

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

In the Matter of	)	
	)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in The 700 MHz Band	)	PS Docket 06-229
	)	
The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010	)	WT Docket 96-86

To: The Commission

**COMMENTS OF APCO**

The Association of Public-Safety Communications Officials-International, Inc. (“APCO”) hereby submits the following comments in response to the Commission’s *Ninth Notice of Proposed Rulemaking*, FCC 06-181 (released December 20, 2006), 72 Fed. Reg. 1201 (January 10, 2007) (“*Ninth NPRM*”) in the above-captioned proceedings.

APCO is the nation’s oldest and largest public safety communications organization. Founded in 1935, APCO has 16,000 members, most of whom are state or local government employees who manage and operate police, fire, emergency medical, highway maintenance, forestry conservation, disaster relief, homeland security and other public safety communications systems. APCO is the largest FCC-certified frequency coordinator for Part 90, Public Safety Pool channels, and regularly appears before the Commission on a wide-range of public safety communications issues.

The *Ninth NPRM* presents a series of highly innovative approaches for addressing critical public safety requirements, especially for high-speed, interoperable data

communications. At its core, the *Ninth NPRM* suggests that a national public safety licensee utilize public-private partnerships, infrastructure sharing, and leasing of “excess” capacity as a means for building and operating a nationwide broadband public safety communications network. The stated objectives of the *Ninth NPRM* proposal are to promote broadband capability for public safety, nationwide interoperability, adequate funding, cost effectiveness, efficient use of spectrum, robustness and a flexible modern architecture.

While APCO could support elements of the Commission’s proposal after further refinement, we are compelled to challenge some of the underlying assumptions in the *Ninth NPRM*. In particular, we first address (a) the Commission’s assumption that the spectrum at issue will be used only for broadband communications, and (b) what may be the central flaw in *Ninth NPRM*, the inadequacy of currently allocated public safety spectrum to accommodate the public-private partnership concept that is central to the Commission’s proposal.

APCO strongly agrees that public safety must have access to dedicated broadband capability to provide the communications tools necessary for all forms of public safety operations.<sup>1</sup> However, broadband is not the only solution for public safety data communications and it should not be pursued to the exclusion of less expensive and more easily deployable wideband systems. APCO and other members of the National Public Safety Telecommunications Council (“NPSTC”) have recommended that rules governing the current 700 MHz wideband and reserve channels be modified to allow

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<sup>1</sup> Thus, APCO supports the Public Safety Broadband Trust (PSBT) proposal to allocate 30 MHz of additional spectrum to provide public safety users access to broadband capabilities through a public/private partnership approach.

either all wideband, all broadband, or a combination of wideband and broadband use, within each of the nation's 55 public safety regional planning areas. Each Regional Planning Committee (RPC) could then examine the needs and limitations of public safety agencies in its area, and develop wideband and/or broadband plans to meet those needs. Considerable regional planning, standards development, equipment research and development, and public safety system planning has already occurred, based upon the assumption (supported by existing rules) that wideband would at least be an option for 700 MHz data systems.

Broadband may well be the future mode of choice for data communications for most public safety users. However, in many areas, especially rural and other sparsely populated regions, the cost of a broadband network would be many times the costs of a wideband system, which generally requires significantly fewer transmitter sites. While the innovative funding and infrastructure sharing mechanisms proposed in the *Ninth NPRM* might alleviate some of those concerns, there would remain significant risk that the concept will not succeed (whether due to inadequate spectrum, as discussed below, or other uncertain funding and operational issues), leaving much of the nation unserved by *any* form of high speed data, wideband *or* broadband. Therefore, if the Commission proceeds down the path of the *Ninth NPRM*, it should permit the national public safety licensee to authorize local deployment of wideband systems in areas where that would better serve the needs of public safety.<sup>2</sup>

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<sup>2</sup> Appropriate consideration would need to be given to the degree and level of interoperability required between specific wideband and broadband systems, and how best to achieve it.

Our second fundamental concern with the *Ninth NPRM* is the lack of available spectrum to accomplish the public/private partnership approach that is central to the Commission's proposal. The *Ninth NPRM* applies primarily to just 12 MHz of spectrum already allocated for public safety use. In much of the nation, 12 MHz is likely to be woefully short of what public safety agencies will require to support *their own* operations on a nearly constant basis. There will be little or no "excess capacity" to lease to non-public safety users in those areas.

Indeed, public safety spectrum requirements will be especially great in and near metropolitan areas, the very same locations that commercial entities have the greatest desire to serve consumers. Areas with limited public safety demand are also likely to be areas where commercial interests have other spectrum capacity available to meet their needs at lower costs. Overall, whatever "excess" capacity may exist is unlikely to be sufficient to address non-public safety users or attract significant private capital investments.<sup>3</sup>

The uncertainty of public/private partnership arrangements is a fundamental flaw in the *Ninth NPRM*. How will the national licensee pay for the national broadband network? The licensee will lack the traditional sources of funding for public safety systems (tax revenue and municipal bonds) and, without sufficient spectrum, the public/private partnership model is unlikely to be successful. These and other issues will

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<sup>3</sup> While the *Ninth NPRM* also suggests that the national licensee be assigned a "secondary" licensee for narrowband channels in the public safety allocation, that will not in fact generate much (if any) additional spectrum. The narrowband channels are likely to be heavily utilized in much of nation relatively early, as the technology to use those channels is well-developed and already deployed (there are an estimated 600,000 dual-band 700/800 MHz radios already in use). In any event, there are serious questions regarding the "cognitive" technologies that would be required to allow shared use of spectrum by both broadband and narrowband uses, questions that will not be answered for many years, if ever. These concerns are especially troublesome if the sharing would be between public safety narrowband and non-public safety broadband use.

be more fully discussed below where we address each of the major topics in the *Ninth NPRM*.

### Single Licensee

A core element of the *Ninth NPRM* is the suggestion that there be a single public safety licensee for the 12 MHz in question. This is a departure from 70 years of FCC licensing history in which each public safety agency has had the right to acquire a license for frequencies and to operate its own radio system, tailored to its own local requirements. Nevertheless, the public safety community has increasingly recognized the need for consolidation of communications systems and functions. Multi-agency, and multi-jurisdictional radio systems are now commonplace, especially in the 800 MHz band. Development of the 700 MHz band is expected to follow a similar pattern, including expanded deployment of state-wide interoperable networks. Cost, interoperability, and limited spectrum resources have led to this trend. For the future, there is also a growing recognition that wide-area, state-of-the-art wideband/broadband networks are likely to be very expensive, making it difficult for small agencies to participate other than as partners with other parties .

As discussed in the *Ninth NPRM*, there are particular advantages to having a single licensee for a national broadband network. This is also a key element of the public safety-supported Public Safety Broadband Trust (PSBT), which proposes that the license for 30 MHz of newly allocated spectrum be assigned to a trust controlled by state/local government and public safety organizations. The trust, as licensee, would then enter into arrangements to build a nationwide network and lease capacity to non-public safety

entities. A national licensee could more easily enter into such infrastructure sharing arrangements with commercial wireless companies, and could more efficiently manage the provision of “excess capacity” to non-public safety entities on a preemptible basis, as suggested in both the PSBT and the *Ninth NPRM*. However, unlike the PSBT, which would apply to 30 MHz of new spectrum, the plan described in the *Ninth NPRM* would apply to just 12 MHz, not enough to meet public safety needs *and* wide-scale public/private partnerships. Without sufficient spectrum to provide an economic basis for the public/private partnerships, there is less rationale for assigning a nationwide block of public safety spectrum to a single licensee.

Another issue with applying the single licensee concept to currently allocated public safety spectrum is that there are some agencies and regional consortia that have the ability, desire, and, in some cases existing plans, to deploy their own data networks in that spectrum. Thus, if the Commission proceeds down the single licensee path, it should grant the licensee the discretion to carve out geographic areas and/or specific channel blocks that will be subject to state or local government system deployment. This would allow for local autonomy where appropriate and could accommodate current public safety data network plans. The national licensee would need to weigh the cost and benefits of such “carve outs” and may need to impose conditions to ensure appropriate levels of interoperability with the national network. Again, this would be far easier to accomplish if the 12 MHz were not the only spectrum available for public safety broadband networks.

## Selection of the Licensee

The selection of the single national licensee will be critical if the Commission adopts any form of the proposal in the *Ninth NPRM*. The FCC indicates that it would select the licensee based upon criteria that include “experience with public safety frequency coordination, not-for-profit status, and ability to directly represent all public safety interests.”<sup>4</sup> These are all vital characteristics to ensure that the licensee is committed and qualified to address public safety requirements as its first priority. Profit cannot be allowed to overcome critical, “uneconomic” needs of public safety agencies for effective radio communications capabilities. Therefore, under no circumstances should the licensee be, or be controlled in any way by, a commercial entity. This is public safety spectrum, and must be controlled and managed by public safety entities.<sup>5</sup>

The Commission states in the *Ninth NPRM* that “no commercial interest may be held in the national license or licensee, and that no commercial interest may participate in the management of the national licensee.”<sup>6</sup> The latter clause should be clarified to ensure that the licensee has the ability to retain the services of “commercial interests” such as consultants, accountants, agents, and legal counsel. Should the licensee choose to lease spectrum or enter into infrastructure sharing arrangements as suggested in the *Ninth*

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<sup>4</sup> *Ninth NPRM* at ¶27.

<sup>5</sup> Some have suggested that, if the FCC proceeds with its proposal, APCO itself would be an appropriate licensee, as it obviously meets the basic qualifications set forth in the *Ninth NPRM*. APCO reserves judgment as to whether it would seek that role, either on its own or in partnership with other qualified organizations, until the Commission decides whether it will proceed with the proposal and develops far more details, including the rights and obligations of the single licensee.

<sup>6</sup> *Ninth NPRM* at ¶27.

*NPRM*, it will need the assistance of parties familiar with the business of wireless communications.

### Funding Options

The *Ninth NPRM* suggests that some of the funding for a national network come from user fees charged to public safety agencies on the network. Standing alone, that is a reasonable expectation, assuming that the fees are within reach of user agencies.

However, the Commission then suggests that such fees could provide incentives for the efficient and fair use of the spectrum:

Not only should public safety entities that make heavy use of the spectrum in all fairness pay relatively higher usage fees, but an appropriately designed system of usage fees could facilitate the allocation of broadband capacity to highest value uses.<sup>7</sup>

This seems to suggest that marketplace forces can and should govern the allotment of spectrum capacity for public safety. We strongly disagree. The importance of radio spectrum to the provision of public safety services has very little to do with the ability to pay, and everything to do with the allotment of resources based upon genuine needs as determined by governmental bodies and their representatives. Under the market-based pricing model that seems to be advanced in the *Ninth NPRM*, wealthy communities might acquire scarce broadband access for a variety of services (some of which may not be life and safety related), potentially blocking access for first responder communications by other communities with far fewer financial resources. While the FCC cannot eliminate the disparity of resources among communities, it should not set up a scheme whereby

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<sup>7</sup> *Ninth NPRM* at ¶28.

access to a critical public resource (spectrum) needed for public safety communication is controlled entirely by marketplace forces.

Another potential source of revenue, according to the *Ninth NPRM*, would be user fees paid by non-public safety entities for the right to access “excess capacity” on a preemptible basis. Indeed it would appear that such fees would be a necessary element for a successful public/private partnership. However, there remains considerable question as to whether there would in fact be a significant market for such spectrum use, in light of the extremely limited spectrum capacity likely to be available in metropolitan areas, and the impact of “ruthless preemption” on the value of such spectrum. Perhaps there are some potential buyers of such preemptible capacity, but the future of public safety communications should not be placed on the backs of such an untested and highly uncertain source of funding. Again, this is a much easier concept to accept in the context of the PSBT, where 30 MHz of spectrum would be available.

Without substantial private sector user fees, the question remains: who will pay for the national broadband network? Further discussion of this issue is below, under the heading of network build-out.

### Requirements of a National Broadband Network

#### *Broadband*

As discussed above, we do not support the exclusive broadband use of the 12 MHz at issue. The option of wideband operation should be preserved.

### *System Architecture*

The *Ninth NPRM* seeks comment on IP Technology as the principal system architecture for the national broadband network. We agree that there are potential benefits of such an architecture, but considerable issues still exist regarding the quality of service and reliability of IP technology for public safety communications. Therefore, the national licensee should retain the discretion to make its own determination regarding system architecture.

### *Network Interoperability*

If the Commission proceeds with some form of the *Ninth NPRM* proposal, it should vest the national licensee with discretion to determine the most appropriate levels and methods of achieving the necessary degree of interoperability for the network. There are far too many unknowns at this point to tie-down the licensee to particular technologies or desired levels of interoperability.

### *Network build-out*

The *Ninth NPRM* suggests that the national licensee may want to enter into contracts with commercial entities to construct and maintain at least portions of the infrastructure for the public safety broadband network. We agree and, as noted above, facilitating such arrangements could be a principal benefit of designating a single licensee. At minimum, infrastructure sharing may reduce the number of new dedicated public safety facilities that would need to be constructed.

However, it remains unclear how the national licensee would pay for this infrastructure build-out. As noted above, there is not likely to be sufficient “excess capacity” to generate significant revenue that might otherwise be the incentive for commercial network participation in the network deployment. User fees from public safety users would eventually provide some funding, but that would not occur until after the network is operational. Normally, public safety systems are funded through municipal bonds or general tax revenue. The national public safety licensee, while necessarily representative of government bodies, will not have similar access to public funding.<sup>8</sup> Again, the absence of a clear model for funding is a major concern.

#### *Network Resiliency and Disaster Restoration*

The network, or networks, built in this spectrum must of course be designed to the highest levels of network resiliency and restoration capability feasible. However, the Commission should not establish specific requirements in this regard. Public safety entities, and presumably the national licensee if designated, are keenly aware of the need for system reliability, and are accustomed to designing and building networks that are far more dependable than commercial networks. Public safety entities are also in the best position to determine the appropriate steps necessary, which may vary across the nation depending upon the specific types of threats posed.

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<sup>8</sup> In contrast, under the PSBT proposal, Congress would provide the PSBT with the ability to obtain government guaranteed loans.

## Secondary Use of Narrowband Channels

The Ninth NPRM suggests that the national licensee also hold a secondary license for narrowband portions of the current 700 MHz public safety band. This could, in theory, provide for more efficient spectrum use and expand the amount of spectrum available for broadband operations. The Commission's proposal assumes, however, that cognitive radio technology will advance to a point where broadband systems can occupy the same portions of the spectrum as narrowband operations. However, our understanding is that such technology will not be a reality anytime soon. While much work is being done in software defined radios and similar cognitive technologies, those involved have found that avoiding interference with public safety "push-to-talk" radio systems is a particularly difficult hurdle. At minimum, extensive real world operating experience in non-public safety frequency bands will need to occur before such technology can be applied to public safety channels.

While we do not oppose the *concept* of secondary operation as proposed, we do not believe it will be a reality anytime soon. Potential secondary access to narrowband channels, therefore, should not be considered in determining the viability of the Commission's proposal.

## Commercial Access

The Commission proposes in the *Ninth NPRM* that the national licensee be allowed to lease "excess" capacity to non-public safety entities on unconditionally preemptible basis (a.k.a. "ruthless preemption). The Commission correctly proposes that there must be

a strict requirement that any commercial use be unconditionally preemptible by the national public safety licensee. Specifically commercial users would be on plain notice that their use may be, without notice, subject to immediate termination at the sole discretion of the national public safety licensee. We propose that there be no conditions placed on the national licensee prior to making a determination to cease secondary commercial use. The national public safety licensee would have the unfettered right, which cannot be compromised or contracted away, to unilaterally determine when a secondary commercial use must be discontinued in the interests of public safety.<sup>9</sup>

APCO strongly agrees with these conditions. This is public safety radio spectrum and nothing should be allowed to prevent immediate, unrestricted public safety use of that spectrum whenever public safety deems it necessary and appropriate.

#### A Note on Timing

Finally, we note that the spectrum in question will finally be cleared of broadcast operations on February 17, 2009, less than two years from the filing of these comments. The Commission's consideration of the issues in this *Ninth NPRM*, and the uncertainties it poses, has already caused public safety planning for the 700 MHz band to slow. If the Commission proceeds to adopt some form of its proposal, a further NPRM is likely, as far more details would need to be resolved. Thereafter, there would need to be a selection process for the licensee, and a considerable "ramp up" time for the licensee to begin the build-out process. Therefore, a decision is needed quickly, either to open the way for deployment based upon existing rules, or to establish clear direction for a *viable* alternative.

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<sup>9</sup> *Ninth NPRM* at ¶41.

Public safety agencies are anxious to make use of the 700 MHz band, which was first reallocated for public safety in 1997. Since then, the spectrum has been blocked by broadcasters in much of the nation and, until last year, there was no firm date by which it would be made available. Now that Congress has finally given public safety the green light to proceed, the Commission should avoid placing new roadblocks (or even speed bumps) in the path of public safety system deployment in the band.

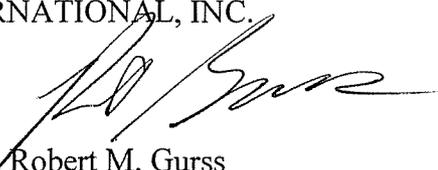
#### CONCLUSION

The Commission's proposal in the *Ninth NPRM* offers some innovative and potentially viable concepts. However, as discussed above, the proposal also contains a number of critical flaws that would need to be addressed before it can be given more serious consideration by the public safety community.

Respectfully submitted,

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