

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

In the Matter of:	)	
	)	
Request by the TETRA Association	)	
For Waiver of Sections	)	ET Docket No. 09-234
90.209, 90.210 and 2.1043 of the	)	
Commission's rules	)	

**COMMENTS OF:  
THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL**

The National Public Safety Telecommunications Council (NPSTC) submits these Comments regarding the waiver request submitted by the TETRA Association. NPSTC believes that the issues are sufficiently complex to warrant consideration in a full rulemaking proceeding rather than by waiver.

**The National Public Safety Telecommunications Council**

The National Public Safety Telecommunications Council (NPSTC) is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

American Association of State Highway and Transportation Officials  
American Radio Relay League  
Association of Fish and Wildlife Agencies  
Association of Public-Safety Communications Officials  
Forestry Conservation Communications Association  
International Association of Chiefs of Police  
International Association of Emergency Managers  
International Association of Fire Chiefs  
International Municipal Signal Association  
National Association of State Chief Information Officers  
National Association of State Emergency Medical Services Officials  
National Association of State Foresters  
National Association of State Technology Directors  
National Emergency Number Association  
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM Program); Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). NPSTC has liaison relationships with associate members, the Telecommunications Industry Association and the Canadian Interoperability Technology Interest Group (CITIG).

### **Public Safety Operations Must be Protected from Interference**

In its Waiver request, the TETRA Association indicates that TETRA equipment is available to work on a number of frequency bands used in the U.S., including 457-470 MHz, 806-849 MHz and 851-894 MHz. While the waiver request does not specifically state which bands are being requested under the waiver, NPSTC interprets the request to be seeking the authority to

operate in those bands with equipment that does not comply with the current occupied bandwidth and emission mask rule, as noted in the waiver request. While the 800 MHz band specified extends across both the land mobile and cellular bands, NPSTC's comments relate only to the potential impact in the 806-824/851-869 MHz and the 450-470 MHz where public safety systems are prevalent.

The TETRA Association seeks a) a waiver of Section 90.209(b)(5) to operate at an occupied bandwidth up to 21.5 +/- 0.5 kHz, in other words up to 22.0 kHz; b) to exceed emission masks B, C and G in Section 90.201 by up to 5 dB; and c) to allow TETRA manufacturers who have received equipment authorizations with products that includes modifications to the TETRA standard to upgrade to the full TETRA standard without requiring a new equipment certification application of FCC ID. The Commission's Public Notice requests comments upon which to develop a record in the proceeding.<sup>1</sup>

NPSTC has a long history of supporting the introduction of new technologies to help serve public safety needs. We have been fully engaged in the introduction of spectrally efficient narrowband equipment for the 700 MHz band, in localized broadband at 4.9 GHz and in the ongoing significant effort to finalize rules for the deployment of a nationwide broadband network at 700 MHz. In addition, NPSTC recently requested that the Commission take action that would allow 2-way alerting technology to be deployed for public safety use in unused spectrum in the 900 MHz narrowband PCS band.

In any introduction of new technology, one of NPSTC's primary concerns is to ensure that interference to current or proposed public safety operations does not occur. Given the nature of public safety communications, any interference could have drastic and life threatening

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<sup>1</sup> FCC Public Notice in ET Docket No. 09-234, released December 24, 2009.

consequences. The waivers requested by the TETRA Association would allow equipment to be introduced that exceeds the current Commission rules designed to minimize adjacent channel interference. The short time made available to review the petition has not provided the opportunity to fully analyze the potential increase in interference that could result from a grant of the waivers as requested.

As noted by the Commission in its Public Notice, the issues are complex.<sup>2</sup> NPSTC agrees with that assessment. For example, the level of impact could be different in the NPSPAC portion of the 800 MHz band than in other portions of the band because the environment is different. In the NPSPAC portion of the 800 MHz band, equipment that typically meets tighter emission specifications is deployed on a 12.5 kHz channel center spacing with geographic spacing between adjacent channels.<sup>3</sup>

Adding to the complexity, the NPSPAC portion of the band is in transition and being relocated from 821-824/866-869 MHz to 806-809/851-854 MHz portion of the band as part of the 800 MHz rebanding to resolve interference experienced when low site systems were intermixed with public safety high site systems in the band. This transition is part of the 800 MHz rebanding initiative to resolve interference after the fact. Rebanding entails a multi-year initiative involving public safety resources and costing the commercial company which implemented the low site systems several billion dollars. The rebanding initiative underscores why it is essential to ensure full consideration of all the factors that affect potential interference to public safety up front when deploying new technologies or system architectures.

Outside the NPSPAC channels, public safety agencies and other private mobile users such

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<sup>2</sup> Public Notice at page 2.

<sup>3</sup> Section 90.210 specifies that the H mask, not the G mask, is applicable to operations at 806-809/851-854 MHz, i.e., the new NPSPAC location of the band resulting from 800 MHz rebanding.

as utilities and enterprise operations share the channels on an interleaved basis, so deployment by any eligible in the 800 MHz band has the potential to affect adjacent public safety operations. An additional complexity at 800 MHz is the environment in the U.S./Mexican border area. There, the channel centers in the segments of the 800 MHz band available to U.S. public safety agencies are offset by 12.5 kHz from those assigned in the non-border areas.

Finally, while not specifically a mask issue, NPSTC points out that TETRA systems tend, by design, to use low elevation base stations, with numerous sites operating in multi-cast mode required to provide the wide area coverage often required for land mobile radio (LMR) systems in the United States. TETRA technology does not support simulcast. Thus, TETRA is cellular in nature. NPSTC is concerned that this architecture may contribute to interference to public safety land mobile systems that typically use high elevation base station sites through what is commonly called “near/far” interference. This near/far conflict is the primary contributor to the interference from NEXTEL’s low elevation cellular iDEN technology to high elevation land mobile public safety systems in interleaved 800 MHz channels that resulted in the need to reband the 800 MHz band, as previously noted. Given this experience, NPSTC believes permitting a technology with the potential to cause similar interference into not just the 800 MHz band, but also the 450-470 MHz band without a detailed technical analysis of all potential interference issues is unconscionable. The effort, time and money on the part of all involved parties required to satisfactorily address this same near/far interference problem in 800 MHz rebanding is sufficient evidence of the problems incurred when interference must be resolved after the fact .

Given these complexities and the fact that interference potential is affected both by the technology and the spectrum environment in which it is introduced, NPSTC recommends that a full rulemaking proceeding would be a more appropriate vehicle than a waiver in which to

consider the relief being requested by the TETRA Association. Furthermore, should public safety and Commission experts determine that expansion of the applicable occupied bandwidth and emission masks could be allowed without increasing interference, a level playing field should be provided for all technologies.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ralph A. Haller", with a long horizontal flourish extending to the right.

Ralph A. Haller, Chair  
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