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## California Statewide Interoperability Executive Committee

December 3, 2010

Federal Communications Commission  
455 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Subject: Comment on the Technical and Operational Feasibility of Enabling Flexible use of the 700MHz Public Safety Narrowband Allocation and Guard Band for Broadband Services: PS Docket No. 06-229

Dear Sir/Madam:

The California Statewide Interoperability Executive Committee (CalSIEC) appreciates the opportunity to comment on the Federal Communications Commission (FCC) Public Safety and Homeland Security Bureau efforts to gather information on the use of the Public Safety 700MHz narrowband spectrum for broadband services. CalSIEC is a public safety driven advisory group that is responsible for managing designated interoperability spectrum in California on behalf of all public safety users. It is the position of CalSIEC that the current allocations of the Public Safety 700MHz narrowband spectrum should not be changed. Shifting the spectrum between narrowband voice and broadband data services will compromise the safety of first responders and negatively affect investments currently planned for 700 MHz systems.

### What are the current and anticipated uses of 700MHz narrowband networks?

Several existing communications systems in California have reached or gone well beyond their life expectancy. Very high frequency (VHF) high band, ultra high frequency (UHF), and 800 MHz are the top three frequency bands used by public safety agencies. As a result, the public safety spectrum is virtually exhausted, leaving 700 MHz as the only spectrum available to State and local agencies for systems expansions or large-systems development.

Major urban regional systems which propose to use the 700 MHz narrowband spectrum are at various stages of planning and implementation. The Bay Area UASI is currently developing four regional P25 standards-based 700/800MHz systems which will interconnect 10 Bay Area counties and over 100 cities<sup>1</sup>. The Los Angeles region has and continues to invest significant resources to develop a regional 700/800 MHz public safety system. This regional system covers 88 cities within Los Angeles County and supports more than 34,000 first responders<sup>2</sup>. The County of Riverside is currently replacing their

<sup>1</sup> San Francisco Bay Super Urban Area Security Initiative (SUASI) 700/800 MHz Interoperability Fleetmap Template (Aug 2009) <http://www.bayareauasi.org/groups/bayrics/Shared%20Documents/Forms/AllItems.aspx>

<sup>2</sup> Los Angeles Regional Interoperable Communications System (LA-RICS) <http://www.la-rics.org/>

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existing 800 MHz trunking system with a regional 700 MHz P25 digital voice and data network, and Orange County uses 700 MHz primarily for fleet dispatch. The County and City of San Diego together cover over 60 cities that currently use 700 MHz systems to compensate for the lack of 800 MHz channels in the region.

**Would the flexibility to offer broadband services in all or a portion of the 700 MHz narrowband spectrum and/or the guard band promote more efficient use of 700 MHz public safety spectrum? Are there efficiency gains that could be realized by enabling this flexibility? For example, could the use of the narrowband spectrum help satisfy needs for increased broadband capacity? Or could broadband spectrum help satisfy the needs for narrowband capacity over time? What would need to happen for this to occur?**

The advantages and efficiency measurements of narrowband dispatch systems and broadband data systems are not the same. Narrowband communications are currently used for tactical/safety critical "get connected now" communications. Broadband communications as currently operated are used for administrative information such as briefing documents, pictures, etc. Each system serves a need. A broadband data system is not efficient at dynamic simultaneous voice communication with a large group of individuals. Narrowband networks are not efficient at transferring large data files like photos and videos.

Economic efficiency in site deployment is also a consideration, because broadband generally needs an exponential increase in the number of sites. Mixing the two uses within the same spectrum recreates the 800 MHz Nextel dilemma where many cellular low elevation broadband fixed sites interfere with low elevation narrowband mobile users interacting with high elevation fixed sites. The two do not coexist well in the same spectrum segment.

**If the Commission were to allow flexible use of 700 MHz narrowband spectrum and/or the guard band, would broadband operations in this spectrum potentially interfere with existing or future public safety narrowband operations? We specifically seek technical information on the likely extent of such interference scenarios. What steps could be taken to mitigate such potential harm?**

The Nextel/public safety 800 MHz rebanding interference problem is an example of the type of potential interference that could occur with flexible use. Narrowband mobile radio units operating near broadband fixed sites received in-band signals exceeding their designated inter-modulation specifications. As a result, the mobile unit will operate as a broadband frequency mixer creating interference for both narrowband and broadband services. Separating broadband fixed sites and mobile narrowband units with front end filters that pass in-band broadband signals would be a possible solution.

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**What impact would allowing flexible use of all or a portion of narrowband spectrum have on the continued ability to support nationwide narrowband interoperability?**

Varying the use of the spectrum nationwide could potentially work against current efforts to improve interoperable communications. These efforts rely on establishing consensus-driven processes and standards that should be consistent at all levels of government. The intent is to eliminate confusion for mutual-aid response. If a catastrophic disaster were to take place in a region that primarily uses 700 MHz narrowband for data, responding agencies outside the region could experience communication challenges if they use narrowband primarily for voice. This could potentially affect response time and put lives at risk. It would be best to keep the current 700 MHz allocations and the guard band unchanged.

**How much, if any, of the narrowband allocation and guard band should be made available for broadband operations? Should some portion of this spectrum (e.g., the upper portion of the band furthest from the existing public safety broadband spectrum) continue to be reserved exclusively for narrowband operations?**

On October 5, 2010, the California Statewide Interoperability Executive Committee held their annual meeting. This question was discussed at length among the various public safety representatives. The committee strongly opposes the use of the 700 MHz narrowband allocation and guard band for broadband operations. This spectrum was originally intended to improve public safety interoperable voice communications and the guard band was intended to protect it. Using it for any other purpose invites problems that may affect reliability.

**If flexibility in the narrowband spectrum were allowed, what role should the 700 MHz RPCs and the states play in its implementation?**

If the spectrum is allowed to be used for broadband operations, it would be imperative that the Public Safety 700MHz Planning Regions and the communities they support are authorized to define the allocations. Both of California's Regional Planning Committees have invested time and effort to ensure the current narrowband allocations within their regions are appropriately assigned to minimize interference. Changes can negatively impact those plans.

**What would be the impact of allowing flexibility on the development of broadband, narrowband, and dual-use equipment in the 700 MHz public safety spectrum?**

A single device that is capable of operating on both narrow and broadband systems will reduce costs for public safety agencies, eliminating the need for multiple devices. However, it would be imperative that such devices would not be manufactured in a manner that encourages or promotes the flexible use of the 700 MHz spectrum.

**If the Commission were to permit flexible use of the narrowband spectrum, what if any impact should this have on the existing rules that require 700 MHz narrowband systems to narrowband to 6.25 kHz bandwidth channels by December 31, 2016? Should the Commission reconsider this requirement? Would public safety resources be better spent transitioning 700 MHz narrowband operations onto a broadband platform?**

Regardless of the flexible use argument, the Commission must postpone the existing deadline for the 6.25 KHz spacing efficiency for 700 MHz. The DTV conversion delays affected public safety planning timelines and took away crucial time for implementation. In addition, Public Safety Agencies that have recently purchased 700 MHz P25 phase 1 devices will only see a lifespan of 6 years if the existing deadline stands. Purchasing replacements after a relatively short period goes against growing expectations that equipment must go well beyond traditional refresh cycles due to economic conditions.

In closing, CalSIEC implores the Commission to maintain the existing allocation to ensure planning and build-out of 700 MHz narrowband systems throughout California continue without concern about whether the spectrum will be available in the future. Thank you for your consideration of our comments.

Sincerely,

A handwritten signature in black ink, appearing to read "J. L. Lewis". The signature is written in a cursive, flowing style.

**California Statewide Interoperability Executive Committee**