed-Mobile	KRN 1		153.7850	167.9	158.8950	167.9	N	H	A	Kern Co FD Dispatch
72	Base-Fixed-Mobile	KRN 3		155.6250	167.9	158.8500	167.9	N	H	A	Kern Co FD Dispatch
73	Mobile-Portable	KRN A/G		154.8900	167.9	154.8900	167.9	N	L	A	Kern Co Air/Ground
74	Mobile-Portable	LAC A/G		154.4000	151.4	154.4000	151.4	N	L	A	LA CO Air to Ground
75	Base-Fixed-Mobile	LAC V-1		152.1500	151.4	158.6100	151.4	N	H	A	LA CO Command 1

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA											
76	Base-Fixed-Mobile	LAC V-2		152.2400	151.4	158.7000	151.4	N	H	A	LAC COMMAND 2
77	Base-Fixed-Mobile	LAC V-3		152.5400	151.4	157.8000	151.4	N	H	A	LAC COMMAND 3
78	Base-Fixed-Mobile	LAC V-4		152.5700	151.4	157.8300	151.4	N	H	A	LAC COMMAND 4
79	Base-Fixed-Mobile	LAC V-5		152.7800	151.4	158.0400	151.4	N	H	A	LAC COMMAND 5
80	Base-Fixed-Mobile	LAC V-7D		153.8900	151.4	153.8900	151.4	N	H	A	
81	Base-Fixed-Mobile	LAC V-8D		154.0700	151.4	154.0700	151.4	N	H	A	
82	Base-Fixed-Mobile	LAC V-9D		154.3400	0.0	154.3400	151.4	N	H	A	
83	Base-Fixed-Mobile	LAC V-10D		154.4150	151.4	154.4150	151.4	N	H	A	
84	Base-Fixed-Mobile	LAC V-11D		154.4300	0.0	154.4300	151.4	N	H	A	
85	Base-Fixed-Mobile	LAC V-12D		158.9700	151.4	158.9700	151.4	N	H	A	

86	Base-Fixed-Mobile	LAC V-13D		159.0900	151.4	159.0900	151.4	N	H	A	
87	Mobile-Portable	LFD A/G		154.8300	100.0	154.8300	100.0	N	L	A	LA CITY Air to Ground Shared w/LAPD
88	Base-Fixed-Mobile	MRN		151.0400	146.2	159.1800	OST	N	H	A	MARIN CO. MU AID NET
89	Base-Fixed-Mobile	MVU 2		151.3325	131.8	159.2775	OST	N	H	A	MVU LOCAL 2
90	Base-Fixed-Mobile	NIFC C1	3, 4, 5, 11, 13, 14, 18	170.9750	0.0	168.7000	OST	N	L	A	NIFC CMD 1

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

91	Base-Fixed-Mobile	NIFC C2	3, 4, 5, 11, 13, 14, 18	170.4500	0.0	168.1000	OST	N	L	A	NIFC CMD 2
92	Base-Fixed-Mobile	NIFC C3	3, 4, 5, 11, 13, 14, 18	170.4250	0.0	168.0750	OST	N	L	A	NIFC CMD 3
93	Base-Fixed-Mobile	NIFC C4	3, 4, 5, 11, 13, 14, 18	170.0000	0.0	166.6750	OST	N	L	A	NIFC CMD 4
94	Base-Fixed-Mobile	NIFC C5	3, 4, 5, 11, 13, 14, 18	169.7500	0.0	167.1000	OST	N	L	A	NIFC CMD 5
95	Base-Fixed-Mobile	NIFC C6	3, 4, 5, 11, 13, 14, 18	168.4750	0.0	165.4000	OST	N	L	A	NIFC CMD 6

96	Base-Fixed-Mobile	NIFC C8 / NC1	3, 4, 5, 11, 13, 14, 18	169.5375	0.0	164.7125	OST	N	L	A	NIFC CMD 8 / NIFOG NC1
97	Base-Fixed-Mobile	NIFC C9 / IR1	3, 4, 5, 11, 13,14,15,18	170.0125	0.0	165.2500	OST	N	L	A	NIFC CMD 9 / NIFOG IR1
98	Base-Fixed-Mobile	NIFC C10 / IR2	3, 4, 5, 11, 13,14,15,18	170.4125	0.0	165.9625	OST	N	L	A	NIFC CMD 10 / NIFOG IR2
99	Base-Fixed-Mobile	NIFC C11 / IR3	3, 4, 5, 11, 13,14,15,18	170.6875	0.0	166.5750	OST	N	L	A	NIFC CMD 11 / NIFOG IR3
100	Base-Fixed-Mobile	NIFC C12 / IR4	3, 4, 5, 11, 13,14,15,18	173.0375	0.0	167.3250	OST	N	L	A	NIFC CMD 12 / NIFOG IR4
101	Mobile-Portable	NIFC T1	3, 4, 5, 13, 14	168.0500	0.0	168.0500	OST	N	L	A	NIFC TAC 1
102	Mobile-Portable	NIFC T2	3, 4, 5, 13, 14	168.2000	0.0	168.2000	OST	N	L	A	NIFC TAC 2
103	Mobile-Portable	NIFC T3	3, 4, 5, 13, 14	168.6000	0.0	168.6000	OST	N	L	A	NIFC TAC 3
104	Mobile-Portable	NIFC T5	3, 4, 5, 13, 14	166.7250	0.0	166.7250	OST	N	L	A	NIFC TAC 5
105	Mobile-Portable	NIFC T6	3, 4, 5, 13, 14	166.7750	0.0	166.7750	OST	N	L	A	NIFC TAC 6

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA

106	Mobile-Portable	NIFC T7	3, 4, 5, 13, 14	168.2500	0.0	168.2500	OST	N	L	A	NIFC TAC 7
-----	-----------------	---------	-----------------	----------	-----	----------	-----	---	---	---	------------

107	Base-Fixed-Mobile	FIREOC		151.0100	123.0	154.9650	123.0	N	H	A	Orange County Fire Channel
108	Base-Fixed-Mobile	OCACCESS		151.0850	136.5	159.0000	136.5	N	H	A	Orange County Access - Moved up from Category 2
109	Mobile-Portable	R5 T4	3, 4, 6, 13, 14	166.5500	0.0	166.5500	OST	N	L	A	USFS RGN 5 TAC 4
110	Mobile-Portable	R5 T5	3, 4, 6, 13, 14	167.1125	0.0	167.1125	OST	N	L	A	USFS RGN 5 TAC 5
111	Mobile-Portable	R5 T6	3, 4, 6, 13, 14	168.2375	0.0	168.2375	OST	N	L	A	USFS RGN 5 TAC 6
112	Base-Fixed-Mobile	RRU 2		151.1750	110.9	159.2850	OST	N	H	A	RRU LOCAL NET # 2
113	Mobile-Portable	RVC A-G		155.7000	192.8	155.7000	192.8	N	L	A	RVC AIR TO GROUND
114	Base-Fixed-Mobile	RVC C1		154.1000	0.0	156.0000	OST	N	H	A	RVC COMMAND 1
115	Mobile-Portable	SBC A/G		155.6400	100.0	155.6400	100.0	N	H	A	Santa Barbara Air to Ground
116	Base-Fixed-Mobile	SBC C2		153.9050	110.9	154.9950	127.3	N	H	A	S.B. CO. CMD 2
117	Base-Fixed-Mobile	SBC C3		153.9800	110.9	155.7150	127.3	N	H	A	S.B. CO. CMD 3
118	Base-Fixed-Mobile	SBC T7		155.5950	100.0	155.5950	100.0	N	H	A	
119	Base-Fixed-Mobile	SBC T8		154.8450	100.0	154.8450	100.0	N	H	A	
120	Base-Fixed-Mobile	SBC T9		154.6500	100.0	154.6500	100.0	N	H	A	

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA											
121	Mobile-Portable	VCALL 10	7	155.7525	0.0	155.7525	156.7	N	H	A	
122	Mobile-Portable	VFIRE 21	1	154.2800	156.7	154.2800	156.7	N	H	A	NAT INTEROP
123	Mobile-Portable	VFIRE 22	1, 4	154.2650	156.7	154.2650	156.7	N	L	A	NAT INTEROP
124	Mobile-Portable	VFIRE 23	1, 4	154.2950	156.7	154.2950	156.7	N	L	A	NAT INTEROP
125	Mobile-Portable	VFIRE 24	1, 4	154.2725	156.7	154.2725	156.7	N	L	A	NAT INTEROP
126	Mobile-Portable	VFIRE 25	1, 4	154.2875	156.7	154.2875	156.7	N	L	A	NAT INTEROP
127	Mobile-Portable	VFIRE 26	1, 4	154.3025	156.7	154.3025	156.7	N	L	A	NAT INTEROP
128	Base-Fixed-Mobile	VMED 28	4, 7	155.3400	156.7	155.3400	156.7	N	H	A	
129	Base-Fixed-Mobile	VMED 29	4, 7	155.3475	156.7	155.3475	156.7	N	H	A	
130	Mobile-Portable	VNC A/G		154.2350	167.9	154.2350	167.9	N	L	A	VENTURA CO. Air to Ground
131	Base-Fixed-Mobile	VNC C 2		154.3250	79.7	155.8350	79.7	N	H	A	VENTURA CO. CMD 2
132	Base-Fixed-Mobile	VNC C 5		153.8750	85.4	158.8050	85.4	N	H	A	
133	Base-Fixed-Mobile	VNC C 8		155.9850	186.2	154.7250	186.2	N	H	A	VENTURA CO. CMD 8

134	Base-Fixed-Mobile	VNC T3		153.9500	167.9	153.9500	167.9	N	H	A	
135	Base-Fixed-Mobile	VNC T6		154.0250	167.9	154.0250	167.9	N	H	A	
COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 1 - Mandatory for all Fire radios providing Mutual Aid in CA											
136	Base-Fixed-Mobile	VNC T9		153.8300	167.9	153.8300	167.9	N	H	A	
137	Mobile-Portable	VSAR16	4	155.1600	CSQ	155.1600	127.3	N	H	A	
138	Mobile-Portable	VTAC 11	4, 7	151.1375	156.7	151.1375	156.7	N	L	A	VHF INTEROP National
139	Mobile-Portable	VTAC 12	4, 7	154.4525	156.7	154.4525	156.7	N	L	A	VHF INTEROP National
140	Mobile-Portable	VTAC 13	4, 7	158.7375	156.7	158.7375	156.7	N	L	A	VHF INTEROP National
141	Mobile-Portable	VTAC 14	4, 7	159.4725	156.7	159.4725	156.7	N	L	A	VHF INTEROP National
142	Mobile-Portable	VXCC C1		154.3850	136.5	155.8200	156.7	N	H	A	Contra Costa CO Command
143	Mobile-Portable	XSD A/G		156.1650	107.2	156.1650	107.2	N	L	A	SAN DIEGO CO. Air/Ground
144	Base-Fixed-Mobile	XSD CMD 4		158.9700	103.5	155.5500	103.5	N	H	A	SD CTY OLD SND CMD
145	Base-Fixed-Mobile	XSD CMD 5		153.8900	156.7	150.8050	OST	N	H	A	San Diego Co.old XSD NCMD(Pendleton)

146	Base-Fixed-Mobile	XSD CMD 11		150.6125	156.7	167.4500	OST	N	H	A	SD Co CMD 11
147	Base-Fixed-Mobile	XSM CMD51		151.4750	167.9	159.0150	167.9	N	H	A	San Mateo County Command

**COMMUNICATIONS RESOURCE AVAILABILITY
WORKSHEET ICS 217A**

Frequency Band

Description

VHF

MACS 441-1

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 2 - Highly recommended for all Fire radios providing Mutual Aid in CA

1	Base-Fixed-Mobile	AEU L		151.1900	146.2	159.2250	OST	N	H	A	AEU LOCAL NET
2	Base-Fixed-Mobile	BDC V 2		159.1200	167.9	156.0600	OST	N	H	A	SAN BERNARDINO CO 2
3	Base-Fixed-Mobile	BDC V 3		151.1525	167.9	158.8875	OST	N	H	A	SAN BERNARDINO CO 3
4	Base-Fixed-Mobile	BDC V 7		154.1900	167.9	154.8375	OST	N	H	A	SAN BERNARDINO CO 7
5	Base-Fixed-Mobile	BDU 1		151.4450	146.2	159.3900	OST	N	H	A	BDU LOCAL NET # 1
6	Base-Fixed-Mobile	BDU 2		151.3250	146.2	159.3150	OST	N	H	A	BDU LOCAL NET #2
7	Base-Fixed-Mobile	BDU 3		151.2500	146.2	159.4050	OST	N	H	A	BDU LOCAL NET #3
8	Base-Fixed-Mobile	BEU E		151.2500	156.7	159.4050	OST	N	H	A	BEU LOCAL NET EAST

9	Base-Fixed-Mobile	BEU W		151.3325	156.7	159.2775	OST	N	H	A	BEU LOCAL NET WEST
10	Base-Fixed-Mobile	BTU L		151.4000	110.9	159.3750	OST	N	H	A	BTU LOCAL NET
11	Base-Fixed-Mobile	BUT SUPP		154.4150	123.0	159.0000	OST	N	H	A	BUTTE CO SUPPORT NET
12	Base-Fixed-Mobile	CAL CMD		151.6625	136.5	158.7075	OST	N	H	A	CALAVERAS COMMAND
13	Mobile-Portable	CDF T26	4, 6	159.2925	192.8	159.2925	192.8	N	L	A	CDF TAC 26
14	Mobile-Portable	CDF T27	4, 6	159.3075	192.8	159.3075	192.8	N	L	A	CDF TAC 27
15	Mobile-Portable	CDF T28	4, 6	151.1825	192.8	151.1825	192.8	N	L	A	CDF TAC 28

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A				Frequency Band VHF				Description MACS 441-1			
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 2 - Highly recommended for all Fire radios providing Mutual Aid in CA											
16	Mobile-Portable	CDF T29	4, 6	151.3475	192.8	151.3475	192.8	N	L	A	CDF TAC 29
17	Mobile-Portable	CDF T30	4, 6	151.3925	192.8	151.3925	192.8	N	L	A	CDF TAC 30
18	Mobile-Portable	CDF T31	4, 6	159.3825	192.8	159.3825	192.8	N	L	A	CDF TAC 31
19	Mobile-Portable	CDF T32	4, 6	151.2425	192.8	151.2425	192.8	N	L	A	CDF TAC 32

20	Mobile-Portable	CDF T33	4, 6	159.2475	192.8	159.2475	192.8	N	L	A	CDF TAC 33
21	Mobile-Portable	CDF T34	4, 6	151.4675	192.8	151.4675	192.8	N	L	A	CDF TAC 34
22	Mobile-Portable	CDF T35	4, 6	159.3225	192.8	159.3225	192.8	N	L	A	CDF TAC 35
23	Mobile-Portable	CDF T36	4, 6	151.1525	192.8	151.1525	192.8	N	L	A	CDF TAC 36
24	Mobile-Portable	CDF T37	4, 6	159.3375	192.8	159.3375	192.8	N	L	A	CDF TAC 37
25	Base-Fixed-Mobile	CZU L		151.3700	167.9	159.2850	OST	N	H	A	CZU LOCAL
26	Base-Fixed-Mobile	FCO DST1		154.4450	131.8	159.1950	OST	N	H	A	FKU / FCO DISPATCH
27	Base-Fixed-Mobile	FKU 1		151.3850	131.8	159.2700	OST	N	H	A	FKU LOCAL 1 NET
28	Base-Fixed-Mobile	FKU 2		151.1600	131.8	159.3600	OST	N	H	A	FKU LOCAL 2 NET
29	Base-Fixed-Mobile	FOOTHILL		155.9850	186.2	154.0100	OST	N	H	A	FOOTHILL FIRE
30	Base-Fixed-Mobile	HUU L		151.2500	110.9	159.4050	OST	N	H	A	HUU LOCAL NET
31	Base-Fixed-Mobile	LMU-L		151.250	123.0	159.405	OST	N	H	A	LMU LOCAL NET

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
Category 2 - Highly recommended for all Fire radios providing Mutual Aid in CA											
32	Base-Fixed-Mobile	LNU EAST		151.3400	136.5	159.3150	OST	N	H	A	LNU EAST NET
33	Base-Fixed-Mobile	LNU WEST		151.4600	136.5	159.3900	OST	N	H	A	LNU WEST NET
34	Base-Fixed-Mobile	MEU L		151.3850	110.9	159.2700	OST	N	H	A	MEU LOCAL NET
35	Base-Fixed-Mobile	MMU 1		151.4600	123.0	159.3900	OST	N	H	A	MMU LOCAL NET
36	Base-Fixed-Mobile	MMU 2		151.1525	123.0	159.3375	OST	N	H	A	MMU LOCAL NET #2
37	Base-Fixed-Mobile	MVU 1		151.1900	131.8	159.2250	OST	N	H	A	MVU LOCAL NET
38	Base-Fixed-Mobile	NEU EAST		154.1300	131.8	159.4950	OST	N	H	A	NEU EAST NET
39	Base-Fixed-Mobile	NEU WEST		151.3250	131.8	159.3600	OST	N	H	A	NEU LOCAL NET
40	Base-Fixed-Mobile	NEV CO		153.9650	100.0	156.3300	OST	N	H	A	NEVADA COUNTY FIRE
41	Base-Fixed-Mobile	PCF CMD		152.8100	131.8	158.0700	OST	N	H	A	PLACER CO Fire Dept. COMMAND
42	Base-fixed-Mbbile	RRU 1 W		151.3850	110.9	159.3600	OST	N	H	A	RRU LOCAL NET West 1

43	Base-Fixed-Mobile	RRU 3 E		151.1300	0.0	158.9250	OST	N	H	A	RRU LOCAL NET East 3
44	Base-Fixed-Mobile	SBC C-1		153.770	110.9	154.2500	136.5	N	H	A	Santa Barbara CO Dispatch
45	Base-Fixed-Mobile	SCC CMD		151.1225	156.7	159.1650	OST	N	H	A	SANTA CLARA CMD
46	Base-Fixed-Mobile	SCU L		151.4450	156.7	159.3450	OST	N	H	A	SCU LOCAL
47	Base-Fixed-Mobile	CNT VC72		155.9850	179.9	158.955	167.9	N	H	A	Santa Clara CO Command

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	VHF	MACS 441-1

--	--	--	--	--	--	--	--	--	--	--	--

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 2 - Highly recommended for all Fire radios providing Mutual Aid in CA

48	Base-Fixed-Mobile	SF MA VA		168.7625	\$653	162.9000	\$653	N	H	D	SFFD Mutual Aid
49	Base-Fixed-Mobile	SF FED V		171.6125	\$653	163.7750	\$653	N	H	D	SFFD Mutual Aid
49	Base-Fixed-Mobile	SHA CMD		154.4300	136.5	159.0150	OST	N	H	A	Shasta CO Command
50	Base-Fixed-Mobile	SHU L		151.1600	136.5	159.2700	OST	N	H	A	SHU LOCAL NET
51	Base-Fixed-Mobile	SKU L		151.3250	156.7	159.3600	OST	N	H	A	SKU LOCAL NET

52	Base-Fixed-Mobile	SLC		154.3850	82.5	156.0300	82.5	N	H	A	SLC/SLU DISPATCH
53	Base-Fixed-Mobile	SLU L		151.3250	136.5	159.3150	OST	N	H	A	SLU LOCAL NET
54	Base-Fixed-Mobile	TCU L		151.1750	136.5	159.4500	OST	N	H	A	TCU LOCAL NET
55	Base-Fixed-Mobile	TGU L		151.3700	146.2	159.2850	OST	N	H	A	TGU LOCAL NET
57	Base-Fixed-Mobile	TLC 1		154.0100	131.8	155.8950	OST	N	H	A	TULARE CO FIRE NET
58	Base-Fixed-Mobile	TLC 2		153.9050	131.8	158.9250	131.8	N	H	A	TULARE CO COMMAND
59	Base-Fixed-Mobile	TLU CMD		151.1300	136.5	158.6925	OST	N	H	A	TUOLUMNE COMMAND
60	Base-Fixed-Mobile	TUU L		151.1900	110.9	159.2250	OST	N	H	A	TUU LOCAL NET
61	Base-Fixed-Mobile	USCG 16		156.8000	CSQ	156.8000	NONE	W	H	A	DISTRESS, Safety, Calling
62	Base-Fixed-Mobile	USCG 22A		157.1000	CSQ	157.1000	NONE	W	H	A	Liaison to USCG
63	Base-Fixed-Mobile	V TAC 33		159.7425	156.7	151.1375	136.5	N	L	A	Portable Tactical Repeater

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A							Frequency Band			Description		
							VHF			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks	

Category 2 - Highly recommended for all Fire radios providing Mutual Aid in CA

64	Base-Fixed-Mobile	V TAC 34		158.7375	156.7	154.4525	136.5	N	L	A	Portable Tactical Repeater
65	Base-Fixed-Mobile	V TAC 35		159.4725	156.7	158.7375	136.5	N	L	A	Portable Tactical Repeater
66	Base-Fixed-Mobile	V TAC 36		151.1375	156.7	159.4725	136.5	N	L	A	Portable Tactical Repeater
67	Base-Fixed-Mobile	V TAC 37	4	154.4525	156.7	158.7375	136.5	N	L	A	Portable Tactical Repeater
68	Base-Fixed-Mobile	V TAC 38	4	158.7375	156.7	159.4725	136.5	N	L	A	Portable Tactical Repeater
69	Base-Fixed-Mobile	XAM CMD		154.7625	123.0	159.1800	OST	N	H	A	Amador OA CMD Net
70	Base-Fixed-Mobile	XED CMD		155.9025	186.2	159.2775	OST	N	H	A	El Dorado OA CMD Net
71	Base-Fixed-Mobile	XMA CMD		153.1850	123.0	158.4300	OST	N	H	A	MADERA COMMAND
72	Base-Fixed-Mobile	XNA FIRE		154.4150	131.8	154.8600	OST	N	H	A	NAPA CO FIRE
73	Base-Fixed-Mobile	XSD CMD 1		154.1750	103.5	158.8650	103.5	N	H	A	San Diego Co. CMD 1
74	Base-Fixed-Mobile	XSD CMD 2		156.2250	107.2	159.0150	107.2	N	H	A	San Diego Co. CMD 2
75	Base-Fixed-Mobile	XSD CMD 3		153.9950	110.9	159.1125	OST	N	H	A	San Diego Co. Old: Border CMD
76	Base-Fixed-Mobile	XSL C4		151.0550	192.8	156.0450	192.8	N	H	A	SLC COUNTY COMMAND 4
77	Base-Fixed-Mobile	XSL C5		154.8300	186.2	156.0900	186.2	N	H	A	SLC COUNTY COMMAND 5

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band				Descripti on						
	VHF				MACS 441-1						

--	--	--	--	--	--	--	--	--	--	--	--

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	----------------	---------

Category 3 - Optional for all Fire radios providing Mutual Aid in CA											
-----------------------------------------------------------------------------	--	--	--	--	--	--	--	--	--	--	--

1	Base-Fixed-Mobile	BLM SOA		168.3000	0.0	168.3000	0.0	N	H	A	BLM SCENE OF ACTION
2	Base-Fixed-Mobile	BLMCDD-F		166.4875	0.0	167.0750	OST	N	H	A	BLM FIRE NET South
3	Base-Fixed-Mobile	BLMCND-F		169.7750	0.0	163.0250	OST	N	H	A	BLM FIRE Bakersfield
4	Base-Fixed-Mobile	BLMNODEF		171.6250	0.0	164.2500	OST	N	H	A	BLM FIRE North East
5	Base-Fixed-Mobile	BLMNODW		172.6125	0.0	166.3750	OST	N	H	A	BLM ADMIN NET North West
6	Base-Fixed-Mobile	CESRS	3, 10, 11, 12, 13	153.7550	0.0	154.9800	OST	N	H	A	CA TRAVEL NET Repeated
7	Base-Fixed-Mobile	CNF SERV		172.4000	0.0	164.1250	0.0	N	H	A	Cleveland NF Service Net - B
8	Base-Fixed-Mobile	ENF SERV		173.7625	0.0	164.8250	0.0	N	H	A	EI Dorado NF Service Net - D
9	Base-Fixed-Mobile	ANF SERV		171.5000	0.0	164.8250	0.0	N	H	A	Angeles NF Service Net - A
10	Base-Fixed-Mobile	INF SERV		172.4000	0.0	164.1250	0.0	N	H	A	Inyo NF South Service Net - B

11	Base-Fixed-Mobile	LNF SERV		169.9500	0.0	164.1000	0.0	N	H	A	Lassen NF Service Net - C
12	Base-Fixed-Mobile	LPF SERV		171.5000	0.0	164.8250	0.0	N	H	A	Los Padres NF Service Net - A
13	Base-Fixed-Mobile	MDF SERV		169.9500	0.0	164.1000	0.0	N	H	A	Modoc NF Service Net - C
14	Base-Fixed-Mobile	MNF SERV		172.4000	0.0	164.1250	0.0	N	H	A	Mendocino NF Service Net - B
15	Base-Fixed-Mobile	OES 1A	3, 11, 13	154.1600	0.0	159.1350	OST	N	H	A	OES FIRE 1A

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Descripti on
	VHF	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A,D or M	Remarks
----	-----------------------	---------------------------------------------	-------------	---------	----------------	---------	----------------	--------	-----	---------------	---------

Category 3 - Optional for all Fire radios providing Mutual Aid in CA

16	Base-Fixed-Mobile	OES 1B	3, 11, 13	154.1600	0.0	159.1950	OST	N	H	A	OES FIRE 1B
17	Base-Fixed-Mobile	OES 2A	3, 11, 13	154.2200	0.0	159.1350	OST	N	H	A	OES FIRE 2A
18	Base-Fixed-Mobile	OES 2B	3, 11, 13	154.2200	0.0	159.1950	OST	N	H	A	OES FIRE 2B
19	Base-Fixed-Mobile	PNF SERV		171.5000	0.0	164.8250	0.0	N	H	A	Plumas NF Service Net - A
20	Base-Fixed-Mobile	SHF SERV		171.5000	0.0	164.8250	0.0	N	H	A	Shasta-Trinity NF Service Net - A

21	Base-Fixed-Mobile	SQF SERV		172.4000	0.0	164.1250	0.0	N	H	A	Sequoia NF Service Net - B
22	Base-Fixed-Mobile	SRF SERV		169.9500	0.0	164.7875	0.0	N	H	A	Six Rivers NF Service Net
24	Base-Fixed-Mobile	TNF SERV		172.4000	0.0	164.1250	0.0	N	H	A	Tahoe NF Service Net - B

Controlled Unclassified Information//Basic
Contact information for person entering information:

Name	Email	Phone
FIREScope ComsSection	ericoincm@gmail.com	(209) 321-5371

The convention calls for frequency lists to show four digits after the decimal place (five digits for 700 MHz frequencies). The letter "U", "N", or "W" in the deviation (Dev) column reflects whether the frequency is ultranarrow (6.25 kHz), narrow (12.5 kHz) or wide band (25 kHz). Mode refers to either "A" indicating Analog, "D" indicating Digital (e.g. Project 25) or "M" indicating Mixed Mode. All channels are shown as if programmed in a control station, mobile or portable radio. Repeaters (and depending on use, base stations) must be programmed with the Rx and Tx reversed.

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						UHF & UHF-T			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A,D or M	Remarks
1	Simplex – Moonly	FDUMA		487.2375	156.7	487.2375	156.7	N	H	A	Cal-OES Interop in LAC ONLY
2	Repeater Pair	UCALL40	3, 7, 11, 12, 13	453.2125	156.7	458.2125	156.7	N	H	A	
3	Repeater Pair	UTAC41	3, 7, 11, 12,13,17	453.4625	156.7	458.4625	156.7	N	H	A	
4	Repeater Pair	UTAC42	3, 7, 11, 12,13,17	453.7125	156.7	458.7125	156.7	N	H	A	
5	Repeater Pair	UTAC43	3, 7, 11, 12,13,17	453.8625	156.7	458.8625	156.7	N	H	A	
6	Repeater Pair	NC 2 CALL		410.2375	167.9	419.2375	167.9	N	H	A	CALLING
7	Repeater Pair	IR 10		410.4375	167.9	419.4375	167.9	N	H	A	
8	Repeater Pair	IR 11		410.6375	167.9	419.6375	167.9	N	H	A	
9	Repeater Pair	IR 12		410.8375	167.9	419.8375	167.9	N	H	A	SAR Incident Command
10	Simplex	IR 13		413.1875	167.9	413.1875	167.9	N	H	A	
11	Simplex	IR 14		413.2125	167.9	413.2125	167.9	N	H	A	Interagency Convoy
12	Simplex	IR 15		410.2375	167.9	410.2375	167.9	N	H	A	CALLING (Direct)
13	Simplex	IR 16		410.4375	167.9	410.4375	167.9	N	H	A	Direct for IR 10
14	Simplex	IR 17		410.6375	167.9	410.6375	167.9	N	H	A	Direct for IR 11
15	Simplex	IR 18		410.8375	167.9	410.8375	167.9	N	H	A	Direct for IR 12 - SAR Incident Cmd

16	Repeater Pair	MED 1	3, 12, 13	463.0000	CSQ	468.0000	OST	N	H	A	
----	---------------	-------	-----------	----------	-----	----------	-----	---	---	---	--

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	UHF & UHF-T	MACS 441-1



Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
17	Repeater Pair	MED 2	3, 12, 13	463.0250	CSQ	468.0250	OST	N	H	A	
18	Repeater Pair	MED 3	3, 12, 13	463.0500	CSQ	468.0500	OST	N	H	A	
19	Repeater Pair	MED 4	3, 12, 13	463.0750	CSQ	468.0750	OST	N	H	A	
20	Repeater Pair	MED 5	3, 12, 13	463.1000	CSQ	468.1000	OST	N	H	A	
21	Repeater Pair	MED 6	3, 12, 13	463.1250	CSQ	468.125	OST	N	H	A	
22	Repeater Pair	MED 7	3, 12, 13	463.1500	CSQ	468.1500	OST	N	H	A	
23	Repeater Pair	MED 8	3, 12, 13	463.1750	CSQ	468.1750	OST	N	H	A	
24	Repeater Pair	MED 9	3, 12, 13	462.9500	CSQ	467.9500	OST	N	H	A	
25	Repeater Pair	MED 10	3, 12, 13	462.9750	CSQ	467.9750	OST	N	H	A	
26	Repeater Pair	MED 12	3, 12, 13	463.0125	CSQ	468.0125	OST	N	H	A	
27	Repeater Pair	MED 22	3, 12, 13	463.0375	CSQ	468.0375	OST	N	H	A	
28	Repeater Pair	MED 32	3, 12, 13	463.0625	CSQ	468.0625	OST	N	H	A	
29	Repeater Pair	MED 42	3, 12, 13	463.0875	CSQ	468.0875	OST	N	H	A	

30	Repeater Pair	MED 52	3, 12, 13	463.1125	CSQ	468.1125	OST	N	H	A	
31	Repeater Pair	MED 62	3, 12, 13	463.1375	CSQ	468.1375	OST	N	H	A	

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	UHF & UHF-T	MACS 441-1

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A,D or M	Remarks
32	Repeater Pair	MED 72	3, 12, 13	463.1625	CSQ	468.1625	OST	N	H	A	
33	Repeater Pair	MED 82	3, 12, 13	463.1875	CSQ	468.1875	OST	N	H	A	
34	Repeater Pair	MED 92	3, 12, 13	462.9625	CSQ	467.9625	OST	N	H	A	
35	Repeater Pair	MED 102	3, 12, 13	462.9875	CSQ	467.9875	OST	N	H	A	

Controlled Unclassified Information//Basic
Contact information for person entering information:

Name	Email	Phone
FIREScope ComsSection	ericoincm@gmail.com	(209) 321-5371

The convention calls for frequency lists to show four digits after the decimal place (five digits for 700 MHz frequencies). The letter "U", "N", or "W" in the deviation (Dev) column reflects whether the frequency is ultranarrow (6.25 kHz), narrow (12.5 kHz) or wide band (25 kHz). Mode refers to either "A" indicating Analog, "D" indicating Digital (e.g. Project 25) or "M" indicating Mixed Mode. All channels are shown as if programmed in a control station, mobile or portable radio. Repeaters (and depending on use, base stations) must be programmed with the Rx and Tx reversed.

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A						Frequency Band			Description		
						700 & 800 MHz			MACS 441-1		
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
1	Base-Fixed-Mobile	7CALL50	3,11,12	769.24375	\$F7E	799.24375	OST	N	H	D	
2	Base-Fixed-Mobile	7TAC51	3,11,12	769.14375	\$F7E	799.14375	OST	N	H	D	
3	Base-Fixed-Mobile	7TAC52	3,11,12	769.64375	\$F7E	799.64375	OST	N	H	D	
4	Base-Fixed-Mobile	7TAC53	3,11,12	770.14375	\$F7E	800.14375	OST	N	H	D	
5	Base-Fixed-Mobile	7TAC54	3,11,12	770.64375	\$F7E	800.64375	OST	N	H	D	
6	Base-Fixed-Mobile	7TAC55	3,11,12	769.74375	\$F7E	799.74375	OST	N	H	D	
7	Base-Fixed-Mobile	7TAC56	3,11,12	770.24375	\$F7E	800.24375	OST	N	H	D	
8	Base-Fixed-Mobile	7GTAC57	3,11,12	770.99375	\$F7E	800.99375	OST	N	H	D	
9	Base-Fixed-Mobile	7MOB59	3,11,12	770.89375	\$F7E	800.89375	OST	N	H	D	
10	Base-Fixed-Mobile	7LAW61	3,11,12	770.39375	\$F7E	800.39375	OST	N	H	D	
11	Base-Fixed-Mobile	7LAW62	3,11,12	770.49375	\$F7E	800.49375	OST	N	H	D	

12	Base-Fixed-Mobile	7FIRE63	3,11,12	769.89375	\$F7E	799.89375	OST	N	H	D	
13	Base-Fixed-Mobile	7FIRE64	3,11,12	769.99375	\$F7E	799.99375	OST	N	H	D	
14	Base-Fixed-Mobile	7MED65	3,11,12	769.39375	\$F7E	799.39375	OST	N	H	D	
15	Base-Fixed-Mobile	7MED66	3,11,12	769.49375	\$F7E	799.49375	OST	N	H	D	
16	Base-Fixed-Mobile	7DATA69	3,11,12	770.74375	\$F7E	800.74375	OST	N	H	D	
17	Mobile	7DATA69D	16	770.74375	\$F7E	770.74375	\$293	N	H	D	Fire/EMS travel net

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A							Frequency Band			Description	
							700 & 800 MHz			MACS 441-1	
Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
18	Base-Fixed-Mobile	7CALL70	3,11,12	773.25625	\$F7E	803.25625	OST	N	H	D	
19	Base-Fixed-Mobile	7TAC71	3,11,12	773.10625	\$F7E	803.10625	OST	N	H	D	
20	Base-Fixed-Mobile	7TAC72	3,11,12	773.60625	\$F7E	803.60625	OST	N	H	D	
21	Base-Fixed-Mobile	7TAC73	3,11,12	774.10625	\$F7E	804.10625	OST	N	H	D	
22	Base-Fixed-Mobile	7TAC74	3,11,12	774.60625	\$F7E	804.60625	OST	N	H	D	

23	Base-Fixed-Mobile	7TAC75	3,11,12	773.75625	\$F7E	803.75625	OST	N	H	D	
24	Base-Fixed-Mobile	7TAC76	3,11,12	774.25625	\$F7E	804.25625	OST	N	H	D	
25	Base-Fixed-Mobile	7GTAC77	3,11,12	774.85625	\$F7E	804.85625	OST	N	H	D	
26	Base-Fixed-Mobile	7MOB79	3,11,12	774.50625	\$F7E	804.50625	OST	N	H	D	
27	Base-Fixed-Mobile	7LAW81	3,11,12	774.00625	\$F7E	804.00625	OST	N	H	D	
28	Base-Fixed-Mobile	7LAW82	3,11,12	774.35625	\$F7E	804.35625	OST	N	H	D	
29	Base-Fixed-Mobile	7FIRE83	3,11,12	773.50625	\$F7E	803.50625	OST	N	H	D	
30	Base-Fixed-Mobile	7FIRE84	3,11,12	773.85625	\$F7E	803.85625	OST	N	H	D	
31	Base-Fixed-Mobile	7MED86	3,11,12	773.00625	\$F7E	803.00625	OST	N	H	D	
32	Base-Fixed-Mobile	7MED87	3,11,12	773.35625	\$F7E	803.35625	OST	N	H	D	
33	Base-Fixed-Mobile	7DATA89	3,11,12	774.75625	\$F7E	804.75625	OST	N	H	D	
34	Mobile	7DATA89D	16	774.75625	\$F7E	774.75625	\$293	N	H	D	Law travel net

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	700 & 800 MHz	MACS 441-1

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
35	Air-Mobile-Portable	7AG58	11, 12	769.13125	\$F7E	799.13125	\$293	N	L	D	May use in simplex mode as well
36	Air-Mobile-Portable	7AG60	11, 12	769.63125	\$F7E	799.63125	\$293	N	L	D	May use in simplex mode as well
37	Air-Mobile-Portable	7AG67	11, 12	770.13125	\$F7E	800.13125	\$293	N	L	D	May use in simplex mode as well
38	Air-Mobile-Portable	7AG68	11, 12	770.63125	\$F7E	800.63125	\$293	N	L	D	May use in simplex mode as well
39	Air-Mobile-Portable	7AG78	11, 12	773.11875	\$F7E	803.11875	\$293	N	L	D	May use in simplex mode as well
40	Air-Mobile-Portable	7AG80	11, 12	773.61875	\$F7E	803.61875	\$293	N	L	D	May use in simplex mode as well
41	Air-Mobile-Portable	7AG85	11, 12	774.11875	\$F7E	804.11875	\$293	N	L	D	May use in simplex mode as well
42	Air-Mobile-Portable	7AG88	11, 12	774.61875	\$F7E	804.61875	\$293	N	L	D	May use in simplex mode as well
43	Mobile	7US01	11, 12, 19	769.05625	156.7	799.05625	156.7	N	L	A	
44	Mobile	7US02	11, 12, 19	769.06875	156.7	799.06875	156.7	N	L	A	
45	Mobile	7US03	11, 12, 19	774.99375	156.7	804.99375	156.7	N	L	A	
46	Base-Fixed-Mobile	8CAFIRE1	3, 11, 13	853.98750	156.7	808.98750	OST		H	A	
47	Base-Fixed-Mobile	8CAFIRE2	3, 8, 11, 13	851.91250	156.7	806.91250	OST	W	H	A	
48	Base-Fixed-Mobile	8CALL90	3, 11, 13	851.01250	156.7	806.01250	156.7	W	H	A	

49	Base-Fixed-Mobile	8TAC91	3, 11, 13	851.51250	156.7	806.51250	OST	W	H	A	
50	Base-Fixed-Mobile	8TAC92	3, 11, 13	852.01250	156.7	807.01250	OST	W	H	A	

COMMUNICATIONS RESOURCE AVAILABILITY WORKSHEET ICS 217A	Frequency Band	Description
	700 & 800 MHz	MACS 441-1

Ch	Channel Configuration	Channel Name/Trunked Radio System Talkgroup	Usage Notes	RX Freq	RX Tone or CSQ	TX Freq	Tx Tone or NAC	N or W	Pwr	Mode A, D or M	Remarks
51	Base-Fixed-Mobile	8TAC93	3, 11, 13	852.51250	156.7	807.51250	OST	W	H	A	
52	Base-Fixed-Mobile	8TAC94	3, 11, 13	853.01250	156.7	808.01250	OST	W	H	A	

Controlled Unclassified Information//Basic
Contact information for person entering information:

Name	Email	Phone
FIRESOPE ComsSection	ericoincm@gmail.com	(209) 321-5371

The convention calls for frequency lists to show four digits after the decimal place (five digits for 700 MHz frequencies). The letter "U", "N", or "W" in the deviation (Dev) column reflects whether the frequency is ultranarrow (6.25 kHz), narrow (12.5 kHz) or wide band (25 kHz). Mode refers to either "A" indicating Analog, "D" indicating Digital (e.g. Project 25) or "M" indicating Mixed Mode. All channels are shown as if programmed in a control station, mobile or portable radio. Repeaters (and depending on use, base stations) must be programmed with the Rx and Tx reversed.

CALIFORNIA STANDARD 32 TONES / 16 NACs

TONE #	CTCSS	NAC
1	110.9	Tone 1 110.9
2	123.0	Tone 2 123.0
3	131.8	Tone 3 131.8
4	136.5	Tone 4 136.5
5	146.2	Tone 5 146.2
6	156.7	Tone 6 156.7
7	167.9	Tone 7 167.9
8	103.5	Tone 8 103.5
9	100.0	Tone 9 100.0
10	107.2	Tone 10 107.2
11	114.8	Tone 11 114.8
12	127.3	Tone 12 127.3
13	141.3	Tone 13 141.3
14	151.4	Tone 14 151.4
15	162.2	Tone 15 162.2
16	192.8	Tone 16 192.8
17	67.0	Tone 17 67.0
18	71.9	Tone 18 71.9
19	74.4	Tone 19 74.4
20	77.0	Tone 20 77.0
21	79.7	Tone 21 79.7
22	82.5	Tone 22 82.5
23	85.4	Tone 23 85.4
24	88.5	Tone 24 88.5
25	91.5	Tone 25 91.5
26	94.8	Tone 26 94.8
27	97.4	Tone 27 97.4
28	118.8	Tone 28 118.8
29	173.8	Tone 29 173.8
30	179.9	Tone 30 179.9
31	186.2	Tone 31 186.2
32	203.5	Tone 32 203.5

Network Access Code (NAC)	\$293	"Default" NAC
Network Access Code (NAC)	\$F7E	Rx EVERYTHING regardless of NAC