

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of: )  
 )  
Public Safety and Homeland Security Bureau ) PS Docket No. 13-42  
Seeks Comment on Options For 470 – 512 MHz )  
(T-Band) Spectrum )

COMMENTS OF:  
THE CALIFORNIA PUBLIC-SAFETY RADIO ASSOCIATION

The California Public-Safety Radio Association (CPRA) submits these comments to the Commission’s Public Notice in the above-captioned proceeding concerning options for the 470 – 512 MHz (T-Band) spectrum.

**The California Public-Safety Radio Association**

The California Public-Safety Radio Association is the Southern California Chapter of the Association of Public-Safety Communications Officials International (APCO). CPRA represents the people who manage, operate, maintain and supply the communications systems used to safeguard the lives and property of citizens throughout the Los Angeles Urbanized Area. Among the CPRA ranks are over 400 professionals representing the Police, Fire, EMS, Forestry, Highway and Conservation radio user groups.

CPRA membership is from the 10 Southern California Counties: San Luis Obispo, Kern, Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, San Diego and Imperial.

## **CPRA Comments**

CPRA supports the National Public Safety Telecommunications Council (NPSTC) T-Band Report.<sup>1</sup> CPRA asserts the NPSTC report accurately describes the current T-Band usage, and the challenges of finding replacement spectrum for licensees vacating T-Band frequencies in the Los Angeles Urbanized Area. The excerpt noted below from the NPSTC Report<sup>2</sup> illustrates the heavy incumbent use of T-Band spectrum in the Los Angeles Region. While there are many T-Band licensees in Los Angeles County, it is important to realize that the surrounding counties of Orange, Ventura, and San Bernardino also have licensees that rely on T-Band radio frequencies as a way to offset frequency congestion in those areas more distant from the metro Los Angeles area.

<b>Region</b>	<b>Licensees</b>	<b>Channels Licensed</b>	<b>RF Sites</b>	<b>Repeaters</b>	<b>Mobiles/ Portables</b>
<b>Los Angeles</b>	50	546	474	7,814	41,701

The VHF and UHF public safety spectrum is very heavily utilized in Los Angeles Urbanized Area as well as in other areas of Southern California. Given the small amount of public safety spectrum allocated in those bands and the corresponding heavy usage within and around Los Angeles Urbanized Areas, the VHF and UHF bands cannot support a migration of the T-Band public safety licensees to the VHF and non T-Band UHF spectrum.

800 MHz allocations are also heavily used in and around the Los Angeles Urbanized Region. The Counties of Orange, San Bernardino and San Diego all operate countywide 800 MHz systems in both the NPSPAC and interleaved portions of the 800 MHz band. Both the City of Los Angeles and the County of Los Angeles utilize both NPSPAC and non-NPSPAC frequencies for public safety communications. APCO local frequency advisors that provide coordination of the 800 MHz band in Southern California report there are few if any frequency resources available to support T-Band relocation for agencies in any part of the Los Angeles Urbanized Area.

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<sup>1</sup> This report can be found at [http://www.npstc.org/download.jsp?tableId=37&column=217&id=2678&file=T\\_Band\\_Report\\_20130315.pdf&page=NPSTC%20Home](http://www.npstc.org/download.jsp?tableId=37&column=217&id=2678&file=T_Band_Report_20130315.pdf&page=NPSTC%20Home)

<sup>2</sup> P. 10 of the NPSTC T-Band Report

The 700 MHz narrowband general portion of the public safety band is completely allotted throughout Southern California. The NPSTC report stated that the 700 MHz frequency allotments are primarily distributed by County.<sup>3</sup> While this is generally true for most Regions, the Region 5 Planning Area serving Southern California allots channels to public safety agencies based on current needs or in response to expected expansion of 800 MHz systems. Both the County and City of Los Angeles have limited allotments in the 700 MHz Region 5 Plan. Other agencies in Los Angeles County have allotments in the 700 MHz Plan and have built systems using their 700 MHz allotments (examples are the City of Long Beach and Port of Los Angeles). The majority of allotments are to the counties or agencies that operate 800 MHz countywide systems and need additional spectrum to support system expansion. The County of Riverside is just finishing an upgrade to their countywide system that replaces current 800 MHz frequencies with 700 MHz allotments in response to a lack of 800 MHz frequencies in the Mexican border region. The County of San Bernardino is utilizing 700 MHz general use channel allotments in conjunction with their existing 800 MHz resources to facilitate a P25 upgrade. The City of San Diego has built out their 700 MHz allotment of channels.

The NPSTC report evaluated relocating existing public safety T-Band use to the 700 MHz band and concluded:

***SPECTRUM** - Analysis of public safety spectrum bands shows that at least 5 of the 11 metro areas do not have sufficient spectrum in any band to relocate their existing T-Band operations. These areas are the Boston, Chicago, Los Angeles, New York, and Philadelphia metros. The adequacy of relocation spectrum in three additional areas, San Francisco, Washington, D.C., and Pittsburgh is marginal. It is not yet viable to rely on the planned Nationwide Public Safety Broadband Network (NPSBN) as a likely option to support mission critical voice operations that would be displaced from the T-Band.*<sup>4</sup>

The usage described earlier in this document for the VHF, UHF, 700 and 800 MHz bands in Southern California validates and supports the conclusion of the NPSTC report that there is insufficient public safety spectrum available to accommodate T-Band licensee relocations in Los Angeles. CPRA affirms there is simply inadequate spectrum to provide the bulk relocation of public safety licensees out of T-Band and into the VHF, UHF, or 700/800 MHz spectrum without a negative impact to public safety wireless operations throughout Southern California.

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<sup>3</sup> Id. P. 30

<sup>4</sup> Id. P. 4 Key Conclusions

CPRA also affirms the finding in the NPSTC, T-Band Report that it is premature to rely on the emerging LTE communications technology as a substitute for mission critical voice communications requirements of T-band licensees currently using analog or digital technologies. CPRA also believes that Southern California's diverse terrain and concentration of population density will likely provide an unprecedented challenge to the rapid deployment and operation of LTE communications architecture with the same level of signal coverage and economics as is found with analog and digital emissions in T-Band today. CPRA also concurs with a recent document released by the National Public Safety Telecommunications Council (NPSTC) and ratified by every member organization of NPSTC that states in part: "Although the nationwide public safety broadband network (NPSBN) will have voice capabilities that will be valuable to public safety, the network will not be able to initially provide (for many years and maybe never) the mission critical level of voice service and dependability needed by public safety. The NPSBN is intended to provide urgently needed broadband data capabilities for public safety and is not initially being designed to replace current land mobile radio (LMR) mission critical public safety voice systems."<sup>5</sup>

CPRA is also concerned the NPSBN will use LTE commercial technology, a network technology that does not currently provide the "OFF NETWORK" capability that is critical to public safety. This means that when the broadband network is not available or not reachable there will be no communications, a critical requirement for public safety." First Responders that utilize T-Band rely on off network, direct line-of-sight communications when using radios in environments such as large buildings and tunnels where system coverage is not reliable. Direct, off network communications are invaluable as a fall back in the event of a system outage.

CPRA submits that unrestricted access to emergency communications systems is vital and notes a recent series of articles wherein industry expert Andrew Seybold worked with a team of five LTE engineers who all work for different commercial LTE companies. Some of these engineers are directly involved in the 3GPP standards body and all of them are heavily involved in designing and building commercial LTE networks. Based on the overloading of the commercial cellular networks during the very recent Boston Bombings, the current state of the pre-emptive

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<sup>5</sup> <http://andrewseybold.com/wp-content/uploads/2013/04/Why-Can't-PS-Just-Use-Cell-Phones-NPSTC-041513-2.pdf>

capabilities of LTE were explored and an article was published in Urgent Communications<sup>6</sup> and also referenced in Seybold's Public Safety Advocate article a week later encapsulating the status of full pre-emptive access to the FirstNet Public Safety Broadband Network (PSBN). Two assumptions were posed to these LTE experts. The group provided basic responses to these assumptions and is in the process of preparing a more detailed report to support their conclusions:

*Assumption #1: If the LTE signaling channel is overloaded, a User (UE) with maximum priority and pre-emptive rights may not be able to access the network.*

*LTE Engineer Conclusion: This is essentially a true statement, especially in a network that is shared with commercial users.*

*Assumption #2: LTE provides a way around this problem (as stated in Assumption #1) that can be implemented to ensure full priority access when needed.*

*LTE Engineer Conclusion: Mitigation tools exist in the 3GPP standards, but due to a wide range of potential scenarios and causes, to characterize this as solved would be an over-simplification.*

Based on both these documents it is clear that while there will, in fact, be dial-up voice on the PSBN, the network will not be capable of providing the type of Push-to-Talk voice both on and off network which are required by the Public Safety community as outlined in another NPSTC document: Mission Critical Voice Communications Requirements for Public Safety.<sup>7</sup>

The bottom line for existing T-Band users is that the Public Safety Broadband Network (LTE) will not be able to provide today, or if ever, the types of voice prioritized communications which are critical to the Public Safety community. CPRA agrees with these assessments that an LTE network will not be able to support Public Safety voice for more than a decade, if ever.

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<sup>6</sup> <http://urgentcomm.com/blog/boston-bombings-raise-sharing-questions-firstnet>

<sup>7</sup> [npstc.org/download.jsp?tableId=37&column=217&id=1911&file...](http://npstc.org/download.jsp?tableId=37&column=217&id=1911&file...)

The Commission has placed a freeze<sup>8</sup> on new and modified licenses in the T-Band. CPRA notes this freeze creates a hardship to existing licensees that need to upgrade existing systems, improve operations, and expand radio interoperability. There are a number of filed license applications pending in the Southern California area. For example, the City of Santa Clarita has a pending application<sup>9</sup> to add one frequency. Santa Clarita has purchased radio equipment but cannot use that equipment without being granted the frequency. Also the Claremont Unified School District has a pending license application<sup>10</sup> and Request for Waiver of the freeze to add one T-Band channel. Approximately two months before the licensing freeze, the Claremont Unified School District received coordination for a T-Band repeater frequency pair, purchased a repeater and new mobile and portable radios, and coordinated radio programming with the City of Claremont Police Department. This was part of a plan to insure emergency responses to school sites are well coordinated.<sup>11</sup> T-Band utilization is imperative for the Claremont Unified School District as their current radio repeater frequency is shared with a UHF business band frequency channel that is utilized at the nearby Ontario airport by an airline for baggage handling and aircraft service coordination. Nearly constant interference degrades the day to day operations of the school district as well as the interoperability between the Claremont School District and the Claremont Police Department during times of emergency.

CPRA asserts the NPSPAC T-Band report well represents the frustration of the T-Band situation in the Los Angeles area; there is no replacement radio spectrum or suitable communications technology in existence to replace the existing analog and digital T-Band voice operations. This reality, coupled with the fact that a number of agencies are not able to move forward with T-Band licensing through normal or rule waiver proceedings ultimately affects those agencies ability to serve and provide for the safety of people, the environment, and property in the Los Angeles area.

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<sup>8</sup> Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau Suspend the Acceptance and Processing of Certain Part 22 and 90 Applications for 470-512 MHz (T-Band) Spectrum, Public Notice, 27 FCC Rcd 4218 (WTB/PSHSB 2012). The Bureaus issued a further clarification of the suspension on June 7, 2012. Wireless Telecommunications Bureau and Public Safety and Homeland Security Bureau Clarify Suspension of the Acceptance and Processing of Certain Part 22 and 90 Applications for 470-512 MHz (T-Band) Spectrum, Public Notice, 27 FCC Rcd 6087 (WTB/PSHSB 2012).

<sup>9</sup> [0005302125](#) WIL591 SANTA CLARITA, CITY OF 0008059388 Modification PW 07/10/2012 Pending

<sup>10</sup> [0005160461](#) NEW CLAREMONT USD 0005160461 Amendment PW 08/14/2012 Pending

<sup>11</sup> See Letter dated January 4, 2013 to David S. Turetsky Bureau Chief PSHLSB from the Claremont Police Department

The preservation of safety in our cities and nation as a whole relies on effective and unhindered radio communications. It is imperative that public safety communications systems be available to respond accordingly when that safety is threatened. For all the reasons noted in this filing, it is a matter of public responsibility that the Federal Communications Commission discontinues the T-Band freeze while concurrently working with Congressional leaders to repeal the T-Band give up language in H.R. 3630.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Tim Trager', written in a cursive style.

Tim Trager

President California Public-Safety Radio Association