

NORTHERN CALIFORNIA 800 MHz REGIONAL COMMUNICATIONS PLAN REGION #6



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Amended August 3, 1992
Amended October 24, 1994
Amended November 6, 1998
Amended April, 2001
Amended November, 2005

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IMPORTANT INFORMATION

The Federal Commissions Commission approved the last amendment to the Region 6 (Northern California) 800 MHz NPSPAC Channel Regional Communications in April 2001.

With this 2005 revision, the entire Plan has been carefully edited, and all approved changes have been inserted. A few minor grammatical errors and discrepancies have been corrected. Pagination within the Table of Contents has been changed accordingly.

It is suggested you carefully review this current edition of the Plan, and note in particular the changes in the Attachment G "Table of Channels". As a convenience to the reader, also note original text primarily of historical interest (and yet which may add context in reading the Plan), appears in *italicized print* throughout the Plan. As the information represented by this *historical text* has in many cases been superseded by events, it should only be referred to in the context offered.

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FOREWORD

1986-1987: ACTIONS LEADING TO ADDITIONAL 800 MHz SPECTRUM AND REGIONAL PLANNING

On September 19, 1986, the Federal Communications Commission (hereinafter "Commission") issued the Allocation Order allocating 6 megahertz of spectrum for public safety use. The Commission selected the 821-824 MHz and 866-869 MHz bands because they were adjacent to frequencies already used for public safety purposes, thereby providing for expansion of, or interoperability with, existing public safety communications systems already licensed in the 806-821/851-866 MHz bands. In order to be certain that the newly allocated frequencies would be used efficiently, the Commission specified that the frequencies could not be used until it had adopted a National Plan for public safety spectrum utilization. The Commission noted the importance of public participation in development of the plan and stated its intention to seek guidance from the public safety community and other interested members of the public.

In December 1986, the Commission established the National Public Safety Planning Advisory Committee (hereinafter "NPSPAC") to involve parties interested in public safety in the planning effort. NPSPAC had open membership, and all interested parties were invited to participate in its meetings. The Commission directed NPSPAC to:

- (a) identify communications requirements of public safety services;*
- (b) develop a scheme for efficient use of the new frequencies;*
- (c) develop a scheme to increase utility of existing public safety frequencies;*
- (d) recommend the manner in which new technologies can be applied to public safety frequencies; and*
- (e) recommend guidelines to ensure compliance with the National Plan.*

NPSPAC issued its Initial Report to the Commission in March 1987. In this report, NPSPAC discussed a wide variety of topics in three general categories: developing regional plans, use of the allocated frequencies, and meeting technical requirements.

On May 15, 1987, the Commission issued a Notice of Proposed Rule Making proposing policies and rules for the National Plan. The Notice envisioned the National Plan as an overall spectrum management approach consisting of policy guidelines, technical standards, and procedures to satisfy public safety communications needs for the foreseeable future. The Commission proposed a structure for the National Plan that consisted of both national and regional planning aspects. Under the proposal, the United States would be divided into regions. The regions would have as much autonomy as possible, within the framework of the National Plan, to develop regional plans that meet their different communications needs. The Notice identified certain common national requirements. Specifically, the Notice identified requirements pertaining to intercommunication channels, a channeling plan, use of trunking, return of unused frequencies, and technical standards to control interference. Plans were to be developed for each region by the public safety entities in those regions. The regional plans were to focus on the spectrum requirements of all these entities and determine how the available spectrum could best be used to satisfy these requirements.

On November 24, 1987 in FCC 87-359 for Docket No. 87-112, the Commission adopted the policies, procedures and rules that constitute a national plan for public safety services (National Plan) by adopting service rules and technical standards for the 821-824/866-869 MHz bands. This National Plan, which the Commission developed in response to a Congressional directive, has been effective in ensuring that the new channels are used effectively and efficiently for important public safety functions such as crime control, firefighting, and emergency medical services.

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2005: CONTINUING EFFORTS TOWARDS ENSURING THE EFFECTIVE AND EFFICIENT USE OF NPSPAC SPECTRUM IN REGION 6

The Region 6 (Northern California) 800 MHz NPSPAC Channel Regional Plan (hereinafter "Plan") was originally approved by the Commission on November 29, 1990. It has subsequently been modified with the approval of the Commission on three separate occasions. This current modification of the Plan incorporates prior modifications and several other changes incentivized by the "re-banding process". It incorporates changes necessary to accommodate the current and future improvements in technology, including the trend towards the use of digital modulation and the reduction of channel widths. It also provides for changes in procedure that eliminates the past practice of allotting specific channels to every county in the Region in anticipation of future requirements. Although this has led to some satisfactory outcomes, it has resulted in excessive delays and difficulties – obliging Plan modifications to meet the requirements for spectrum needed for the expansion of existing systems and/or the creation of new systems. The Plan now eliminates this process by placing all existing licensed systems in the Table of Channels (see Exhibit G) and declaring the entire Table as an open pool to be recommended to the applicant and the Commission as necessary, and available to all eligible and qualified applicants.

In accordance with the above objectives, the guidelines and requirements outlined in this amended Plan have been developed and approved by the Region 6 (Northern California) 800 MHz Review and Revision Committee to assist in the implementation of the Plan.

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1.0 INTRODUCTION

This Plan has been developed by a representative group of the Public Safety Services eligible for licensing in the six MHz of spectrum, 821-824 and 866-869 MHz, allocated for such use by the Commission. It will focus primarily on the assignment and use of the 800 MHz portion of the spectrum. It will also address assignment and usage of all frequencies and channels assigned to the Public Safety Radio Service as these are vacated in the migration of systems to 800 MHz.

1.1 DESCRIPTION OF REGION

Region 6 encompasses the 48 of California's 58 counties situated north of Latitude 35 degrees, 48 minutes (approximately). Geographically, this represents nearly two thirds of the State of California. Elevations range from 300 feet below sea level to over 14,000 feet above. There are desert areas, heavily forested areas, high mountains, and the largest inland valley in the world.

Population ranges from the heavily populated metropolitan San Francisco Bay area to the sparsely populated northern region, which is composed of a number of rural counties.

These variations in topography and population greatly affect the public safety communications requirements and the types of systems best suited for this purpose. This 800 MHz Plan reflects these considerations.

2.0 REGIONAL PLANNING METHODOLOGY

This section covers the method used to create the Plan, the composition of the committees, and the intended method of administering the Plan.

2.1 PLANNING COMMITTEE

Region 6 (Northern California) 800 MHz Review and Revision Committee membership is open to all interested parties, and input is received from a broad spectrum of local, state and federal representatives, as well as vendors and suppliers. The intent is to involve every city, special district, state agency and any other interested service or party in the planning process, to the extent possible.

2.1.1 ORIGINAL FORMATIVE COMMITTEE MEETINGS *(Historical)*

To achieve this desired involvement originally, two meetings were held in the City of Sacramento. These two meetings were extensively advertised through various sources and were well attended. At these meetings, the attendees agreed to subdivide the Region into ten sub-regions to expedite the planning process. A volunteer from each sub-region was requested to hold individual planning meetings to prepare input for the Plan, and in particular, that which would specifically affect their sub-region. As development of the Plan progressed, understandably, those sub-regions with the greatest need provided the fastest response, and the greatest amount of input. The final stages of the Plan were developed by a working committee composed of volunteers from the various sub-regions, from representatives of the state, interested parties and all public safety agencies and emergency medical agencies.

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2.2 THE ROLE OF NAPCO

The Northern California Association of Public Safety Communications Officials, Inc. (hereinafter "NAPCO") has a membership well over 300, composed of representatives from all of the Public Safety Services (Police, Fire, Local Government, Highway Maintenance, Transportation, Governor's Office of Emergency Services, and Forestry/Conservation), as well as from the Special Emergency Radio Service. Due to the broad spectrum of representation in this organization, public safety issues are equitably accommodated.

Elements of the Plan have been a discussion item during and subsequent to most monthly chapter meetings since February 1988 as the monthly NAPCO meetings provide a convenient venue for NPSPAC Review and Revision Committee forums, and the majority of those attending the NAPCO meetings also attend the NPSPAC Committee meetings. The support and participation of all members have been continuously solicited. This has resulted in well-qualified and truly representative input in the preparation of the Plan.

It should be noted that the Chapter has continuously assisted the Planning Committee's efforts by providing financial support in the form of postage, printing and telephone calls. The Planning Committee gratefully acknowledges and thanks the Chapter for this support.

2.3 *SUB-REGIONS (Historical)*

Attachment B shows the manner in which the Region was subdivided for planning purposes. These sub-regions were selected on the basis of population, mutual interest, and, in particular, radio propagation paths. The Plan reflects the varying input resulting from these factors.

(NOTE: THE SUBREGION CONCEPT, THOUGH HAVING HISTORICAL SIGNIFICANCE, IS NO LONGER RELEVANT. AS A CONSEQUENCE, ATTACHMENT "B" HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN)

2.4 ADJACENT REGIONS

2.4.1 REGION 5 - SOUTHERN CALIFORNIA

This Region is of particular concern. There are many common radio paths between the two regions that must be considered. Of equal concern is the requirement to consider the State of California governmental agencies as common to both regions. All of the major public safety functions of the State are predicated upon the use of statewide systems, and it is imperative that the 800 MHz Plans of both Regions recognize this requirement.

The Southern California Region concurred with the original Plan (see Attachment F).

(NOTE: THOUGH HAVING HISTORICAL SIGNIFICANCE, THE ORIGINAL REGION 5 CONCURRENCE LETTER [FORMERLY FOUND WITHIN ATTACHMENT "F"] HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN. REGION 6 WILL CONTINUE TO COORDINATE WITH REGION 5 WHENEVER APPROPRIATE).

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2.4.2 REGION 27 – NEVADA

All frequency assignments, regardless of frequency band, are carefully coordinated between Northern California and Region 27 in the State of Nevada. This Plan reflects a similar concern and attention to common paths and interests.

This Region has concurred with the original Plan (see Attachment F).

(NOTE: THOUGH HAVING HISTORICAL SIGNIFICANCE, THE ORIGINAL REGION 27 CONCURRENCE LETTER [FORMERLY FOUND WITHIN ATTACHMENT "F"] HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN. REGION 6 WILL CONTINUE TO COORDINATE WITH REGION 27 WHENEVER APPROPRIATE).

2.4.3 REGION 35 – OREGON

The northernmost counties of California are mountainous and there are many common paths to Southern Oregon, which is also mountainous. It is common practice to carefully coordinate all frequency usage and this area and this has been considered in the preparation of this Plan.

Region 35 concurred with the original Plan (see Attachment F).

(NOTE: THOUGH HAVING HISTORICAL SIGNIFICANCE, THE ORIGINAL REGION 35 CONCURRENCE LETTER [FORMERLY FOUND WITHIN ATTACHMENT "F"] HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN. REGION 6 WILL CONTINUE TO COORDINATE WITH REGION 35 WHENEVER APPROPRIATE).

2.4.4 ENSURING INTERREGIONAL INTERFERENCE PROTECTION

With the exception of Region 5 and the use of statewide systems in California, there are no existing or foreseeable NPSPAC systems within over 100 kilometers of Region 6. This is due primarily to the indigenous mountainous terrain and sparsely populated rural areas separating these regions from each other. It is also a result of the use of high-level systems in this portion of the spectrum being discouraged. However, although 800 MHz deployments in these interregional boundary areas is not foreseen, the protection against any potential for interregional interference is nevertheless necessary. Thus, in facilitating the pool concept, it shall be mutually agreed that applications for channels or systems that result in calculable or predictable evidence of either co-channel or adjacent channel signal strengths encroaching on the area of these adjacent regions shall not be approved without written consent.

2.5 *REVIEWS OF PLAN AND IDENTIFICATION OF FREQUENCY NEEDS (Historical)*

The Final Draft of this Plan was distributed for review to all affected Regions, representatives from all public safety agencies, all sub-region committee members, and all persons who have indicated an interest in the development of the Plan. An announcement was made that the first draft of the Plan was available for review and copies were sent to any requesting party. All interested individuals who have attended meetings of either the full Region or Sub Regions were considered to be members of the Planning Committee. A second draft was also prepared and submitted for local review and comments to all parties, and to the adjacent regions.

Requests to all parties and agencies to identify their potential requirements for channels have been a continual and on-going part of the planning process. Every identified request has been considered and met, as well as others that were anticipated by the Planning Committee. In particular, the

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Northern Chapter of APCO has been utilized to acquaint all potential users with the Plan and to solicit input relative to requirements and potential need. Monthly meetings are held, and this has been a topic of discussion at every meeting, with 60 to over 100 persons in attendance.

Manufacturers, in particular General Electric and Motorola, were urged to keep the committee informed relative to the potential use of 800 MHz by their clients and prospective customers. This has been an on-going process.

The Preliminary Plan was submitted to the Commission and revised twice at their request. In this interim period, further effort has been made to solicit requests and potential needs from agencies. Notices have been included in monthly mailings to over 250 APCO members, all major manufacturers have been urged to contact potential users, and information has been presented at state and regional meetings of police, fire, emergency medical and similar governmental groups, urging them to submit plans and requests for channels.

This Final Plan reflects the input received from all parties and agencies, and is truly representative of the entire Region (see Attachment C and F).

(NOTE: THE ORIGINAL PLANNING COMMITTEE LIST, THOUGH HAVING HISTORICAL SIGNIFICANCE, IS OBSOLETE. AS A CONSEQUENCE, ATTACHMENT "C" HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN. ATTACHMENT "F" WAS NOTED AS BEING OMITTED IN SECTION 2.4 ABOVE).

2.6 REGIONAL PLAN ADMINISTRATION REVIEWS AND REVISIONS

Following Region 6 – 800 MHz Plan acceptance, the 800 MHz Regional Planning Committee (RPC) empowered the 800 MHz Review and Revision Committee with full authority to conduct Region 6 NPSPAC business and Plan modifications. The terms "Region 6 – 800 MHz RPC" and Region 6 Review and Revision Committee are synonymous and merely reflect the transition of the original RPC's roles from creating and securing FCC acceptance of the original Plan to the new roles of reviewing and revising the original Plan as required.

The Region 6 NPSPAC Review and Revision Committee (hereinafter "Committee") is composed of interested individuals representing all public safety services. The Committee was originally selected by the Region 6 – 800 MHz RPC and will continue to function as long as deemed necessary. It comprises:

- A Chair
- A Vice Chair
- A Secretary
- A representative (or representatives) of the Police Service
- A representative (or representatives) of the Fire Service
- A representative (or representatives) of the Local Government Service
- A representative of the Highway Maintenance Service
- A representative of the Transportation Services
- A representative of the Forestry/Conservation Services
- A representative from the California Governor's Office of Emergency Services
- A representative from the California Department of General Services Telecommunications Division
- A representative of the Special Emergency Service.

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The Committee shall annually elect Officers to serve as Chair, Vice Chair, and Secretary. Vacancies, as they occur, shall be filled by recommendation and majority vote of the members of the Committee (see Attachment D).

This Committee shall meet at least annually for the purpose of reviewing the progress and application of the Plan. Typically, it will meet monthly, or at the call of the Chair. It shall meet as required to make necessary changes in the Plan, or to arbitrate any disputes from applicants arising from the administration of the provisions of the Plan. Any applicant or licensee that is not in accord with a jurisdictional interpretation or decision may request a meeting of the Committee to present their views. In the event satisfaction is not reached at that level, it must be clearly understood that the final authority rests with the Commission, and the applicant or licensee has the right to present the case to the Commission if it cannot be resolved at the Regional level.

Day-to-day administration of the provisions of the Plan are handled by the Committee. This Committee processes the requests from applicants in strict accordance with the provisions of the Plan.

3.0 PROVISIONS OF THE PLAN

3.1 SCOPE - SPECIAL CONSIDERATIONS

In accordance with the Commission's stated requirements, the Plan addresses each major issue of the National Plan.

To the extent possible, specific frequencies and channels have been identified for pending and future assignment. It must be recognized that the fluid state of the Northern California Region, due to increases in population, economics trends, demographic changes and various other factors, makes it difficult to project the exact need for communications systems over a long term (see Attachment H).

(NOTE: THE ORIGINAL DEMOGRAPHIC PROJECTIONS FOR THE BAY AREA, THOUGH HAVING HISTORICAL SIGNIFICANCE, ARE OBSOLETE. AS A CONSEQUENCE, ATTACHMENT "H" HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN)

Historical information indicates the continuing need for the expansion of existing systems, and the creation of new ones. This trend has resulted in a dramatic shortage of frequencies for public safety applications. These 800 MHz channels alone cannot address this frequency shortage. As previously stated, the Plan attempts to consider any possible release of frequencies resulting from the creation of new 800 MHz systems, and the best reuse of these channels.

The projected need for new 800 MHz channels is based on the:

- Need to alleviate channel overloading in existing systems by splitting these systems into separate systems, or by the replacement of entire systems.
- Application of new techniques requiring spectrum, such as mobile data terminals, vehicle location and transmission of data for scene management and similar purposes.
- Continuing population increases and changes in governmental structure resulting in the creation of new cities, special districts and similar governmental agencies, all requiring additional public safety radio channels.
- Need for improved mutual aid capability and improved disaster response capability within existing communications systems.

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Negative factors that have been considered include the:

- Cost of converting existing systems to entirely new configurations.
- Limitations imposed by the 800 MHz channel loading criteria. This is a particularly negative aspect for small agencies, which may require more than one clear channel, but cannot meet loading requirements.
- Loss of present inter-agency and intra-agency coordination, by moving one or more systems to the new portion of the spectrum. This proves to be a major consideration as California has led the nation in attempting to develop mutual aid communications plans.

4.0 MUTUAL AID

As emphasized, both by the original Planning Committee, and in Commission statements, a major consideration in the National Plan has been to establish the capability to provide a means of communicating between public safety agencies at all levels of government. It is evident, due to the present use of various, non-compatible portions of the spectrum, that this cannot be accomplished in the short term.

The five National Channels which the Commission has designated for this purpose will serve well as a foundation for providing this capability on a nationwide basis. In the Northern California Region, there are two other major considerations.

First, any plan developed for this region must be totally compatible with that of the Southern California Region. Mutual aid plans for both major and minor situations must not pose any artificial boundaries.

Second, there are a number of inter-agency mutual aid plans in existence depending upon other radio channels. As new systems are installed, or as migration from present systems to the 800 MHz channels occurs, it is imperative that provisions are made to replace the capability which would otherwise be lost. These two considerations affect, in particular, Police and Fire services, which have developed specific mutual aid channels to serve statewide.

This Plan has been developed to address all of these considerations.

4.1 MUTUAL AID ELIGIBILITY AND LICENSING

All applicants under the Police, Fire, Local Government, Highway Maintenance, Forestry/Conservation, and Special Emergency Radio Services (the Public Safety Category defined in Section 90.617(a) of the FCC Rules and Regulations), are eligible to operate stations on the five National Common Channels.

The additional mutual aid channels that are included in this Plan are intended to serve specific needs of the various services, and are governed by a master plan developed by user committees working with the State of California.

In order to assure proper usage, these additional channels and base stations operating on the National Common Channels will be licensed to the State of California. A similar plan for dedicated channels in the VHF and UHF portion of the spectrum is on file with the Commission, and has provided excellent results for a number of years. This plan is known as "State Mutual Aid Radio System (SMARS)".

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4.2 STATE MUTUAL AID RADIO SYSTEM (SMARS)

This State plan has been developed by a committee composed of representatives from all Public Safety and the Special Emergency Radio Services. It is intended that the channels designated for mutual aid use in this Regional 800 MHz Plan shall be licensed and operated to the extent possible and practical under the provisions of the existing SMARS plan.

All channels are subject to a priority usage concept. These priorities are as follows:

- Priority 1: Disaster and extreme emergency operations, for mutual aid and interagency communications.
- Priority 2: Emergency or urgent operations involving imminent danger to the safety of life or property.
- Priority 3: Special event control activities, generally of a pre-planned nature, and generally involving joint participation of two or more agencies.
- Priority 3a: Drills, tests and exercises of a civil defense or disaster nature.
- Priority 4: Single agency secondary communications.

4.3 MUTUAL AID CHANNELS AND USAGE COVERED BY PLAN

The following tables reflect mutual aid channels covered by the Plan:

#	California Channel Name	MO Tx Channel	FB/FB2 Channel	Function
1	I-Call	821.0125	866.0125	Nat'l Common Channel High Level Calling
2	I-Call D	866.0125	866.0125	Nat'l Common Channel High Level Calling
3	I-Tac 1	821.5125	866.5125	Nat'l Common Tactical
4	I-Tac 1D	866.5125	866.5125	Nat'l Common Tactical
5	I-Tac 2	822.0125	867.0125	Nat'l Common Tactical
6	I-Tac 2D	867.0125	867.0125	Nat'l Common Tactical
7	I-Tac 3	822.5125	867.5125	Nat'l Common Tactical
8	I-Tac 3D	867.5125	867.5125	Nat'l Common Tactical
9	I-Tac 4	823.0125	868.0125	Nat'l Common Tactical
10	I-Tac 4D	868.0125	868.0125	Nat'l Common Tactical
11	CLEMARS 8	868.5125	868.5125	State Common Channel High Level Law
12	CLEMARS 9	823.5125	868.5125	State Common Channel High Level Law
13	FIREMARS	823.9875	868.9875	State Common Channel High Level Fire/EMS
14	FIREMARS D	868.9875	868.9875	State Common Channel High Level Fire/EMS

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#	Region 6 Channel Name	MO Tx Channel	FB/FB2 Channel	Function
15	CLEMARS 20	866.2000	866.2000	National Planning Region 6 Common Channel Low Level Law
16	CLEMARS 21	821.2000	866.2000	National Planning Region 6 Common Channel Low Level Law
17	FIREMARS 2	821.9125	866.9125	National Planning Region 6 Common Channel Low Level Fire/EMS
18	FIREMARS 2D	866.9125	866.9125	National Planning Region 6 Common Channel Low Level Fire/EMS

All channels are to be used primarily for coordination of activities between agencies in mutual aid, or emergency activities requiring interoperability.

The State Mutual Aid Radio System (SMARS) and the California Mutual Aid Law Enforcement Radio System (CLEMARS) rules shall apply to the extent feasible to all usage. These documents are on file with the Commission.

4.3.1 Priority of Usage

All channels 1 through 14 shall be limited to Priority 1 through Priority 3a use as defined in Section 4.2. Priority 4 use will be permitted only on Channels 15 through 18.

In all instances, all lower priority use must cease when a higher priority use is required in any area where interference could result.

Priority 3 and 3a usage is considered a requirement on all channels. The Committee feels that exercising mutual aid plans is a necessity to ensure appropriate action when disasters occur. There is no better way to test and exercise this capability and associated equipment than to utilize the mutual aid channels in special events, tests, exercises and drills, where the need to communicate in an appropriate fashion exceeds that of ordinary day-to-day requirements. It must be clearly understood that this type of usage will be limited to preplanned and well-coordinated events, and that the channels shall not be used for Priority 4 or single agency secondary purposes.

4.3.2 Implementation Plan

The eligible users in each county (or multiple counties desiring to create an Operational Area) shall develop an Implementation Plan for their area. This Plan shall show the location, channels and operating parameters of proposed stations within the Area. All agencies proposing to license base stations within the Operational Area shall be signatory to the Plan. At least one agency shall be designated as the "Monitoring Agency" to monitor the National Calling Channel. All Plans must be submitted to the California Office of Emergency Services (OES) for their review and approval as outlined elsewhere in this Section.

The Plan shall consist of two tiers. The first tier shall consist of one or more stations operating on the National Calling Channel. The radio coverage, to the extent possible, shall be designed to provide communications to a major portion of the county or Operational Area. Stations may be either mobile relay stations (FB2) or base stations (FB), comparable to other stations in the Monitoring Agency's 800 MHz system. The Monitoring Agency shall provide a 24-hour per day, 7

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day per week guard on the channel. The Plan may provide for other agencies to monitor and use the channel through appropriate control stations.

The second tier of the Plan shall consist of stations operating on one or more of the four National Common Tactical Channel (reference channels 3 through 10 above), the two Statewide Mutual Aid Channels (reference channels 11 through 14 above) and the Northern California Mutual Aid Channels (reference channels 15 and 18 above). The coverage area of such stations shall be designed to maximize reuse of these channels, both within the Operational Area and by adjoining Operational Areas. In the event there is no County or otherwise designated Monitoring Agency, base stations shall be authorized only on Channels 15 through 18 at low level sites, not to exceed 150 feet above the operating center of the applicant agency, unless specifically authorized by the Committee.

Temporary base stations (FB2T and/or FBT) may be authorized for use by any licensee in the Plan for temporary use. Operation in excess of 60 days at the same location must be approved by OES. These stations may be used to provide coverage at either pre-planned or emergency operations as required. Pre-planned use shall be with the approval of the designated Monitoring Agency. Such stations shall not exceed 35 watts ERP.

All requests for licensing on any of the listed Mutual Aid Channels shall be in the form of, or in accordance with, an existing County/Area Implementation Plan. Requests for licensing or for approval of Implementation Plans shall be submitted to the:

California Governor's Office Of Emergency Services
Telecommunications Section
3650 Schriever Avenue, Mather, CA 95655; or,
P.O. Box 419047 Rancho Cordova, California 95741-9047

The California Governor's Office of Emergency Services shall have 60 days to review and reply to the request. If no action is taken within this time frame, the applicant may then submit the request directly to the Committee for their consideration.

Requests for licensing, when approved as to policy and technical details, shall be submitted by the State to:

Art McDole, Chair
Region 6 – 800 MHz Review and Revision Committee
333 Tapadero Street, Salinas, CA 93906

in accordance with the policy outlined in this Plan (see Section 6.0).

4.4 CODED SQUELCH

All equipment capable of operating on the 10 channels designated for mutual aid in this plan shall be equipped with the National Common Tone Squelch of 156.7 Hz. Mobile relays on these channels, if authorized, may use additional tone or digital squelch codes for the purpose of selecting individual mobile relay stations, provided the National Common Tone Squelch Code is used on the output. If such an arrangement is utilized, provision must also be made for certain centralized, high level sites to be activated by the 156.7 tone to ensure emergency access by transient units.

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4.5 VOICE PRIVACY, PAGING, ALERTING, SIGNALLING

All such use (other than ATIS or as included in Part 90.235, FCC Rules and Regulations) is prohibited on any of the ten channels designated for mutual aid in this Plan. Under special circumstances, encryption or voice privacy may be allowed for special operations, at the discretion of the Committee.

4.6 OPERATION IN AIRCRAFT

Operation of radio equipment on these ten channels is permitted, provided power is limited to 1 watt ERP and conforms to all applicable FCC Rules and Regulations.

4.7 CROSS BAND REPEATING OR LINKING

To facilitate interfacing systems on other portions of the spectrum, cross band repeating or linking is permitted, except for Priority 4 usage, in conformance with applicable FCC Rules and Regulations.

4.8 RADIO CODES

All communications on these 10 mutual aid channels will be conducted in CLEAR TEXT.

4.9 BASE AND MOBILE IDENTIFIERS

Stations operating on these mutual aid channels shall include their agency name, or similar unique identification.

4.10 *GRANDFATHERED EQUIPMENT (Historical)*

Radio equipment that is currently type accepted and in service on public safety systems in the 806/866 MHz band may continue to operate on the five National Mutual aid channels, without modifying the deviation. It should be noted that any use of 806-821/851-866 MHz equipment in the 821-824/866-869 bands other than for mutual aid purposes is forbidden, unless the equipment has been modified to achieve the specified frequency deviation. The only exception to this rule (as specified by the Commission) is equipment that has been in possession of the agency, or on order, as of September 7, 1988, which may be utilized with deviation reduced to plus/minus 4 kHz, with notification to the Committee.

4.11 FEDERAL INTEROPERABILITY

Interoperability between Federal, State and Local Governments will occur primarily on the five National Channels. It may occur on other SMARS channels by agreement of the Committee.

Where there is a demonstrated need, Federal Agencies may be permitted to operate on the other mutual aid channels or on the channels of a single entity through the use of an agreement which will satisfy the requirements of both the involved local agency (or agencies) and the Commission. This is presently a common practice in the Northern California Region on other public safety channels.

4.12 MONITORING AGENCIES

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To ensure maximum compliance with the prescribed rules for the use of the mutual aid channels, and to enhance the “calling channel” concept, the Committee will work with the State and Local Governmental agencies to develop and implement a comprehensive system of monitoring stations. Several agencies have indicated their intent to serve in this capacity.

5.0 CRITERIA FOR ASSIGNMENT OF CHANNELS

5.1 OVERVIEW

At the present time, all channels in the 800 MHz - 70 channel Public Safety Pool are fully utilized in the San Francisco Bay area within a 70-mile radius of the geographical center of San Francisco. The same is true for the Sacramento area within approximately 40 miles of Sacramento.

There is almost no present usage of 800 MHz in the remote northern California area, or in those counties and cities situated in the mountainous Sierra Nevada area.

There is an acute shortage of all UHF and High Band VHF frequencies in virtually all areas within the Northern California Region. Implementation of this Plan will not provide any major relief in this regard. Limited relief continues to be realized through the reassignment of vacated channels.

Agencies have been encouraged to submit their anticipated needs both in the 800 MHz portion of the spectrum and in all other bands. The requests for channels, other than 800 MHz, have been placed “in queue”, and to the degree applicable, will be granted on that priority basis.

A point and value criteria has been developed for the assignment of the channels in this Plan, and this will also be used to the degree possible to determine reassignment of any vacated channels. Due to different loading criteria, propagation factors, and compatibility with existing systems etc., other criteria must be considered in addition to that which will be used for the assignment of the 800 MHz channels in the Plan (see Section 5.5).

5.2 HIGH LEVEL SITES

Radio coverage within the majority of Northern California’s Region 6 is affected by widely varying topography. There are several mountain ranges in this portion of the state including the Coastal Range and the Sierra Nevada Range with elevations rising to over 14,000 feet. In order to obtain adequate radio coverage, it is necessary to utilize high-level sites, particularly in the rural mountainous areas. Unfortunately, this often results in the propagation of signals outside of the required area of coverage. This need and usage is responsible, to a high degree, for the present shortage of channels in other portions of the spectrum. Every attempt is made to design systems in the 800 MHz bands to mitigate excessive wide area coverage. For this particular reason, technical criteria has been developed that will govern the signal strengths (see Section 5.12).

The heaviest use of these new 800 MHz channels is within the San Francisco Bay area and in the Sacramento Valley area. Special emphasis continues to be placed on limiting coverage to the required service areas. As necessary, systems must be designed to utilize multiple low-level sites rather than single high-level sites, particularly in this portion of the Region.

High-level sites in any portion of the Region will only be approved where the need is fully justified, and antennas and power levels are configured to satisfy the technical criteria stated in this Plan (see Section 5.12).

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5.3 COMMUNITY RADIO SYSTEMS

As visualized in the Commission's Report and Order from a spectrum utilization viewpoint, the creation of trunked systems serving a number of small political entities is ideal. Unfortunately this is often difficult to accomplish. It requires both an agency willing to take the lead in establishing a mechanism and others agreeable to operating in a consolidated system to make this possible. Financing, engineering, and political factors all are equally important.

The Committee strongly encourages this concept, and has developed this Plan accordingly. Every reasonable effort will continue to be made by the Committee to promote the development of shared systems in this portion of the 800 MHz spectrum.

5.4 LOW POWER SECONDARY OPERATION

To facilitate portable operation by any licensee, and to provide channels for such operation without impacting the use of primary channels, certain low power secondary use will be permitted. Any public safety entity otherwise licensed to use one or more channels under this Plan may receive authorization to license any additional channel for secondary use, subject to the following criteria:

- All operation of units on such authorized channels will be considered secondary to other licensees on both co-channel and adjacent channels.
- No channels on, or adjacent to, those designated in the Plan for wide area operation and/or mutual aid use will be authorized.
- Channels will be authorized for use in specific areas only, such areas to be within the licensees authorized operational area.
- Maximum transmit power will be limited to 6 watts ERP.
- Use aboard aircraft is prohibited.
- Applications for channels may be submitted to the Committee for consideration at any time and must be accompanied by a showing of need. The Committee may select and authorize licensing of these secondary use channels after consideration of potential interference to co-channel and adjacent channel allocations and licensees.
- In the event the channels authorized for low power secondary operation are needed by others during any window opening for reassignment, no protection will be afforded to the licensed secondary user, and they may be required to change frequencies or surrender licenses to prevent interference to primary use channels.

5.5 PRIORITY OF ASSIGNMENT

In the event prioritization becomes necessary as implementations progress, the Committee will utilize a point system to determine priorities. This will be based on the following criteria:

- Immediate need to protect life and property.
- Extent of applicants existing channel loading.
- Effective system design, including channel loading.
- Consolidation or use of system by others.
- Implementation schedule, including funding.
- Number and usability of vacated channels.
- Lack of availability of alternate spectrum.
- Methodology of ensuring emergency intercommunication with other associated agencies.

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Each of these criteria will be rated from 0 to 10, except "Immediate need to protect life and property", which will be rated from 0 to 20. The total aggregate point value of from 0 to 90 will determine the priority of assignment in the event of conflicting requests. As stated, these listed factors are basic to any request, and will be considered as the utilization of the channels in this Plan progress. However, actual points will not be assigned to each and every request, but only as the need to prioritize arises.

The Committee will carefully monitor the assignment, implementation and use of these channels, and will annually review the status of spectrum availability.

5.6 TIME TABLES FOR IMPLEMENTATION

Applicants requesting frequencies for either trunked or conventional operations may be authorized a period of up to five (5) years for constructing and placing a system in operation if they satisfy one or more of the conditions identified in Section 90.629 "Extended Implementation Period" of the FCC Rules and Regulations.

Implementation schedules must be submitted with applications. Implementation schedules exceeding those specified in 90.629 will only be approved in very special cases, such as a projected system that is designed to serve multiple agencies that may necessitate extending the time required for total occupation. Any such requests for extension must be clearly and strongly supported by signed commitments from all participating agencies.

In all instances the Plan envisions, and the Committee will insist on, a good faith showing where there is a conflict between the present assignments indicated in the Plan and a real need by another agency for any of those channels. Channels for which licensing has not been initiated, or for which concrete plans have not been filed with the Committee after one year following FCC approval of the Plan will be considered available for reassignment at the discretion of the Committee.

5.7 TRUNKING

The Committee recognizes the value of trunking in large systems to insure effective spectrum utilization. While the established loading criteria may be practical in the private radio services, it presents some obstacles in the development of public safety systems. Smaller agencies have too few units to qualify for the necessary number of channels, and often opt for conventional systems.

FCC Rules require that any system in this Plan utilizing in excess of four channels must operate in the trunked mode. While the Committee will consider any request for deviation from the established criteria, such requests for support of waivers from the FCC requirements are anticipated to be very rare. The Committee will not support or recommend any such waivers unless the applicant can substantially demonstrate both a significant need and equal effectiveness relative to spectrum efficiency of the proposed conventional system to that of a trunked system.

5.8 FREQUENCY COORDINATION

The Northern California Chapter of the Associated Public Safety Communications Officials, Inc. (NAPCO) has a Frequency Advisory Committee that serves as the Region 6 advisory body to the National APCO Frequency Coordination System. The monthly NAPCO meetings provide a convenient venue for NPSPAC Committee forums, and the majority of those public safety representatives attending the NAPCO meetings also attend the NPSPAC Committee meetings (NPSPAC meetings are called to order subsequent to the adjournment of the NAPCO Frequency Advisory Committee meetings). APCO

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is one of the four FCC designated frequency coordinators for 700 MHz and 800 MHz Public Safety spectrum.

Note: The FCC-sanctioned Public Safety Frequency Coordinators and their web sites are:

- Association of Public Safety Communications Officials, Inc. (APCO) at <http://www.apcointl.org/>
- International Municipal Signal Association (IMSA) at <http://www.imsasafety.org/>
- Forestry Conservation Communications Association (FCCA) at <http://www.fcca-usa.org/>
- American Association of State Highway and Transportation Officials (AASHTO) at <http://www.aashto.org/>

The Committee is sensitive to the fact that certain recommendations relative to the use of vacated frequencies are considered necessary; however, the Committee and the FCC-sanctioned frequency coordinators are obliged to ensure that all requests for channels shall follow the usual application and coordination process, except those requiring prior review at the Regional level. The Committee will carefully review all applications for conformance with the provisions of the Plan. If field tests are deemed necessary to ensure compliance with the criteria prescribed in the Plan, it will be the responsibility of the applicant to demonstrate the testing was accomplished, and appropriate concurrence received.

5.9 VACATED CHANNELS

The release of other channels due to the implementation of 800 MHz systems has been significant over time. Many contemplated systems will be for new applications, and others will be for expansion, rather than replacement of existing systems. However, larger agencies continue to replace existing systems with new 800 MHz trunked systems. As these systems are implemented, more channels will become vacant and available for reassignment.

In any instance when an 800 MHz channel or channels are requested to replace either an existing channel or a system, the Committee will insist upon the release of the existing channel(s). If the agency attempts to reuse the existing channel in house, either within the same service or in another service, the same justification must apply as for any other request for additional channels. There must be no "farming down" of channels simply to utilize existing equipment.

Each individual Frequency Coordinator will be advised in a timely fashion of the release of any frequencies licensed in their particular Service. In the Northern California Region, local frequency advisors for every public safety service participate in the monthly meetings of the Northern California Chapter of APCO, where frequency assignments are a part of the regular agenda.

The Committee will also consider arrangements between any two agencies for the exchange of frequencies or channels as an indication of advance planning and an effort to properly utilize the spectrum. Certain preplanning has been discussed with the Committee, and is reflected in the assignments in the Attachment G Table of Channels.

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In the event of any disagreements over the assignments or changes of 800 MHz frequencies in this Plan, final approval will rest with the Committee, based upon approved criteria. As previously stated, the Commission is the final authority.

Any unresolved dispute over the release of channels will also be brought to the Committee. It must be understood that failure to agree to release channels when the need to retain cannot be justified can result in denial of requests for new 800 MHz channels.

5.10 PRIORITY LIST FOR "GIVE UP" FREQUENCY REUSE

This priority list has been developed by the Committee to assist frequency coordination groups to recommend assignment of the channels vacated as a result of agencies moving systems to the NPSPAC channels listed in this Plan. The Plan requires each applicant to provide a list of such channels, and the target date(s) for release. Channels cannot be reassigned until they are actually vacated, and it is evident that a method other than priority of request alone is required.

To ensure the most appropriate use of these "give up" channels, the following criteria have been developed. It is intended to place priority on the most effective use of the spectrum such as using VHF high band channels for wide area systems, i.e., regional or countywide systems. The UHF band is ideally suited for urban and metropolitan usage, and to the extent possible, cities will be encouraged to use 450/512 MHz or 800 MHz channels. Adding VHF high band channels for the purpose of converting systems to mobile relay use for governmental entities with small geographic areas of responsibility must be carefully considered, and must be strongly justified. Priority must also be given to adding needed and justified channels to expand an existing system over a request for a frequency (or frequencies) to create a new service or a system where other more suitable channels may be available.

CRITERIA		POINT VALUE
1	Direct application to protection of life and property	20
2	Value for area of required system coverage, i.e. state, county, district, city	15
3	Extent of applicants existing channel loading	15
4	Effective system design and use, including loading of requested channel(s).	15
5	Consolidation or use of channel/system by others, the requirement to intercommunicate with other existing systems or to expand own system	15
6	Implementation schedule, including funding	10
7	Lack of availability of alternate channels	10
TOTAL POSSIBLE RATING		100

5.11 TECHNICAL STANDARDS - GENERAL

The Committee has established certain technical criteria to assist in the recommendation of frequencies, which ensures maximum reuse with a minimum amount of interference.

These criteria are calculated to result in providing assignments that will not cause destructive interference to either existing or new licensees. Nuisance type interference can be reduced or eliminated by the use of coded squelch, and in certain instances by changes in acceptance levels for receivers.

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The following criteria have been adopted for use in the 800 MHz portion of the spectrum, and shall apply to all frequencies listed in this Plan.

- Transmitter Standards - Except as noted elsewhere in this Plan, all transmitters utilized on the new spectrum shall be type accepted for operation on the 821-824/866-869 MHz bands, and must meet the technical standards defined in Part 90 of the Commission's Rules and Regulations.
- Receiver Standards - The channel plan developed by the Committee and presented in this Plan is predicated upon the use of receivers meeting the criteria of at least 20 dB of protection to the 12.5 kHz removed signal in accordance with the revised method described in the NPSPAC Final Report. Applicants are cautioned that the use of wide band receivers in this new portion of the spectrum may be subject to 12.5 kHz adjacent channel interference and will not be afforded protection by recommended assignments.
- Power Limitations - Output power will be limited to that necessary to provide adequate coverage within the political jurisdiction of the licensee. As stated, aircraft equipment shall be limited to 1 watt ERP. All other transmitters shall be limited, to the degree possible, to the minimum amount necessary to provide adequate coverage within the using agencies geopolitical boundaries.
- Antenna Design - The Committee will require both directional and down tilt antennas designed to reduce interference to other areas as deemed advisable, or as required to meet the signal level criteria in this Plan.
- Low-Level Sites - Strong emphasis will be placed on the preferred use of low-level sites.
- Assignment and Usage of 12.5 kHz Channels - With the exception of those channels designated as "Mutual Aid Channels", which require 12.5 kHz guard channels, all other channels are considered on a co-equal basis.

Geographical separation, both by actual mileage and terrain, has been applied to the assignments as listed. This, together with the specified technical standards, will result in interference-free systems.

The experience gained through 50 years in recommending frequency assignment within Northern California has been exercised in determining the assignments in this Plan, and has been developed to maximize the use of channels on a nondestructive interference basis (see Section 10.0 for further information).

5.12 TECHNICAL DESIGN, SPECIFIC

The intent of these standards is to ensure the best possible spectrum utilization while at the same time providing systems that will meet the needs of the user. As stated, efforts will be made to confine signals to the geopolitical area of each agency. It is recognized that this is not always practical, and that such boundaries do not conveniently center around a single transmitter site. In this regard, it is recommended that systems should be designed to provide a minimum of 40 dB μ (decibels above 1 microvolt per meter - approximately 4.6 microvolts of signal across 50 Ohms at 850 MHz) at any point within the targeted geopolitical coverage area. This must be accomplished to the degree possible while reducing interfering signals to other areas.

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Using this 40 dB μ signal as a standard criterion, it is possible to define “acceptable interfering signal levels”.

- **Base-to-Mobile Units**

Signals from co-channel base stations shall not exceed 5 dB μ at any point within the geopolitical boundaries of affected users. Signals from next-adjacent-offset-channel base stations shall not exceed 25 dB μ at any point within the geopolitical boundaries of affected users.

Note that the 25 dB μ level is observed as the interference contour limit for signals from any neighboring agency’s next-adjacent-offset-channel base station(s). That is, this contour may not exceed 25 dB μ at any point within the geopolitical boundaries¹ of the applicant’s users (and vice versa). Accordingly, for next-adjacent-offset-channels, this 25 dB μ contour will be allowed to touch, but not overlap the 40 dB μ service contour of the system being evaluated. However, if the applicant and all adjacent agencies are meeting the narrowband P25 – 12.5 kHz emission mask or better, the next-adjacent-offset-channel interference contour may be reduced to a 60 dB μ interference contour (thus permitting closer site spacing and increased frequency reuse). Accordingly, for next-adjacent-offset-channels, this 60 dB μ interference contour will be allowed to touch, but not overlap the 40 dB μ service contour of the system being evaluated.

An applicant agency’s 40 dB μ service contour may be allowed to extend beyond its defined geopolitical boundary by 3 to 5 miles, depending on the type of environment: urban, suburban or rural (see Table 5.12), and conditioned upon the interference contour limitations outlined above relative to incumbent or proposed co-channel and next-adjacent-offset-channel users.

Type of Area	Extension (mi.)
Urban (20 dB Buildings)	5
Suburban (15 dB Buildings)	4
Rural (10 dB Buildings)	3

Table 5.12 - Extension Distance Of 40 dB μ Field Strength

These values are intended to indirectly address the specific portable coverage needs for urban, suburban, and rural areas by allowing higher powers within the geopolitical boundaries.

- **Mobile-to-Base Units**

Mobile units of other agencies shall limit their signals to the degree necessary to provide a minimum of 35 dB of protection to affected base station receivers operating on the same channel. Mobile units of other agencies shall limit their signals to provide a minimum of 15 dB of protection to affected base station receivers operating on next-adjacent-offset-channels.

Note that if the applicant and all adjacent agencies are meeting the narrowband P25 – 12.5 kHz emission mask or better (as with the Base-to-Mobile case above), the digital P25 receiver requirement for 60 dB Adjacent Channel Rejection (\pm 12.5 kHz offset) allows the closer spacing of adjacent channels by 35 dB.

¹ Exception: For wide area regional systems such as those spanning multiple counties, the effective definition of a geopolitical boundary may extend beyond each participating agencies jurisdiction; however, the next-adjacent-offset-channels interference contour rule still applies – that is, it is allowed to touch, but not overlap the 40 dB μ service contour of the system being evaluated (and vice versa).

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- Satellite Receivers

The use of satellite receivers is encouraged to enhance the capability of low power units, including hand held units. The location and antenna configurations of satellite receivers must be designed to recognize the potential for interference from other users, and all above criteria applies only to receivers at base or mobile relay stations. In general, use of properly engineered satellite receivers should improve the desired-signal-to-undesired-signal ratio in any system.

- Coded Squelch

Continuous tone coded, or continuous digital coded squelch shall be required for all conventional systems before interference complaints can be considered. The Committee will assist, to the degree possible, to coordinate the choice of coded squelch. The final responsibility remains with the applicant to verify the squelch codes used by any licensees that could conceivably result in interference. Responsibility for coordinating codes or changing codes to avoid interference shall be the responsibility of the latest licensee.

6.0 PROCEDURES PRECEDING AND FOLLOWING COMMISSION AUTHORIZATION

In order to ensure compliance with the Plan and to provide guidance to potential NPSPAC 800 MHz frequency users, the following guidelines and criteria will be utilized.

6.1 GUIDELINES FOR APPLICATION AND IMPLEMENTATION

1. Carefully read the Region 6 (Northern California) 800 MHz Regional Plan (hereinafter "Plan"). All requests and applications for channels and systems implementations must be in strict accordance with all provisions of the Plan.
2. Systems must be developed to meet the criteria specified in the Plan. Propagation studies and graphs will be required. These must be in a form approved by the Review and Revision Committee. Field strength contours of 40 dB μ , 25 dB μ^2 and 5 dB μ overlaid on a suitable map with county and/or city boundaries must be shown in a three-color print.
3. Actual signal strengths must be verified by field tests after the system is completed, and changes may be required to those shown in the application.
4. A list of frequencies that will be vacated and released as a result of the allocation and use of 800 MHz NPSPAC channels, and the proposed dates of release must be provided (this is an absolute requirement).

² The 25 dB μ level is observed as the interference contour limit for signals from any neighboring agency's next-adjacent-offset-channel's base station(s). That is, this contour may not exceed 25 dB μ at any point within the geopolitical boundaries of applicant's users (and vice versa). Accordingly, for next-adjacent-offset-channels, this 25 dB μ contour will be allowed to touch, but not overlap the 40 dB μ service contour of the system being evaluated. However, if the applicant and all adjacent agencies are meeting the narrowband P25 – 12.5 kHz emission mask or better, the next-adjacent-offset-channel interference contour may be reduced to a 60 dB μ interference contour (thus permitting closer site spacing and increased frequency reuse). Accordingly, for next-adjacent-offset-channels, this 60 dB μ interference contour will be allowed to touch, but not overlap the 40 dB μ service contour of the system being evaluated.

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5. Justification for the number of channels requested must be included. Although the Commission standard of 70 units for each conventional channel and 100 for each trunked channel is a suggested base, other pertinent factors such as population served and the number of services using the system (when possible quantified by a traffic load analysis) shall serve as further justification.
6. Requests for "slow growth" systems must be explained in a detailed cover letter with timetables of proposed implementation(s). Progress will be monitored by the Commission and by the Region 6 (Northern California) 800 MHz Review and Revision Committee (hereinafter "Committee").
7. Following at least one year of in-service operation, the Committee may request documented evidence of actual channel usage for any particular system or portions thereof. Additional channels will not be granted without justification. Licensees may be requested to vacate unused, or lightly used channels by a decision of the Committee.
8. In addition to meeting the criteria listed in the Plan, all requests must fully conform to all applicable Commission Rules and Regulations.

6.2 ALL REQUESTS AND APPLICATIONS MUST BE SENT TO:

All requests for NPSPAC frequencies will be sent to the Committee. Requests must be accompanied by:

- a) The latest version of FCC Form 601 – Application for Wireless Telecommunications Bureau Radio Service Authorization (or future equivalent)
- b) The appropriate public safety frequency coordinator form(s) (e.g., for APCO, it is the APCO FDR 3 Form).
- c) Computer-generated propagation maps showing field strength contours
- d) Coordination fees (check, money order, purchase order, or credit card)
- e) Frequencies to be released and schedule for release
- f) Comprehensive justification for the number of channels requested
- g) Implementation schedule
- h) Proof of funding

The applicant is obliged to make beneficial use of any allocated frequencies within one year of licensing. If the applicant suspects it will take longer than 1 year to deploy the system utilizing any licensed spectrum obtained through this process, §90.629 titled "Extended implementation period" allows that applicants requesting frequencies for either trunked or conventional operations may be authorized a period of up to five (5) years for constructing and placing a system in operation given they satisfy the criteria for "slow growth" outlined in §90.629. The burden of proof is on applicants seeking an extension; as such, they are obliged to supply comprehensive evidence of their justification.

Requests, without fees, may be made in a preliminary draft form to verify and justify the number of channels requested and other details.

To facilitate action, one original and one completed copy of the latest version of FCC Form 601 – Application for Wireless Telecommunications Bureau Radio Service Authorization (or future equivalent) and the field strength contours should be included.

When received, requests will be examined by the Chair and two other selected members of the Committee. When deemed appropriate, the request will be brought to the quorum of the Committee.

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When the formal request is approved, the Committee Chair will forward the original completed 601, the Committee's endorsement letter, and the payment to the applicant's choice of frequency coordinator for frequency coordinator action and submission to the Federal Communications Commission.

There are four Commission designated frequency coordinators for 700 MHz and 800 MHz Public Safety spectrum. The Coordinators and their web sites are the:

- Association of Public Safety Communications Officials, Inc. (APCO) at <http://www.apcointl.org/>
- International Municipal Signal Association (IMSA) at <http://www.imsasafety.org/>
- Forestry Conservation Communications Association (FCCA) at <http://www.fcca-usa.org/>
- American Association of State Highway and Transportation Officials (AASHTO) at <http://www.aashto.org/>

Any questions regarding this Plan may be directed to the Chair at the telephone number or email address listed below:

Art McDole, Chair
Region 6 - 800 MHz NPSPAC Channel RPC
333 Tapadero Street
Salinas, CA 93906
Telephone (831) 442-9981 FAX (831) 449-1776
artmcdole@salinas.net

6.3 ADDITIONAL GENERAL INFORMATION

All requests should be submitted in draft form to the Committee Chair to ensure compliance with the Plan. Proof of funding (to consist of purchase orders, letters of authorization, or resolutions of governing boards) shall accompany all requests for new channels. Propagation studies must be included. These submitted coverage plots are considered an agreement not to exceed the contours as shown. Adjustments to system parameters must be made if necessary to conform.

Timetables for implementation and the release of existing channels if applicable must also be included.

All applicable FCC rules and regulations for implementations must be followed; if "slow growth" is requested, the applicant is directed to §90.629 titled "Extended implementation period".

The following criteria shall be used to justify the number of channels required:

- Compliance with FCC Rules for channel loading
- Population served and projected growth trends
- Number of agencies, and/or departments served
- Commitments to release specific channels and time frames for release
- Other as specified in this Plan (see Section 5.5)

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Prioritization of Request:

The increasing number of systems constructed and operating on these National Plan channels has created a huge demand from users of other portions of the spectrum. This is particularly noticeable in the two large metropolitan areas of the San Francisco Bay and Sacramento. There are virtually no channels available in these areas using legacy equipment. Transition to P25 – 12.5 kHz equipment has some promise, but this is tempered by the requirement to protect legacy systems. The Committee is on record as strongly urging those desiring channels to consider this approach, but the difficulty of obtaining funding is well known and progress will be slow.

Trunked systems and the consolidation of agencies and operations on common communications infrastructures have proven effective and are also encouraged. However, there is still a significant shortage of spectrum and a continuation of many unfilled requests. To the degree allowed by the Commission, the Committee must attempt to give the highest priority to those public safety agencies most directly involved in the protection of life and property (see Section 5.5). This relates not only to these channels, but to all Part 90 channels and is strongly endorsed by a majority of the users in the spirit of cooperation.

7.0 PLAN DEVELOPMENT, IMPLEMENTATION AND REVISION

All Plan development has been in strict accord with FCC Report and Order - General Docket No. 87-112 and all pertinent subsequent Commission actions.

7.1 NOTIFICATION

All interested parties and public safety agencies are invited to participate in revisions of the Plan. Notice is given through the Northern California APCO mailing list, through selected public safety publications, and via the Internet.

7.2 *SELECTION OF CONVENER AND CHAIR (Historical)*

The "Convenor" was selected by the Northern California Chapter of APCO. This Convenor, Art McDole, then attended the first National briefing, in Florida, January 26, 1988. The first Regional meeting was held February 25th, 1988, in Sacramento, California. A Chair was selected at that time by the entire group in attendance. The selected Chair was:

*Art McDole
333 Tapadero Street
Salinas, CA 93906
Telephone (831) 442-9981 FAX (831) 449-1776*

Subsequent meetings were held with similar notification, and copies of minutes and notice of meetings were mailed to all attendees at each meeting. Final meetings were held by the "working group". (Attachment E).

(NOTE: THOUGH HAVING HISTORICAL SIGNIFICANCE, ATTACHMENT "E" HAS BEEN OMITTED FROM THIS CONTEMPORARY VERSION OF THE PLAN)

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7.3 APPROVAL OF REGIONAL PLAN

Prior to submitting Plan revisions to the Commission for approval, draft copies will be made available via the Internet for all interested parties review and comment. This includes all adjacent Regions where applicable.

Following receipt of all comments, the Plan is modified as determined by the opinion of the majority. The current Plan is the result of this iterative process. It also reflects additions and changes requested by Commission staff.

8.0 PLAN REVISIONS

This Plan should not be considered as a final document to serve without revision. It is intended that the Committee shall be an on-going organization to perform this function.

The Plan will be reviewed, at a minimum, on an annual basis; however, if it appears necessary, the Committee will meet at any time to consider changes or revisions.

Attachment G (listing all licensed users in the Region and those that have followed proper procedures to change, rearrange or add channels due to the repacking process) shall be considered valid at the time the Plan is approved by the Commission. Licensing and construction on the new or rearranged channels must be in accordance with the procedures as specified in the Plan, consistent with applicable Commission Rules and Regulations.

Following this process, all channels in the Plan shall be considered as a pool available to any applicant satisfying the requirements as written in the Plan. Requests must be made to the Chair of the Committee and will be noticed via the Internet. Applications found to be in order will be discussed at the next regular meeting of the Committee provided it is posted on the Internet and in the monthly meeting notice at least 30 days in advance.

Channels must be identified and field strength plots provided for the meeting as specified in the Plan. Applicants should be prepared to participate in actual field tests if deemed necessary to protect existing licensees.

If requested channels can be found that will satisfy both the proof of need and the other considerations as specified in the Plan, they will be approved or denied by a two-thirds majority vote of the members of the Committee.

Such actions may be approved and submitted to the Commission for licensing without being considered a modification of the Plan. Final actions will be noticed via the Internet and entered in Attachment G at the earliest opportunity.

9.0 COMPLIANCE WITH NATIONAL PLAN

The National Plan has been carefully followed in the preparation of the Plan. It is believed that this amended Plan is in full conformity with Commission Rules and Regulations as presented. In the event there is any conflict, the Commission rules and regulations shall take precedence.

10.0 SPECIFIC CHANNEL ASSIGNMENTS

REGION 6 (NORTHERN CALIFORNIA) 800 MHz REGIONAL PLAN
(Amended November 2005)

The projected assignments have been based on stated and known requirements of agencies, and on anticipated needs caused by population growth and other factors. However as specified in Section 5.6, assigned channels are subject to reassignment if no interest in utilization is shown by the agency to which they are assigned in conformance with criteria shown in the Plan and 90.629.

Channels have been assigned in anticipation of meeting the signal level criteria stated in the Plan. The assignments are based both on mileage separation and on known propagation tendencies gained through 50 years of experience in coordinating frequencies in the Northern California Region.

It has been common practice to utilize field-testing in this Region, and many recommendations are made each year, in all frequency bands, based on the results of such tests. Many field tests have been conducted in the 800 MHz realm since the Plan's inception, and assignments have been recommended in the NPSPAC channels on this basis, which are closer than the 70 mile co-channel separation prescribed by FCC Rules. Numerous tests have also been made in all areas on 450/460 MHz channels, and results are documented. These tests clearly demonstrate the separation required over water, and conversely, the protection offered by intervening terrain.

Additional input has been solicited from the individuals listed in Attachment D, which comprises competent technical representatives from a wide range of Public Safety Services. These assignments reflect the experience and technical expertise of these individuals and agencies in engineering and developing systems in this particular region. Knowledge gained through experience.

11.0 REVIEW AND REVISION COMMITTEE

11.1 PURPOSE

- To provide on-going review of requests for channels
- To analyze technical parameters to ensure compliance with the Plan
- To review requests for "give up" channels in accordance with the Plan
- To oversee revisions to the Plan as necessary
- To assist applicants in the selection of appropriate frequencies

11.2 COMPOSITION OF COMMITTEE

See ATTACHMENT D (with revisions through November 2005) REGION 6 NPSPAC (NORTHERN CA) REVIEW AND REVISION COMMITTEE MEMBERSHIP LIST

11.3 TERMS OF COMMITTEE MEMBERS

Terms shall be indefinite, dependent upon willingness and ability to serve, and vacancies shall be filled as necessary by a majority vote of the Committee. Failure to attend three consecutive meetings or six meetings per year shall place membership in jeopardy, and subject to replacement.

11.4 ELECTION OF CHAIR, VICE CHAIR, AND SECRETARY

The Chair, Vice Chair, and Secretary shall be elected at the first meeting of each calendar year by a majority vote of the Committee. The Vice Chair shall serve as Chair when the Chair is absent.

REGION 6 (NORTHERN CALIFORNIA) 800 MHz REGIONAL PLAN
(Amended November 2005)

Vacancies shall be filled as necessary by a majority vote of the Committee at any regular or called meeting.

11.5 MEETING PLACE AND FREQUENCY

Meetings will normally be held in conjunction with the monthly meeting of the Northern California Chapter of APCO. As needed, other meetings will be held at the call of the Chair.

11.6 OPEN MEETINGS

All meetings of the Committee shall be open.

12.0 CONCLUSION

This revised Plan, when approved by the Commission and placed in operation, will result in the best possible utilization of the repacked portion of the spectrum as identified as of this date. If additional spectrum is made available, and as the rebanding process evolves, the channel listings shall be revised accordingly. Experience gained since the Plan has been in operation has proven the value of the former Plan with certain special sections, such as those relating to Low Power secondary use.

The identification and the process utilized for reassignment of the "give up" channels has also worked well. It has resulted in the best possible and most fair reuse of these channels.

As the technology advances making it possible to migrate to digital techniques and reduced channel widths, the Plan (as revised) will make it possible to further improve spectrum efficiency.

Implementation of the "pool" concept as outlined will greatly facilitate the transition from the legacy systems to new systems utilizing the latest technologies.

It should be noted that Region 6 has an outstanding track record for managing the portion of the spectrum granted by the Commission under the original National Plan. Through monthly NPSPAC meetings and the dynamic outreach made possible via the Internet, all interested parties are provided open forums and are afforded the capability of examining and knowing the potential of obtaining spectrum. These open forums also provide ample opportunities to share and refine management procedures where appropriate.

13.0 ATTACHMENT LISTING

- A ORIGINAL MEETING NOTICES (*Omitted due to obsolescence*)
- B MAP OF REGION AND SUB-REGIONS (*Omitted due to obsolescence*)
- C LISTS OF ATTENDEES AT ORIGINAL MEETINGS (*Omitted due to obsolescence*)
- D **MEMBERSHIP OF REVIEW AND REVISION COMMITTEE**
- E MEMBERSHIP OF WORKING GROUP (*Omitted due to obsolescence*)
- F CONCURRENCE FROM ADJACENT REGIONS (*Omitted due to obsolescence*)
- G **TABLE OF CHANNELS**
- H POPULATION TRENDS IN SUB REGION 5 (*Omitted due to obsolescence*)

ATTACHMENT D

**REGION 6 NPSPAC (NORTHERN CA) REVIEW AND
REVISION COMMITTEE MEMBERSHIP LIST**

ATTACHMENT D (with revisions through November 2005)
REGION 6 NPSPAC (NORTHERN CA) REVIEW AND REVISION COMMITTEE MEMBERSHIP LIST

<p>COMMITTEE CHAIR Art McDole 333 Tapadero St Salinas, CA 93906 V: 831 442-9981 F: 831 449-1776 mcdolea@apco911.org</p>	<p>VICE-CHAIR Glen Nash State of CA DGS Telecom Division 601 Sequoia Pacific Boulevard Sacramento, CA 95814-0282 V: 916 657-9454 F: 916 657-9468 glen.nash@dgs.ca.gov</p>	<p>SECRETARY Preston Thomson 6860 Country Ct. Granite Bay, CA 95746-8817 V: 916 797-5395 F: 916 797-5396 ncapco@surewest.net</p>
<p>POLICE - CITY Steve Overacker Contra Costa County DOIT 30 Douglas Drive Martinez, California 94553--4068 Voice (925) 957-7701 Fax (925) 646-2111 sover@doit.cccounty.us</p>	<p>FIRE - CITY Ken Stuber City of Sacramento I.T. Dept. 904 11th Street Sacramento, CA 95814 V: 916 808-8511 F: 916 808-8516 kstuber@cityofsacramento.org</p>	<p>LOCAL GOVT. – CITY Terry Betts County of Contra Costa S.O. 30 Glacier Drive Martinez, CA 94553 V: 925 313-2453 Nextel: (925) 525-8969 tbett@so.cccounty.us</p>
<p>POLICE - COUNTY Randall Hagar County of Alameda 1401 Lakeside Drive Oakland, CA 94621 V: 510 208 9700 F: 510 208 9711 Randall.Hagar@acgov.org</p>	<p>FIRE – COUNTY Heinz Klose County of Placer 2809 2nd St Auburn, CA 95603 V: 530 889-7740 F: 530 889-7742 hklose@placer.ca.gov</p>	<p>LOCAL GOVT – COUNTY Jim Coates County of Santa Clara 2700 Carol Drive San Jose, CA 95125-2096 V: 408 977-3210 F: 408 279-4560 Jim.Coates@911.sccgov.org</p>
<p>POLICE – STATE Bill De Camp State of CA DGS Telecom Division 601 Sequoia Pacific Boulevard Sacramento, CA 95814 V: 916 657-9205 F: 916 657-9231 william.decamp@dgs.ca.gov</p>	<p>FIRE - STATE (No interest was expressed by CDF for representation on this Committee at this time)</p>	<p>LOCAL GOVT - STATE (Represented by Nash)</p>
<p>AT LARGE Ron Allison 9810 Mosswood Circle Folsom, CA 95630 (916) 987 0220 rndallsn@aol.com</p>	<p>STATE OF CALIF- OES Don Root, Jr. Office of Emergency Services 3650 Schriever Ave Mather, CA 95655-4203 V 916.845.8601 F 916.845.8606 don.root@oes.ca.gov</p>	<p>FORESTRY CONSERVATION Patricia Gibbons City of San Jose IT 855 North San Pedro St San Jose, CA 95110 V: 408 277-5147 F: 408 277-3374 Patricia.Gibbons@sanjoseca.gov</p>
<p>TRANSPORTATION Tom Herold, P.E. Bay Area Rapid Transit Dist 300 Lakeside Drive Oakland, CA 94606 V: 510 464-6535 F: 510 464-6899 therold@bart.gov</p>	<p>HIGHWAY MAINTENANCE John Schmidt State of CA DOT Radio Communications, stn 77 P.O. Box 042874 Sacramento, CA 94274-0001 V: 916 654-6709 F: 916 654-3862 John.Schmidt@dot.ca.gov</p>	<p>SPECIAL EMERGENCY (vacant)</p>

ATTACHMENT G

TABLE OF CHANNELS

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
601	866.0125	NTL. Calling		
601G	866.0250	Guard Band		
602	866.0375	BART		
603	866.0500	City Sacramento	San Francisco (Secondary)	
604	866.0625	Belmont		
605	866.0750	UC Davis	ALCO (Secondary)	
606	866.0875	Ceres		
607	866.1000	ALCO		
608	866.1125	City Sacramento	ALCO (Secondary)	
609	866.1250	San Francisco		
610	866.1375	Vacaville	Contra Costa Prison	CO Sacramento (Secondary)
611	866.1500	San Francisco	Fresno	
612	866.1625	CO Sacramento	ALCO (Secondary)	
613	866.1750	Oakland		
614	866.1875	Guard Band	State of Nevada	
615	866.2000	CA LAW ENFORCEMENT MUTUAL AID RADIO SYSTEM (CLEMARS) REGION 6 ONLY		
616	866.2125	Guard Band		
617	866.2250	UC Berkeley		
618	866.2375	Roseville	BART (Secondary)	
619	866.2500	San Francisco		
620	866.2625	CO Sacramento	Santa Clara City	
621	866.2750	Guard Band		
622	866.2875	Red Cross		
623	866.3000	Guard Band		
624	866.3125	BART		
625	866.3250	City Sacramento		
626	866.3375	ALCO		
627	866.3500	Contra Costa		
628	866.3625	Contra Costa		
629	866.3750	ALCO		
630	866.3875	City Sacramento		
631	866.4000	San Francisco		
632	866.4125	Vacaville	CYA at Napa	CO Sacramento (Secondary)
633	866.4250	San Francisco	Fresno	
634	866.4375	CO Sacramento	ALCO (Secondary)	

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
635	866.4500	Oakland		
636	866.4625	CO Sacramento	Santa Clara City	
637	866.4750	Guard Band		
638	866.4875	Regents of UC		
638G	866.5000	Guard Band		
639	866.5125	INTERNATIONAL TACTICAL CHANNEL 1		
639G	866.5250	Guard Band		
640	866.5375	STATE OF CA MULTIPLE AGENCY RADIO SYSTEM 1		
641	866.5500	Guard Band		
642	866.5625	BART		
643	866.5750	Roseville		
644	866.5875	San Francisco		
645	866.6000	CO Sacramento	Santa Clara City	
646	866.6125	San Francisco	Turlock	
647	866.6250	City Sacramento	Sunnyvale	
648	866.6375	Richmond		
649	866.6500	CO Sacramento	San Jose	
650	866.6625	Oakland		
651	866.6750	City Sacramento	ALCO (Secondary)	
652	866.6875	San Bruno	State of Nevada	Contra Costa Prison
653	866.7000	Elk Grove		
654	866.7125	Oakland		
655	866.7250	Lodi	Roseville	BART (Secondary)
656	866.7375	UC Berkeley		
657	866.7500	City Sacramento	ALCO (Secondary)	
658	866.7625	San Francisco		
659	866.7750	Vacaville	CO Sacramento (Secondary)	
660	866.7875	Oakland		
661	866.8000	CO Sacramento	Fresno	ALCO (Secondary)
662	866.8125	San Francisco		
663	866.8250	City Sacramento	Campbell	
664	866.8375	Richmond	Turlock	
665	866.8500	CO Sacramento	ALCO (Secondary)	
666	866.8625	Redwood City		
667	866.8750	Roseville	Stockton	
668	866.8875	BART	CO Sacramento (Secondary)	

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
669	866.9000	Guard Band		
670	866.9125	NOR CA FIREMARS 2		
671	866.9250	Guard Band		
672	866.9375	San Joaquin Data	San Jose Data	San Francisco (Secondary)
673	866.9500	Guard Band		
674	866.9625	Contra Costa Data		
675	866.9750	Guard Band		
676	866.9875	Regents of UC	CYA at Stockton	
676G	867.0000	Guard Band		
677	867.0125	INTERNATIONAL TACTICAL CHANNEL 2		
677G	867.0250	Guard Band		
678	867.0375	BART	CO Sacramento (Secondary)	
679	867.0500	Roseville		
680	867.0625	San Francisco	State of Nevada	
681	867.0750	CO Sacramento	Mountain View	
682	867.0875	San Francisco	Ceres	
683	867.1000	City Sacramento	Livermore Amador Transit	
684	867.1125	Oakland		
685	867.1250	Roseville	Stockton	
686	867.1375	Oakland		
687	867.1500	CO Sacramento	Santa Clara Co.	
688	867.1625	Richmond		
689	867.1750	CO Sacramento		San Francisco (Secondary)
690	867.1875	Emeryville / Piedmont		
691	867.2000	Vacaville		
692	867.2125	San Francisco	State of Nevada	
693	867.2250	Elk Grove		
694	867.2375	BART		
695	867.2500	CO Sacramento		
696	867.2625	San Francisco		
697	867.2750	Davis		
698	867.2875	Oakland		
699	867.3000	City Sacramento	Santa Clara City	
700	867.3125	Walnut Creek	San Francisco (Secondary)	
701	867.3250	Sacramento Fire	Santa Clara (Secondary)	
702	867.3375	Richmond		

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
703	867.3500	CO Sacramento	Santa Clara City	
704	867.3625	San Francisco		
705	867.3750	Roseville	Stockton	
706	867.3875	San Francisco		
707	867.4000	CO Sacramento	State of Nevada	
708	867.4125	ALCO		
709	867.4250	Contra Costa		
710	867.4375	Contra Costa		
711	867.4500	ALCO	Turlock	
712	867.4625	City Sacramento		
713	867.4750	Guard Band		
714	867.4875	Regents of UC	CYA at Stockton	
714G	867.5000	Guard Band		
715	867.5125	INTERNATIONAL TACTICAL CHANNEL 3		
715G	867.5250	Guard Band		
716	867.5375	STATE OF CA MULTIPLE AGENCY RADIO SYSTEM 2		
717	867.5500	Guard Band		
718	867.5625	BART		
719	867.5750	City Sacramento		
720	867.5875	ALCO		
721	867.6000	Contra Costa		
722	867.6125	Contra Costa		
723	867.6250	ALCO		
724	867.6375	City Sacramento		
725	867.6500	Richmond	San Francisco (Secondary)	
726	867.6625	Davis	Santa Clara Co.	State of Nevada
727	867.6750	San Francisco		
728	867.6875	CO Sacramento	Santa Clara City	
729	867.7000	Oakland		
730	867.7125	City Sacramento	Turlock	Santa Clara (Secondary)
731	867.7250	Oakland		
732	867.7375	City Sacramento		
733	867.7500	ALCO		
734	867.7625	Contra Costa	State of Nevada	
735	867.7750	Contra Costa		
736	867.7875	ALCO		

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
737	867.8000	Sacramento Fire		
738	867.8125	BART		
739	867.8250	Roseville	Stockton	
740	867.8375	San Francisco		
741	867.8500	Elk Grove		
742	867.8625	San Francisco		
743	867.8750	CO Sacramento	Santa Clara (Secondary)	
744	867.8875	Oakland		
745	867.9000	City Sacramento		
746	867.9125	ALCO		
747	867.9250	Contra Costa		
748	867.9375	Contra Costa		
749	867.9500	ALCO		
750	867.9625	City Sacramento	Palo Alto	Ceres
751	867.9750	Guard Band		
752	867.9875	Regents of UC	CYA at Stockton	
752G	868.0000	Guard Band		
753	868.0125	INTERNATIONAL TACTICAL CHANNEL 4		
753G	868.0250	Guard Band		
754	868.0375	BART		
755	868.0500	Roseville		
756	868.0625	Richmond	CYA at Ione	State of Nevada
757	868.0750	Davis		
758	868.0875	San Francisco	CYA @ IONE (Secondary)	
759	868.1000	City Sacramento		
760	868.1125	ALCO		
761	868.1250	Contra Costa		
762	868.1375	Contra Costa		
763	868.1500	ALCO		
764	868.1625	City Sacramento		
765	868.1750	Oakland		
766	868.1875	CO Sacramento	Santa Clara Water	ALCO (Secondary)
767	868.2000	Oakland		
768	868.2125	Vacaville		
769	868.2250	San Francisco		
770	868.2375	UC Davis		

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
771	868.2500	San Francisco	Turlock	
772	868.2625	CO Sacramento		
773	868.2750	ALCO		
774	868.2875	Contra Costa		
775	868.3000	Contra Costa		
776	868.3125	ALCO		
777	868.3250	CO Sacramento		
778	868.3375	Oakland		
779	868.3500	Roseville	Stockton	
780	868.3625	BART	CO Sacramento (Secondary)	
781	868.3750	Guard Band		
782	868.3875	STATE OF CA MULTIPLE AGENCY RADIO SYSTEM 3		
783	868.4000	Guard Band		
784	868.4125	San Francisco		
785	868.4250	CO Sacramento	Santa Clara City	
786	868.4375	San Francisco		
787	868.4500	CO Sacramento	Santa Clara City	
788	868.4625	Oakland		
789	868.4750	Guard Band		
790	868.4875	Regents of UC	CYA at Stockton	
791	868.5000	Guard Band		
792	868.5125	CA LAW ENFORCEMENT MUTUAL AID RADIO SYSTEM (CLEMARS)		
793	868.5250	Guard Band		
794	868.5375	BART		
795	868.5500	Roseville		
796	868.5625	ALCO	CO Sacramento (Secondary)	
797	868.5750	Contra Costa		
798	868.5875	Contra Costa		
799	868.6000	ALCO		
800	868.6125	City Sacramento		
801	868.6250	San Francisco	Turlock	
802	868.6375	Davis		
803	868.6500	San Francisco	CYA at lone	
804	868.6625	Santa Clara Co.	Vacaville	
805	868.6750	Richmond	Contra Costa Prison	
806	868.6875	CO Sacramento	Santa Clara City	

ATTACHMENT G TABLE OF CHANNELS

CHANNEL	BASE FREQUENCY	USER 1	USER 2	USER 3
807	868.7000	Oakland		
808	868.7125	City Sacramento		
809	868.7250	ALCO		
810	868.7375	Contra Costa		
811	868.7500	Contra Costa		
812	868.7625	ALCO		
813	868.7750	City Sacramento		
814	868.7875	San Francisco		
815	868.8000	CO Sacramento	Santa Clara City	
816	868.8125	San Francisco		
817	868.8250	Elk Grove		
818	868.8375	Oakland		
819	868.8500	CO Sacramento	Santa Clara (Secondary)	
820	868.8625	Richmond		
821	868.8750	CO Sacramento	San Jose	ALCO (Secondary)
822	868.8875	San Francisco		
823	868.9000	City Sacramento		
824	868.9125	ALCO		
825	868.9250	Contra Costa		
826	868.9375	Contra Costa		
827	868.9500	ALCO		
828	868.9625	City Sacramento	Ceres	
829	868.9750	Guard Band		
830	868.9875	STATEWIDE FIREMARS		