



1200 18TH STREET, N.W.
WASHINGTON, D.C. 20036
UNITED STATES OF AMERICA

TEL +1 202 730 1300
FAX +1 202 730 1301
WWW.HARRISWILTSHIRE.COM

ATTORNEYS AT LAW

22 April 2008

BY ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: WP Docket No. 07-100

Dear Ms. Dortch:

Five years ago,¹ the Commission allocated the 4.9 GHz band for licensed public safety broadband operations. The spectrum offers law enforcement and first responders secure, public safety-grade broadband. The licensed status provides certainty that public safety providers can use this spectrum without interference to serve and protect the public.

4.9 GHz is the only frequency band in which the Commission universally has relegated links used by public safety providers to secondary status.² Apparently, the Commission allocated secondary status to permanent fixed links to protect mobile links from high-powered “traditional, fixed point-to-point microwave operations” used for backhaul.³ That, however, was

¹ *The 4.9 GHz Band Transferred from Federal Government Use*, Memorandum Opinion and Order and Third Report and Order, 18 FCC Rcd. 9,152 (2003) (“4.9 GHz Order”).

² Certain public safety pool frequencies below 470 MHz are available in certain locations only on a secondary basis. All the public safety pool secondary allocations appear to be frequency-specific fixes to particular historical, spectrum-sharing, or geographic issues or to promote more efficient technologies, and are not a manifestation of overall spectrum planning policy with regard to public safety operators. *See* 47 C.F.R. § 90.20(d). It does not appear that the Commission has ever relegated an entire public safety spectrum block to secondary status, as it has done for all permanent fixed links over the entire 50 MHz in the 4.9 GHz band.

³ *4.9 GHz Order*, 18 FCC Rcd. at 9,166 ¶ 34.

Ms Marlene H. Dortch
Federal Communications Commission
22 April 2008
Page 2

unnecessary, as the Commission's existing power and antenna gain limits in Section 90.1215 already protect mobile links at 4.9 GHz.⁴

Regrettably, the secondary allocation for permanent fixed 4.9 GHz links has created an environment in which many public safety agencies are reluctant to deploy 4.9 GHz systems, due to uncertainty regarding the future status of those necessary fixed links. Public safety users are concerned about running mission-critical applications on spectrum that has secondary status because of fears that they could be forced to relinquish frequency used for a particular application if their system interferes with a primary status user in the same geographic area.⁵ The Commission can and should resolve this uncertainty and relieve this concern by providing primary status for any links public safety chooses to deploy at 4.9 GHz. Primary status for all 4.9 GHz links will facilitate more widespread deployment of 4.9 GHz solutions to the benefit of public safety providers and the people they protect.

1. Fixed Links Are Mission-Critical

The 4.9 GHz band is useful for more than just incident response. Many applications have been developed and are ready for deployment for fixed, daily use, such as video surveillance, intelligent traffic systems, and backhaul of mobile traffic to headquarters.

Fixed links can be and are used for mission-critical operations. For example, the fire service may use a fixed link to monitor the security of a nuclear power plant for threats. A port authority may use a fixed link to detect weapons of mass destruction ("WMD") as cargo is

⁴ M/A-COM Comments at 2–3, WT Docket No. 07-100 (filed August 13, 2007).

⁵ The Commission in the past has shared this concern. In the *Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies* proceeding, when the Association of Public-Safety Communications Officials ("APCO") suggested that public safety be permitted to remain operational in their 150-174 MHz or 421-512 MHz spectrum past the migration deadline, the Commission noted its concerns with allocating secondary status to public safety, including the difficult decision required by the Commission in the event a primary user complained of interference. *Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended; Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies*, Second Report and Order and Second Further Notice of Proposed Rule Making, 18 FCC Rcd. 3,034, 3,043 ¶ 20 (2003) (stating that "APCO fails to offer guidance as to how to resolve issues resulting from secondary basis operation, such as resolution of interference complaints and whether it would be in the public interest to compel a secondary public safety licensee to discontinue operations immediately because it was causing interference to a primary licensee").

Ms Marlene H. Dortch
Federal Communications Commission
22 April 2008
Page 3

unloaded. Police may use fixed links for real-time monitoring of a threat at the local high school, or to carry traffic from a mobile system designed as a mesh network back to headquarters for analysis. In contrast, *mobile* links can be non-mission critical. The local fire department, for example, could use a mobile link for downloading personnel and shift data remotely. Under the current rules, a system that provides mobile service for the fire department to download shift data would take precedence over the mission-critical fixed link of the local police monitoring an imminent threat after an emergency call.

Fixed links are also critical in linking and backhauling mobile links used in incident response. But public safety is loathe to deploy those links for backhauling mobile data if not granted primary status for all links. Fixed links are therefore an integral part of providing broadband applications in both daily operations and disaster response. Public safety users must be able to ensure that their mission-critical systems, both fixed and mobile, will work all the time. Secondary status of permanent fixed links undermines this assurance.

2. Public Safety Supports Primary Allocation for Permanent Links

M/A-COM proposed in 2005 and again in 2007 that the Commission amend its rules to clarify that every link that is part of a 4.9 GHz public safety network may operate on a primary basis. The public safety community has provided overwhelming and unified support for this proposal. The National Public Safety Telecommunications Council supports “a clarification in the rules for 4.9 GHz operations. . . . In the end, we feel primary status should be afforded to all functions that support and contribute to the overall development of delivering 4.9 GHz user-based service as envisioned by the implementing agency.”⁶ The American Association of State Highway and Transportation Officials supports 4.9 GHz rules that allow fixed links deployed in support of an area-wide 4.9 GHz broadband system to be considered primary.⁷ The State of California likewise supports a primary allocation.⁸ The International Association of Fire Chiefs, Inc. and the International Municipal Signal Association support the “proposal to afford primary (vs. secondary) status to certain permanent fixed links.”⁹ The Land Mobile Communications Council supports “the proposition that fixed links deployed in support of an area-wide 4.9 GHz

⁶ National Public Safety Telecommunications Council Comments at 16-17, WT Docket No. 07-100 (filed August 13, 2007).

⁷ See American Association of State Highway and Transportation Officials Comments at 17, WT Docket No. 07-100 (filed August 13, 2007).

⁸ See The State of California Comments at 5-6, WT Docket No. 07-100 (filed August 13, 2007).

⁹ International Association of Fire Chiefs, Inc. and the International Municipal Signal Association Comments at 9, WT Docket No. 07-100 (filed August 13, 2007).

Ms Marlene H. Dortch
Federal Communications Commission
22 April 2008
Page 4

broadband system should be considered as primary.”¹⁰ Motorola, Inc. agrees “that the rules regarding fixed links are creating some confusion in the marketplace and would benefit from FCC clarification.”¹¹ The Telecommunications Industry Association agrees that all links should have primary status.¹² Tropos Networks agrees “with M/A-COM that the Commission’s rules should indicate clearly that fixed links using directional antennas, operating as part of an integrated network with hot spots and mobile links, are authorized on a primary basis.”¹³ Clearly, providing primary status to permanent fixed links in a 4.9 GHz system would serve the public interest in meeting public safety’s interest in broadband applications.

3. Commission’s Existing Rules Already Address Interference Management Concerns

According to the current rules, all 4.9 GHz licensees are required to coordinate to self-manage any interference. Public safety users fear they will be substantially disadvantaged in a coordination effort where planned links have secondary status. Primary status would ensure that all licensees have equal status in interference management negotiations if interference arises. As noted above, when the FCC assigned secondary allocation status to certain 4.9 GHz fixed links, the intent was to protect mobile links from “traditional” backhaul links. But, as noted above, the Commission’s existing power and antenna gain limits in Section 90.1215 already preclude “traditional” backhaul signal levels, thus obviating the need for further protection.¹⁴ Moreover, the individual licensing process for permanent links requires licensees to coordinate closely with other users in the band to avoid interference. Accordingly, the designation of permanent fixed links as “secondary” is unnecessary for interference management purposes and is making users reluctant to deploy networks in the band.

4. Granting of Primary Allocation Status for Fixed Links Would Further the Commission’s Interest in Maximum Flexibility for Public Safety Spectrum Users

As the Commission recognized in 2003,¹⁵ it is best to permit public safety licensees flexibility to install their 4.9 GHz networks in a way that best fulfills their mission. The

¹⁰ Land Mobile Communications Council Comments at 18, WT Docket No. 07-100 (filed August 13, 2007).

¹¹ Motorola, Inc. Comments at 11, WT Docket No. 07-100 (filed August 13, 2007).

¹² See Telecommunications Industry Association Comments at 3, WT Docket No. 07-100 (filed August 13, 2007).

¹³ Tropos Networks Comments at 4, WT Docket No. 07-100 (filed August 13, 2007).

¹⁴ See 47 C.F.R. § 90.1215.

¹⁵ *4.9 GHz Order*, 18 FCC Rcd. at 9,181 ¶ 3.

Ms Marlene H. Dortch
Federal Communications Commission
22 April 2008
Page 5

Commission envisioned “that the 4.9 GHz band will be able to accommodate a variety of broadband applications, including technologies and operations requiring varying bandwidths and operations that are both temporary and permanent in nature,” and thus “endeavor[ed] to provide 4.9 GHz band licensees with the maximum operational flexibility practicable and to encourage effective and efficient utilization of the spectrum.”¹⁶

Indeed, the Commission expressed concern that prohibiting fixed links in the 4.9 GHz would “restrict licensee flexibility and could prohibit future technologies that could benefit public safety.”¹⁷ Unfortunately, allocating secondary status to permanent fixed links has had that very effect, suppressing deployment of technologies beneficial to first responders and the public.

We recommend that the Commission allow public safety users to determine which applications are most important, rather than continuing to allow the existing rules to discourage deployment. As the Commission stated half a decade ago, “public safety entities should be empowered to manage their own use of the spectrum and [we] believe that each user should have maximum autonomy to use the spectrum as suits its particular needs.”¹⁸ The Commission continued, “Allowing users to customize use of the band to suit their individual needs yields optimal user flexibility as well as spectral efficiency.”¹⁹ Now that the public safety community has become more familiar with the technology, and, as the current record reflects, public safety supports primary status for permanent fixed links, the Commission can best meet its stated goals by revising Sections 90.1207(d) and 90.1215 to provide permanent fixed links in a 4.9 GHz public safety network primary status.

* * * * *

¹⁶ *Id.* at ¶ 3 (emphasis added).

¹⁷ *Id.* at ¶ 32.

¹⁸ *Id.* at ¶ 34.

¹⁹ *Id.*

HARRIS, WILTSHIRE & GRANNIS LLP

Ms Marlene H. Dortch
Federal Communications Commission
22 April 2008
Page 6

Continued secondary status of 4.9 GHz permanent fixed links will deprive public safety of tools that they are interested in deploying, in the manner that they believe will best meet their mission to protect. For the reasons outlined above and elsewhere in WP Docket No. 07-100, M/A-COM urges the Commission respond to the overwhelming support of the public safety community for revisions to Part 90 that would allow permanent fixed links in a 4.9 GHz public safety network to operate on a primary basis, consistent with suggested changes to 90.1207(d) and 90.1215. M/A-COM asks that the Commission take such action in a stand-alone order as soon as possible.

Respectfully submitted,



Kent D. Bressie
Patricia J. Paoletta
Damon C. Ladson*
Christopher P. Nierman

Counsel for M/A-COM, Inc.

cc: Erika Olsen
Zenji Nakazawa
Aaron Goldberger
Bruce Gottlieb
Renee Crittendon
Wayne Leighton
Angela Giancarlo

* Technology Policy Advisor