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T-Band Spectrum: Why It's Important to the Fire Service

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In metropolitan regions, law enforcement, fire officials and EMS all rely on the T-Band spectrum to operate their radios for day-to-day, life-saving operations; this is known as “mission-critical voice.” Despite this, P.L. 112-96 requires them to move off the public-safety T-Band spectrum (470-512 MHz) as early as 2023.

This requirement is of great concern to public-safety agencies in the T-Band areas that rely on the spectrum for regular operations and regional interoperability in protecting over 90 million people. Here's the latest information on this situation that you need to know.

The Middle-Class Tax Relief and Job Creation Act of 2012 (P.L. 112-96) provided 20 MHz of spectrum in the 700 MHz band and \$7 billion to build a nationwide public-safety broadband network (NPSBN) dedicated to the mission requirements of public safety. This legislation also created FirstNet, an independent authority within the National Telecommunications and Information Administration to build the broadband network.

Section 6103 of P.L. 112-96 calls for the auctioning of the so-called T-Band spectrum (470 MHz-512 MHz) by 2021 and clearing current public-safety operations from the band within two years of the end of the auction. This spectrum is essential to public safety.

Use of T-Band

For example, New York City heavily relies on T-Band spectrum for operations and interoperability. Approximately half of the 132 volunteer fire/EMS agencies in Suffolk County operate in the T-Band, making the mandate particularly egregious.

In the aftermath of the Boston bombing, the T-Band channel was used for interoperable communications between the responding public-safety entities. T-Band has been used in the Boston area for 40 years allowing for interoperability which previously did not exist.

Background

The T-Band spectrum currently is allocated in 11 heavily populated metropolitan areas to support critical public safety communications and provide regional interoperability among first responders.

These areas are:

- Boston
- New York
- Chicago
- Philadelphia
- Dallas
- Pittsburgh
- Houston
- San Francisco
- Los Angeles
- Miami
- Washington

According to a 2013 report by the National Public Safety Telecommunications Council (NPSTC), there is insufficient alternative spectrum in any public-safety band for at least five of the 11 affected areas.

For an additional three areas, the options for relocating public-safety communications are marginal at best. In May 2016, NPSTC updated its report and found that nothing had substantially changed since its original report.

The apparent initial intent in title VI of P.L. 112-96 was to migrate public safety to the NPSBN before the T-Band reallocation. However, LTE technology can't support public-safety operations with an acceptable level of performance and reliability today. It appears the intent of the law may be to gain additional broadband spectrum for non-public safety use.

The Reality

Comprehensive analysis done after Congress' action shows that the requirements in Section 6103 will provide major disruptions to public-safety communications with very minimal countervailing benefit for commercial broadband deployment. If auctioned, the area covered by public-safety T-Band spectrum is only about 2% of the overall U.S. land area and less than a third of the overall population.

In addition, the public-safety spectrum will be mostly in small slivers not compatible with the large blocks needed for broadband. Extensive television broadcast operations throughout the country and industrial/business systems in the 11 metro markets will remain on T-Band channels even if public-safety systems are relocated out of the band.

FirstNet

The FirstNet broadband network will be very beneficial for mission-critical video and data operations use for public safety. However, it's not ready to support mission-critical voice systems. There is a concern that the NPSBN may not be able to support mission-critical communications for possibly 10 years or more, if ever.

This concern demonstrates the dangers of dismantling proven mission-critical public safety voice systems using the T-Band spectrum.

Forcing public safety to leave T-Band will undo the benefit from millions of dollars of federal funding, equipment, and training that have proven to be successfully tested under severe duress. Federal funding has been used to develop interoperability plans and common channel plans; purchase equipment; and harden infrastructure using the T-Band spectrum. This planning and infrastructure investment played an important role in the use of a T-Band channel for public safety communications during the response to the Boston bombings and the apprehension of the bombers.

The required auction of the T-Band spectrum will erode the gains in interoperability made over the last 15 years.

The Final Report of the National Commission on Terrorist Attacks Upon the United States (9/11 Commission Report) identified the need for improved interoperable communications between first responders and recommended dedicated spectrum for public safety. These needs were again amplified and identified in the after-action reports of Hurricane Katrina and other incidents.

The IAFC represents fire chiefs who know firsthand the benefits that mission-critical interoperable communications provide. While the FirstNet network stands to improve communications, coordination and situational awareness during emergency response operations, it will not replace mission-critical voice communications for the foreseeable future.

On November 1, the IAFC filed a written statement to the communications and technology subcommittee to the House energy and commerce committee recommending in part that section 6103 be repealed allowing public safety to ensure that they can continue to have interoperable mission-critical voice communications.

We are also working with a coalition of associations and members of public safety from the 11 impacted metropolitan areas to repeal section 6103. On December 13, a large group of people representing the majority of the impacted metropolitan areas met in the New York City office of emergency management. There was an agreement to move forward in 2018 with a congressional effort to repeal the section of P.L. 122-96 mandating auction of this critically needed spectrum.

[Communications Committee](#) and the IAFC's representative to the Public Safety Advisory Council to FirstNet and the Indoor Location Advisory Committee. He's been a member of the IAFC since 1993. [Jim Goldstein](#) is the staff liaison to the Communications Committee