1. Regional Committee Positions

The Chair as elected on March 20, 2014 is David Buchanan. His contact information is:

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The Vice Chair as elected on March 20, 2014 is John Sarkissian. His contact information is:

John Sarkissian

Frequency Manager

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The Secretary as elected on March 20, 2014 is Gary Poon. His contact information is:

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2. RPC Membership

Appendix B contains the membership list for Region 5. Membership is open to any interested party. Voting and operating procedures are described in Section 5 of this plan.

3. Region Description

Region 5 commonly referred to as Southern California, consists of 10 counties – San Luis Obispo, Santa Barbara, Kern, Ventura, San Bernardino, Los Angeles, Orange, Riverside, San Diego, and Imperial.

The Southern California terrain is varied and rugged. Elevations range from 180 feet below sea level to over 10,000 feet above. Population is concentrated in the Los Angeles basin and surrounding areas and in San Diego and its surrounding areas. Other areas of Southern California have small concentrated areas of population with vast areas of mountains and desert with very sparse population. The Los Angeles Basin including surrounding areas requires the majority of spectrum to support public safety services to the 20.6 million citizens.

All types of public safety agencies and services are located in this region. The majority of requests for voice spectrum were as follows.

The State of California's request for spectrum is to support a new statewide system that will integrate multiple state agencies on the system. The State is also designing the system to accommodate local agencies that wish to participate.

Several Counties in the region are requesting spectrum to expand and accommodate growth of existing 800 MHz trunked systems.

The State Emergency Medical Services Authority and American Medical Response (AMR) a large ambulance service provider requested spectrum for new emergency medical systems.

Another category of requests was from a few cities in the Los Angeles basin area to satisfy long unmet needs.

On July 31, 2007 the FCC released its *Second Report and Order*[1] realigning the public safety allocation in the upper 700 MHz band from 764-776 / 794-806 MHz to

763-775 / 793-805 MHz, and consolidating the narrowband segments into the upper portion (769-775 / 799-805 MHz) of the public safety allocation. This consolidation prompted a series of meetings of the Region 5 committee to address issues related to the realignment.

The Committee received a letter dated January 14, 2008 that withdrew the State's request for channels in the General Use Band. Those channels are now removed from the allotment list.

The Committee received an email on October 10, 2008 from the State withdrawing a request from the State Emergency Medical Services Authority (EMSA) for 24 channels. Those Channels are removed from the allocation list.

For both of the above items the Committee understands the State was unable to fund a move of its radio systems to 700 MHz and can now meet the State's needs from the State Licensed 700 MHz channels.

The Committee received a series of letters beginning in January of 2008 from the County of Riverside indicating they intended to implement their allotment of channels beginning in February 2009 after the DTV transition. The County also requested additional channels to move their entire new system to 700 MHz and move off 800 MHz channels. Through discussions with the County and the FCC Public Safety and Homeland Security Bureau the move of Riverside to 700 MHz will facilitate the reconfiguration of the 800 MHz band in Southern California.

[1] *In the Matter of the Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, Declaratory Ruling on Reporting Requirement under Commission's Part 1 Anti-Collusion Rule, WT Docket No. 07-166,* Second Report and Order, *22 FCC Rcd 15289 (2007) (*Second Report and Order*).*

4. Notification Process

The First Regional Plan Meeting was held on September 2, 1999. Notices were sent 60 days or more prior to the meeting, by mail, to FEMA Region 9, APCO, FCCA, IMSA, ASHTO and the FCC. The meeting was advertised in the APCO Magazine (August 1999) and the CPRA (California Public-Safety Radio Association, the local APCO chapter) News Letter (July 1999 edition). The FCC did not issue a Public Notice of the meeting. The California State Office of Emergency Services sent representatives to the meetings and they represent National Security and Emergency Preparedness at the state level and also coordinate with local emergency preparedness offices. The convener, David Buchanan also contacted several agencies via email that expressed interest in the planning process. The CPRA CommLink[1] is sent monthly to nearly all public safety agencies and is considered the primary notification method.

The second meeting was held on June 21, 2000. The FCC did issue a Public notice for this meeting. The meeting was again advertised in the CPRA CommLink. During the meeting an opportunity was given for anyone not at the first meeting to object and ask for a revote on decisions made. No one came forward to object.

The Convener (later elected Chair) discussed with representatives of some public agencies, ways to notify interested persons and agencies of this planning process. From past experience we found newspaper advertising to be impractical due to the number of newspapers operating in this large Region. Also, past experience of the 800 MHz planning effort, when some newspaper advertising was done, demonstrated the advertising did not reach any public safety representative not already aware of the process. It was concluded the best means to reach out as widely as possible was to use the existing resources of CPRA. No other local or State publications are known to reach people interested in this planning effort.

Southern California public safety agencies have a long history of participating in CPRA. CPRA was formed in 1935 and became a chapter of APCO in 1945. The chapter continues to hold a frequency coordination meeting monthly as part of the monthly chapter meeting. The APCO local frequency advisors present all

[1] Attached is a representative membership list for CPRA. As with any organization the membership changes somewhat over time. The membership over time still represents the greatest number of public safety agencies in Southern California that the Committee is aware of.

applications for approval by the group. While this is an informal process done in addition to the formal coordination process, it is widely known in the public safety community and promotes the open cooperative spirit of communications planning in Southern California. Because of this history, it is widely known to contact CPRA local advisors for spectrum issues. Because of this history, a list of agencies, with known spectrum problems were able to be contacted by local frequency advisor Gary Gray. From this history agencies know to either watch the CommLink or the CPRA WEB site or attend the monthly meetings to learn of the 700 MHz planning or other spectrum planning efforts.

As the primary purpose of the planning effort is to allocate spectrum to public safety agencies needing additional spectrum, the Committee made special efforts to allow agencies to come forward and demonstrate a need for additional spectrum. A filing window for requests was open from the first meeting until January 1, 2001 and published in the July through December 2000 issues of the CPRA Newsletter. This was advertised at CPRA monthly Meetings and in the CPRA Commlink. The local APCO frequency advisor Gary Gray, personally contacted several agencies he knew of that had unfilled needs that were long standing. These initial requests, using the technical assumptions in Section 7, were used to establish the initial allotment list shown in Appendix A.

The Commission in a letter dated December 30, 2002 dismissed the April 16, 2002 plan. The Commission among other things, asked for a better outreach to Indian Tribes. To address this concern the Committee held a 4th meeting on April 16, 2003. Letters were sent to all Tribes that could be identified by an Internet search. A list of Tribes and copy of the letter is attached in the Appendix D of this plan. A FCC public notice of this meeting was issued and Notice published in the February 2003 issue of the CPRA Newsletter and also posted at the CPRAA WEB Site www.cpra.org.

All meeting notices, minutes and members of the committees are shown in the appendixes of this plan. The meetings were open to any who wanted to attend.

5. Regional Plan Administration

5.1. Operations of the Regional Plan Committee

This committee will use Robert's Rules of Order to conduct meetings. All decisions will be by clear consensus vote with each Public Safety Agency[2] having one vote. This voting insures that all agencies regardless of size have an equal vote. This region also emphasizes the clear consensus in deciding issues. The meetings are open to all persons and a public input time is given for anyone to express a viewpoint or to have input to the planning.

Workgroups may be formed as needed to work on specific issues. For the initial planning three workgroups were formed – writing group, spectrum planning group and operations group. Workgroups are intended to work on details of specific issues and make recommendations to the full committee. Any changes to the Regional plan must be voted and approved by the full Regional Plan Committee. Workgroups are open to any who want to participate. The Chair of the Regional Plan Committee appoints the Chair for each workgroup.

A minimum of one meeting per year will be held of the full committee. The Chair may call other meetings as needed, or requested by the Committee members. These will be announced and advertised 90 days in advance by the Committee Chair. The FCC will be contacted to issue a Public Notice of the meeting; the meeting will be announced in the CPRA news letter and posted on www.cpra.org. In addition an email list server will be used for notification. The list server is open for anyone to sign up who would like to participate. Normal time for the annual meeting will be in January each year.

Beginning two years after Federal Communications Commission approval of this Regional Plan, the Chair shall call a meeting of the Committee to elect a Chair, Vice Chair and Secretary to serve for two years. There is no limit to the number of terms that may be served.

If the Chair is unable to serve a complete term the Vice Chair will serve as Chair until the next election meeting. If both the Chair and Vice Chair are unable to serve their full terms one or the other should strive to call a special meeting of the Committee to elect replacements. If for some reason, neither the Chair nor the Vice Chair can call the special meeting; the State or any County within the region may call for a special meeting, giving at least 90 days notice, to elect replacements.

[2] Agency is defined as a City, County, State EMS Authority and the State of California, each having one vote.

The Chair and Vice Chair duties and powers are expressed in this plan. Their powers are limited those specified in this plan or the agreements with adjacent regions contained in this plan.

The Secretary is responsible to maintain and store all records of the committee. The Secretary also prepares minutes of all Committee meetings.

At any time a new secretary is elected, the records of the Committee shall be transferred to the new secretary.

5.2. Procedure for Requesting Spectrum Allotments

The procedure for initial requests is stated in Section 4. After plan approval, agencies desiring a new, additional or modified spectrum allotment shall submit a request to the Chair in writing indicating their need for spectrum. The requests will be considered, providing that harmful interference is not caused to existing users.

The frequency allotment list is based on an assumption that the systems will be engineered on an interference-limited basis not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus a three-mile area beyond.

Systems should be designed for a minimum signal strength of 40 dBμ in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88 – latest version and Longley-Rice propagation model in median mode (50/50/50) will be used to determine harmful interference assuming 40 dBμ, or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise limited coverage.

To maximize spectrum utilization, receivers of the highest quality must be used in systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems utilize low quality receivers.

Agencies will need to provide the Committee with a full justification for the additional spectrum. All requests will be considered on a first come first served basis. In the event that contending requests are received, in the same time frame Section 8.5 will be used to determine priority for allocation of spectrum.

For approval, the Chair will distribute the request to all other agencies with allotments in the plan for review. An agency may protest approval within 30 calendar days. Protests will only be considered if an agency or the Chair can show harmful interference is likely based on the input submitted by the agency requesting the new allotment or the allotment does not conform to plan criteria. If the parties cannot resolve the issues and so inform the Chair within 14 calendar days then a full Committee meeting will be scheduled to consider and vote on the protest. Absent a protest, the allotment will be approved by the Chair and submitted to the FCC as a plan amendment.

The Region will utilize the CAPRAD system to distribute and review applications. Agencies should contact the Region Secretary for details on CAPRAD use.

5.2.1. Procedure for Plan Modifications

Modifications to this plan, other than as specified above in Section 5.2 must be approved at a meeting of the full committee. The Chair may propose changes and call a meeting to consider and vote on the change. Others with a requested amendment to this plan should submit the request to the Chair and the chair will call a meeting of the full committee to consider and vote on the change.

5.3. Procedure for Frequency Coordination

Before applicants submit an application to one of the FCC recognized frequency coordinators, the application must be reviewed at a frequency meeting of the Regional Planning Committee. The Committee will review the application to ensure it complies with all elements of the Regional Plan. This will NOT be a review to ensure the application form meets FCC requirements for filing.

The applicants must submit a copy of the FCC application and supporting documents to the Regional Plan Chair via the CAPRAD system. The Region guidelines for this are posted on CAPRAD and www.cpra.org. An interference prediction map must be included in the documentation. TIA/EIA TSB88-A (or latest version) guidelines will be used to produce the interference map. The map must show all interference predicted using TSB88-(latest version) guidelines and using the Longley-Rice propagation model in median mode (50/50/50). As an alternate submission, the applicant may provide a map showing the 40 dBμ and 20 dBμ signal levels also using Longley-Rice propagation model in median mode

(50/50/50) if the co-and adjacent channel systems are not built out or if the signal level into the co-channel agency's coverage area is less than 20 dBμ. Any agency with co-channel or adjacent channel allotments may request field tests of signal levels to verify interference signal levels. Agencies must be prepared to conduct these field tests if a request is made. All agencies must meet the coverage criteria of Section 7.

In order to insure consistent results with the modeling process, the Region requires the model software to be approved for use in the Region. The region in its applications guidelines that are posted on CAPRAD and www.cpra.org lists reference sites and procedures to be used to approve a software product. The guidelines also list approved software products that will be accepted.

The frequency meetings will be held as needed to review applications but normally concurrent with the California Public-Safety Radio Association (CPRAthe Southern California Chapter of APCO) monthly meeting. After the regular CPRA meeting, the 700 MHz Regional Plan Frequency meeting may be convened. The CPRA meetings are normally attended by many of the public safety agencies in Southern California. Notification of frequency meetings will be placed in the CPRA CommLink and will be available to non-members at the CPRA WEB site (www.cpra.org). The FCC certified frequency coordinators will be notified of the meetings. Membership in APCO or CPRA is not required to participate in these frequency coordination meetings and the collocation of meetings is solely for the convenience of the Regional Plan Members.

5.4. Adjacent Region Spectrum Allocation

Region 5 shares borders with Arizona, Nevada, and Northern California. Region 5 has a small population density along the Nevada and Arizona borders. Region 5 will coordinate channel allocations with all bordering regions and the State of California for those channels established by planning as statewide use.

Region 5 will provide data to the CAPRAD database to assist with adjacent region coordination.

5.5. Mexico Border issues

Region 5 shares a border with Mexico. The Counties of Imperial and San Diego are impacted by any border spectrum agreements. State of California spectrum use is also impacted in those counties. In 2006 the U.S. Department of State signed a Protocol with the government of the United Mexican States for the use of the 764-776 and 794-806 MHz spectrum in a zone extending 110 km either

side of the US. – Mexico Border. Region 5 requests input to the FCC for any modifications to this spectrum sharing agreements with Mexico, as any agreement that impacts allotments to Imperial County and San Diego County/City will impact the entire allotment list for Region 5. Region 5 is ready to help the FCC in any way in working out spectrum sharing agreements with Mexico with minimum impact to Region 5.

Agencies located in the Border area with Mexico should note the following conditions. Public safety licenses are granted subject to the conditions as set forth in 47 C.F.R. § 90.533. Public safety transmitters operating within 120 km or 75 miles of the Mexican border must accept any interference that may be caused by operations of UHF television broadcast transmitters in Mexico and that conditions may be added during the term of the license if required by the terms of the international agreements between the United States and the government of Mexico, as applicable, regarding the non-broadcast use of the 764-776 MHz and 794-806 MHz bands. Agencies located in the Border area should further note that changes to these international agreements may be made at any time, and that their operations may further be impacted by these future changes.

5.6. Dispute Resolution

In the event an agency disputes the implementation of this plan after FCC approval, the agency must notify the Chair of the dispute in writing. This section does not apply to protests over new spectrum allotments (see Section 5.2). The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters. If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint an ad-hoc Dispute Resolution Committee The committee shall be comprised of a member from the State of California and members selected from representatives of the counties in the region, the City of Los Angeles or the City of San Diego. No member selected may be from an agency involved in the dispute. That committee will select a Chair to head the committee. The Regional Plan Chair (or Vice Chair) will represent the Region in presentations to the Dispute Resolution Committee. The Committee will hear input from the disputing agency, any effected agencies and the Region Chair. The Committee will then meet in executive session to prepare a recommendation to resolve the dispute. Should this recommendation not be acceptable to the disputing agency(ies), the dispute and all written documentation will be forwarded to the Federal Communications Commission for final resolution.

6. Interoperability Channels

6.1. Introduction

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. Southern California is subject to many natural disasters and mutual aid is common among agencies. This Plan seeks to facilitate the communications necessary for effective mutual aid.

The State of California administers the interoperability channels via the California Statewide Interoperability Executive Committee (CalSIEC) under National Coordination Committee's (NCC) guidelines. As the State is divided into two 700 MHz Planning regions, this facilitates common operating procedures for both North and South. This Plan also gives the following guidance to the CalSIEC to take into account the needs of Southern California.

6.2. Tactical Channels

This Region is unable to set aside, at this time, additional channels beyond those established by the FCC in their band allocations, for interoperability use. Because of the extensive mutual aid operations that can involve several mutual aid operations simultaneously, all mobile and portable units operating under this Plan should have all the interoperability channels both repeat and direct modes programmed into each unit. The radios must be programmed with the minimum number of channels called for in NCC guidelines or as the SIEC specifies. The channels display will be in accordance with the NCC guidelines that have common alphanumeric nomenclature to avoid any misinterpretation of use.

6.3. Deployable Systems

This Plan strongly supports use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on interoperability channels. This will minimize the expense of installing extensive fixed infrastructure and recognizes the difficulty of providing complete coverage of the region due to environmental constraints.

Agencies should have conventional deployable systems capable of being tuned to any of the interoperability tactical channels. Those agencies that are part of a multi-agency trunked system and commonly provide mutual aid to each other are encouraged to have trunked deployable systems that operate on the tactical

channels designated by the FCC for this use. The CalSIEC will develop the operational details for deploying these systems.

It is expected that the tactical channels set aside for trunked operation will be heavily used by deployable systems. Therefore, the tactical channels cannot be assigned to augment general use trunked systems.

6.4. Monitoring of Calling Channels

It is desired that the State of California take responsibility for monitoring the interoperability and calling channels. This would include assignments of channels to mutual aid incidents as required. The SIEC will develop operational guidelines for this function.

7. Interference Protection

The frequency allotment list is based on an assumption that the systems will be engineered on an interference-limited basis not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other cochannel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus a three-mile area beyond.

Systems should be designed for a minimum signal strength of 40 dBμ in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88 (latest version) will be used to determine harmful interference assuming 40 dBμ, or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise limited coverage.

To maximize spectrum utilization, receivers of the highest quality must be used in systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems utilize low quality receivers.

8. Allocation of Narrowband "General Use" Spectrum

All agencies requesting spectrum during the initial filing window (see Section 4) were allotted channels excepting as noted in Section 8.4. Allotments were made in 4 channel (25 kHz) groups to allow for various digital technologies to be implemented. Requests for voice channels were allocated on the basis of one 6.25 kHz channel per one voice channel requested. For narrowband mobile data requests two 6.25 kHz channels were allocated for each mobile data channel requested. This was done to maximize spectrum efficiency and to meet the FCC goal of one voice channel per 6.25 kHz of spectrum. In a few cases this resulted in allocating one or two extra 6.25 kHz channels to maintain the 25 kHz grouping of channels.

The Spectrum Workgroup requested information via a series of five questions to each agency requesting spectrum. This information validated the need for spectrum and insured no duplicated requests involving multi-agency systems. Small agencies were encouraged to join multi-agency systems if possible.

On October 24, 2014, the FCC released a rule making (FCC 14-172) that changed the reserve channels to general use channels. As part of this rule making, T-Band licensees were given preference in getting allocations from the Regions to replace T-Band channels. The FCC also approved use of up to 8 channels for trunked deployable use in the regions.

In November 2014, the Region 5 Chair received a request from County of Los Angeles/LA RICS (LA RICS) asking to allocate all the reserve channels to them. They stated these would be used in their system upgrade to replace many but not all T-Band channels. To determine if other agencies (both for T-Band replacement and region wide) wanted allocations for these new general use channels, the Region 5 Chair opened a window to receive requests. That window was from March 6, 2015 to April 7, 2015. One additional request was received from the Interagency Communications Interoperability System JPA (ICIS) for all of the new general use channels to replace T-Band channels.

Because both entities operate in Los Angeles County, the requests were mutually exclusive. Using the procedures specified in Sections 5.6 and 8.4 of this plan, the chair convened a committee to recommend which agency should receive the allocation of the new general use channels in the Los Angeles County geographical area. That committee determined that LA RICS best met the priority matrix criteria in section 8.4. This was primarily based on immediate funding as LA RICS is fully funded with a contract to immediately implement their system upgrade. The committee noted that LA RICS had previously requested a waiver of FCC rules to license the now former reserve channels for use in their system

upgrade. On May 21, 2015 the Region 5 Planning Committee voted to affirm that recommendation.

As part of the LA RICS request, LA RICS noted that they would need a deployable trunked system and agreed to use the 6 channels identified for that use nationwide. This has the benefit that no areas of the Region will be excluded from operating deployable systems. The region desires to set aside the 6 channels as shown in the Region 5 allocation spreadsheet for Trunked deployable use. These channels are now the preferred channels to use for trunked deployable use in the Region. The Region will also adopt recommendations of the National Public Safety Telecommunications Council (NPSTC) and the National Regional Plan Committee (NRPC) that are currently being developed with no further action required. Representatives of Region 5 are participating in that planning effort.

Future allocations of the new general use channels will be made using the existing process specified in Section 5.2.

The six deployable channels are listed in the Region 5 allocation spreadsheet available at www.cpra.org.

8.1. Low power Secondary Operations

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 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 allotments, allocations and licensees. Authorization may be granted for use of any suitable channel, without prior allotment or allocation to the requesting agency.

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.

8.2. Low power Channels

The FCC in the 700 MHz band plan set aside channels 1 - 8 paired with 961 – 968 and 949 – 958 paired with 1909 – 1918 for low power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved regional planning committee regional plans. Transmitter power must not exceed 2 watts (ERP).

Channels 9 –12 paired with 969 – 972 and 959 – 960 paired with 1919 – 1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP).

These channels may operate using analog operation. To facilitate analog modulation this plan will allow aggregation of two channels for 12.5 kHz bandwidth. This also facilitates use of Project 25 Phase I digital modulation resulting in compatibility of systems thus improving interoperability. On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) with an antenna height limit of 6.1 meter (20 feet) above the ground. However, users are encouraged to operate in simplex mode whenever possible. This plan does not limit use to only analog operations, these channels are intended for use in a wide variety of applications that may require digital modulation types.

In its dialog leading up to CFR §90.531 allocating the twenty-four low power 6.25 kHz frequency pairs (of which eighteen fall under RPC jurisdiction)[3], the Federal

[3] See paragraphs 35 through 39 in FCC's Third Memorandum Opinion and Order for WT Docket No. 9686 adopted September 18, 2000.

Communications Commission (FCC) suggested that there is a potential for multiple low power applications, and absent a compelling showing, a sharing approach be employed rather than making exclusive assignments for each specific application because low power operations can co-exist [in relatively close proximity] on the same frequencies with minimal potential for interference due to the 2 watt power restriction.

Whereas advantages exist in not making assignments, the reverse is also true. If, for example, firefighters operate on a specific frequency or set of frequencies in one area, there is some logic in replicating that template throughout the region for firefighter equipment. If there are no assignments, such a replication is unlikely.

In seeking the middle ground with positive attributes showing up both for assignments and no assignments, we recommend the following regarding assignments associated with the eighteen narrowband channels for which the RPC's have responsibility as shown in table 1. This gives 2 each 12.5 kHz bandwidth channels to Law, Fire and General Use for on scene tactical operations.

This Region will also coordinate with Region 6 (Northern California) to align their plan's designations and names with this Region.

Table 1

Channel Number	*Frequency*	*Name*	*Usage*
1-2/961-962	*769.00625*	*LPCA-L-1*	*Law*
3-4/963-964	*769.01875*	*LPCA-G-1*	*General*
5-6/965-966	*769.03125*	*LPCA-F-1*	*Fire*
7-8/967-968	*769.04375*	*LPCA-L-3*	*Law*
949-950/19091910	*774.93125*	*LPCA-G-2*	*General*

951-952/1911-1912	*774.94375*	*LPCA-F-2*	*Fire*
953-954/1913-1914	*774.95625*	*LPCA-L-2*	*Law*
955-956/1915-1916	*774.96875*	*LPCA-G-3*	*General*
957-958/1917-1918	*774.98125*	*LPCA-F-3*	*Fire*

8.3. System Implementation

Most areas in Southern California have been precluded from immediately implementing systems due to protection requirements of incumbent television stations. These stations have been ordered to leave the 700 MHz band in February, 2009.

Therefore, this plan will not require agencies to implement systems using the 700 MHz spectrum allocated to them until incumbent TV station(s) requiring protection relocate to another TV channel. After that date, agencies must release a System RFP within one year and sign a contract with a vendor within one year of releasing the System RFP. For the State of California only, implementation of general use channels shall be governed by FCC rule 90.529(b) and (c). This exception for the State is intended to keep the overall implementation of the State's 700 MHz spectrum consistent with the State licensing rules for the state only channels.

If an agency does not implement in the timeframes specified, that agency's allotment may be removed from the allotment list. An Agency may file a request with the Region Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request. If no request for extension is received or the Committee votes not to extend implementation, the

Committee Chair will advertise this action and set a filing window to give other agencies a chance to request an allotment of that spectrum.

8.4. Priority for Receiving Spectrum Allocations

All agencies, with two exceptions, received spectrum allocations as requested. AMR requested 24 voice channels and the State of California Emergency Medical Services Authority (EMSA), asked for a general EMS allocation of 10 voice channels. These requests were combined into one EMS pool allocation for EMS use, to be administered by the State EMSA. This pool was for any EMS provider to use under EMSA guidelines. With the State of California's October 2008 retraction of the request for the EMS pool, this channel pool was removed from the allotment list.

The other exception was for requests by several small cities in Los Angeles County for spectrum for police operations. The cities of Arcadia, Azusa, Glendora, Maywood, Southgate, Bell, Vernon, and Downey all requested a small number of voice channels for police operations. The City and County of Los Angeles police radio systems are on UHF spectrum (450 to 512 MHz), as is most other cities in the Los Angeles basin. These systems have established mutual aid channels and procedures in place. The County of Los Angeles Sheriff is in the early stage of planning radio system upgrades. It is likely those upgrades will allow the Sheriff to host other agencies on their system. It would be more spectrum efficient and facilitate mutual aid if the above agencies joined the Sheriff's system, thus making it a multi-agency system. Also, the Sheriff should complete it's upgrade before the 700 MHz spectrum will be available for use in that area, thus giving relief in a shorter time frame to those cities.

For those reasons this plan does not allocate spectrum to the above listed cities, but instead urges them and the Los Angeles Sheriff to come to agreement for multi-agency use of the Sheriff's system. In the event that no agreement can be reached between any or all of the parties, those cities will be allocated spectrum under this plan. Those allotments will be taken from the allotment provided the County of Los Angeles on a one-for-one channel basis.

8.5. Priority Matrix

In the event that future spectrum requests conflict and cannot all be accommodated, the following matrix will be used to determine priority for allotment. This matrix will only be used if two requests are received in the same time frame. Otherwise, the first come first served procedure of Section 5.2 will be used.

- Priority is given to users fundamentally involved with the protection of life and Property.
- Priority is given to shared multi-agency systems. These systems can be either groups of separate departments within a larges agency or groups of agencies operating together under a large blanket agency.
- Priority is given for immediate documented funding to construct the system using these 700 MHz frequencies.

This process, if required will be treated as a dispute and the procedures outlined in Section 5.6 using the above criteria will be used to allot the frequencies.

9. Coordination with Adjacent Regions

The Chair sent final draft copies of this plan to the conveners or Chair, as appropriate, to each adjacent region (Northern California, Arizona, and Nevada). Over half of the total General Use narrowband channels will be available to adjacent regions. Excepting the Las Vegas, Nevada, area, the border regions are sparsely populated and generally the NPSPAC 821/866 MHz band frequencies are not built out. Therefore, adjacent regions should be able to satisfy voice and narrowband data requests along their border areas with Region 5. If Nevada has problems satisfying requests in the Las Vegas area, this committee pledges to work with Nevada to resolve any issues. The adjacent region's concurrences with this plan are shown in Appendix F.

10. Spectrum utilization

In the two high population density areas of Southern California, the Los Angeles/Orange County basin and San Diego, spectrum for public safety is chronically short to support all needs. Southern California is a leader in spectrum efficient use of public safety spectrum.

Before narrowband equipment was available, through research and testing by the County of San Bernardino, 12.5 kHz offset frequencies were used under wavier to geographically short space compared to normal co-channel spacing. This was implemented at 800 MHz and extended to 470 to 512 MHz by many other agencies under wavier of FCC rules. These efforts were the basis for spacing the

NPSPAC channels every 12.5 kHz. The NPSPAC plan for Southern California also contains the strictest RF signal levels for reuse of any in the nation. Agencies are required to maintain 40 dBμ in their coverage area and have reduced signals to only 35 dbμ for adjacent 12.5 kHz channel and 20 dBμ for cochannel at the border with respective agencies. A case in point, this resulted in co-channel sharing between the County of San Bernardino and the City of Los Angeles, only 35 miles apart. Adjacent channel sharing between the County of Riverside and the County of Los Angeles, about 10 miles between borders is another example of efficient spectrum sharing. These are only two of many short spaced systems in use in Southern California.

With this plan the public safety providers are striving to utilize the spectrum as efficiently as possible. The requests for voice and narrowband data totaled 880 channels. To satisfy this need the spectrum workgroup examined the requests, along with additional information requested of all agencies, to identify any duplicate requests from multi-agency systems, or any requests that were considered unreasonable to satisfy real needs over the next 15 years.

From this, the workgroup found that some Los Angeles County Cities would be best served by joining the Los Angeles County Sheriff's UHF system. The Committee will work with all parties to accomplish this. In the event that the Sheriff cannot accommodate the agencies then their needs will be met by reducing the County of Los Angeles allotment as required.

The spectrum workgroup also recommended that allotments be made on the basis of one 6.25 kHz channel for each voice channel request and two 6.25 kHz channels for each narrowband data channel request. This recommendation is approved by the full Committee and is part of this plan. This allows for the full agency needs to be met and the committee believes also conforms to the FCC intent to require use of technology that yields one voice path for each 6.25 kHz of spectrum.

Due to the existing TV assignments and HDTV assignments, most of Southern California was unable to use this spectrum until the HDTV implementation was completed in early 2009. Given this uncertainty, this plan does not limit an agency from initially implementing (if it conforms to FCC rules) a technology that yields less than one voice channel per 6.25 kHz channel or aggregating narrowband data into 25 kHz blocks. The agencies are on notice that they will not receive additional allotments due to using technology that yields less than one voice channel per 6.25 kHz of spectrum or narrowband data of less than 19.2 kbps per 12.5 kHz of spectrum.