

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of )  
 )  
SPECTRUM POLICY TASK FORCE ) ET Docket 02-135  
 )

To: The Commission

**COMMENTS OF APCO**

The Association of Public-Safety Communications Officials-International (“APCO”) hereby submits the following comments in response to the Commission’s *Public Notice* DA 02-1311 (released June 6, 2002), in the above-captioned proceeding.<sup>1</sup>

APCO, founded in 1935, is the nation’s oldest and largest public safety communications organization. Most of APCO’s over 15,000 members are state or local government employees who manage and operate communications systems for police, fire, emergency medical, forestry conservation, highway maintenance, emergency management, and other public safety agencies. APCO is a certified frequency coordinator for Part 90 Public Safety Pool channels.

The Commission is seeking comments on 28 wide-ranging questions covering nearly every aspect of spectrum management, many of which impact public safety communications. Unfortunately, the very short time frame set aside by the Commission for filing comments simply does not allow for detailed responses, especially as the time period coincides with extremely active matters involving WT Docket 02-55, the reply date for which had until very recently also been July 8, 2002. The time and resources of

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<sup>1</sup> APCO is a member of the Land Mobile Communications Council (LMCC) which had requested an extension of the July 8 deadline for initial comments.

APCO and other public safety organizations are also being stretched thin by the heightened attention being given to public safety communications since the events of September 11, 2001. Therefore, the following responses to the Commission questions are necessarily brief, and do not reflect the breadth or depth of data and information available on each of the topics.

The following responses are to the questions as numbered in the *Public Notice*.

2.b. Public safety licenses must continue to be issued on a site-specific basis. Unlike most commercial licensees, who seek to serve the largest number of customers possible over a wide area, public safety licensees need to provide ubiquitous coverage over a discrete political jurisdiction which has no relationship to “Economic Areas” or other commonly used geographic area designations.

The FCC has recently issued certain public safety licenses to state governments authorizing use of specific frequencies anywhere within the state’s boundaries.<sup>2</sup> However, that approach has only limited applicability since the vast majority of public safety licensees are local cities and counties, which require coverage over far more discrete areas. There may be situations, however, where it would be appropriate to authorize public safety agencies to use certain frequencies anywhere within their area of jurisdiction. That is most likely to be the case for frequency bands (e.g. 4.9 GHz) and/or power levels unlikely to pose interference with similar uses in nearby jurisdictions.<sup>3</sup>

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<sup>2</sup> In the Matter of the Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2020, WT Docket No. 96-86, *Fourth Report and Order and Fifth notice of Proposed Rule Making*, 16 FCC Red 2020, 2031-32 (2001) (“4<sup>th</sup> Report and Order”).

<sup>3</sup> See Comments of APCO in WT Docket No. 00-32 (filed July 8, 2002).

The use of more market-oriented allocation and assignment policies will not benefit, and could harm, public safety services. Public safety communications is entirely unrelated to marketplace forces and is a classic “uneconomic” provision of service. A commercial service provider can place a price on the value of spectrum, relative to the revenue or other economic benefit to be received from the use of that spectrum. In contrast, a public safety entity cannot place a price on the potential life-saving benefits of communicating effectively with police, fire, EMS and other public safety personnel in the field.

Furthermore, economic methods of allocating a public resource, such as the radio spectrum, have no place in meeting the needs of state and local government entities as protectors of the public safety. To do so would be to place a federal “tax” on the most fundamental of government services.

10. Frequency coordination has proven to be an effective and efficient method for assigning public safety and other private land mobile frequencies. As a certified frequency coordinator, APCO has developed procedures and standards for obtaining maximum spectrum efficiency without posing a threat of interference to critical public safety operations. The nature of those communications require extra care and consideration of factors such as power levels, antenna heights, terrain, equipment design, coverage requirements and usage patterns.

16. When public safety and other critical services are at issue, economics have little or no role in resolving interference. A commercial entity may be able to place a price on the impact of interference, a public safety agency clearly cannot.

22. One of the most difficult problems facing public safety is that their operations are spread over multiple frequency bands, which are incompatible and in many areas are insufficient to meet user needs. That leads to system congestion, an inability to implement new technologies, and a lack of interoperability among personnel responding to emergencies. On the other hand, there also needs to be a recognition that different bands are better for certain types of users and for certain geographic areas. For example, in large sparsely populated areas (especially those with “difficult terrain”), the VHF band (150-170 MHz) or UHF band (450-512 MHz) may be the best options to provide “dependable, interoperable, and cost-efficient” communications due to propagation characteristics and existing bases of users. In contrast, the 700 MHz and 800 MHz bands are likely to be more appropriate for other wide-area, multi-jurisdictional radio systems covering well-populated counties, regions or states. Such multi-agency systems are inherently interoperable and generally are far more cost-efficient than separate systems for each agency.

The FCC’s role in this regard is to identify and allocate sufficient radio spectrum for public safety services in these and other bands. Within such allocations, rules are necessary to prevent interference, promote interoperability where possible (e.g., equipment standards), and encourage efficient use of the spectrum.

There are also other steps that the Commission can take to promote interoperability. In addition to providing adequate radio spectrum, the Commission should adopt rules and guidelines to encourage interoperability planning and common operating procedures. Especially in a digital environment, interoperability also requires equipment standards to ensure that users with equipment from different vendors will still interoperate in the field. In this regard, the Commission wisely adopted an ANSI approved digital standard for use on designated interoperability channels in the newly allocated 700 MHz public safety spectrum.<sup>4</sup>

23. While it is true that some public safety communications is “highly variable in time and location,” many others (such as most police radio systems) have fairly steady and heavy channel loading and use. Where use is more variable, the peak usage is often concurrent with other public safety users (e.g., a major disaster or other emergency requiring multi-agency response), making it difficult to share channels. However, modern “trunked” public safety radio systems are often designed to adjust channel use based on short-term demand. For example, a county government trunked radio system may include certain channels for general government activities (i.e., not necessarily emergency “first responders”), but provide for shifting use of those channels to police, fire, or other emergency personnel when necessary.

This question appears, however, to be aimed at the concept of “priority access” to commercial wireless networks, and perhaps to more general public safety use of commercial radio services. With respect to the latter, the mission critical nature of most

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<sup>4</sup> See 4<sup>th</sup> Report and Order, 16 FCC Rcd 2020, 2044-46 (2001).

public safety communications limits the ability to use commercial systems other than in a secondary or administrative role.

A public safety agency must have ubiquitous coverage over all of its area of jurisdiction, as emergencies can occur anytime, anyplace. That includes remote unpopulated areas, under bridges, in valleys (whether behind mountains or buildings), and deep inside large buildings and other structures. A firefighter or police officer cannot afford to be “out of range” when calling for assistance inside buildings or other isolated locations. In contrast, commercial systems can tolerate “holes” in areas that have few subscribers or would be expensive to cover with an adequate signal.<sup>5</sup>

Public safety agencies also have a very low tolerance for system outages, and demand extremely reliable and hardened radio systems designed and built to provide redundancy and to withstand extreme conditions (*e.g.*, severe weather, earthquakes and fires). These requirements are generally well beyond what is necessary for a viable commercial system. Public safety personnel must also have immediate “access” to radio communications capability. Police officers or firefighters in the field dealing with life-threatening emergencies obviously cannot simply wait for a call to be set up or a channel to clear before using their radios.

Agency control over their radio systems is also essential, especially during major emergencies when channels and other resources must be reallocated to provide sufficient capacity for the first responders. Commercial systems generally lack such flexibility and, in any event, are subject to extreme congestion during the same major emergencies

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<sup>5</sup> In designing public safety systems, extensive field tests are generally used to confirm the actual coverage (and building penetration) for each transmitter site, rather than relying on the predicted coverage area based on various theoretical models.

to which public safety personnel must respond. Finally, law enforcement and other public safety agencies are increasingly demanding a level of system security that is difficult to achieve on commercial systems available to the general public.

Notwithstanding the above, there is a role for commercial services, and a need for some level of “priority access” to such services. While priority access to commercial services is not a substitute for mission-critical first responder communications, it can be a critical tool in coordinating wide-scale emergency response in the aftermath of an emergency.

24. Determining the amount of spectrum needed for public safety is not an easy task. The best effort to date in that regard was the Public Safety Wireless Advisory Committee (PSWAC), which was created by the FCC and NTIA to determine public safety spectrum needs up to the year 2010. The PSWAC was led by a blue-ribbon Steering Committee consisting of top federal, state, and local public safety officials, and included representation from major equipment providers and others. Over a hundred members of the public participated in numerous meetings, conducted studies, and completed documents on key issues. It was a nearly two-year effort that involved extensive analysis of public safety operational needs, technical issues, interoperability, and spectrum requirements. The 800-page PSWAC Final Report made specific recommendations that should continue to drive spectrum policy. However, at some point in the near future, the findings of that Final Report (which was completed on September 11, 1996) will need to be updated, most likely through a similar user-driven effort.



## CONCLUSION

The foregoing represents a broad overview of public safety concerns with the issues raised in the Public Notice. APCO urges the Commission to take these and other public safety issues into consideration in its spectrum policy planning.

Respectfully submitted,

ASSOCIATION OF PUBLIC-SAFETY  
COMMUNICATIONS OFFICIALS-  
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