

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

In the Matter of)
)
The Development of Operational, Technical, and)
Spectrum Requirements for Meeting Federal, State) WT Docket No. 96-86
and Local Public Safety Agency Communications)
Requirements Through the Year 2010)

To: The Commission

**PETITION OF APCO
FOR RECONSIDERATION AND CLARIFICATION**

ASSOCIATION OF PUBLIC-SAFETY
COMMUNICATIONS OFFICIALS-
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The Association of Public-Safety Communications Officials-International, Inc. (“APCO”), pursuant to Section 1.429 of the Commission rules, hereby petitions for reconsideration and clarification of portions of the Commissions’ *First Report and Order* in the above-captioned proceeding, FCC 98-191 (released September 29, 1998), 63 Fed. Reg. 58645 (November 2, 1998) (hereinafter “*Report and Order*”).

APCO is the nation’s oldest and largest public safety communications organization. Most of its 13,000 individual members are state or local government employees involved in the management, design, and operation of police, fire, emergency medical, local government, highway maintenance, forestry conservation, disaster relief, and other public safety communications systems. APCO represents the entire public safety communications community in a wide array of matters before the Commission, Congress, and other agencies. APCO is also the largest Commission-certified public safety

frequency coordinator, and the only coordinator with responsibility in all portions of the public safety spectrum.

The Commission's *Report and Order* takes important steps in addressing long-standing public safety spectrum requirements. Many of the service rules adopted in the *Report and Order* are well-developed and consistent with the needs of public safety agencies. However, as described below, some of the most critical parts of the *Report and Order* were wrongly decided and, unless changed, will cause unnecessary delay in the ability of public safety agencies to utilize the 700 MHz frequency band.

I. INTRODUCTION AND SUMMARY

For at least the past decade, public safety agencies have been fervently urging the Commission to allocate additional public safety spectrum to ease life-threatening frequency congestion, enhance interoperability, and facilitate implementation of new public safety communications technologies. Yet, year after year nothing happened. Then, in 1996, the blue-ribbon Public Safety Wireless Advisory Committee ("PSWAC") included in its recommendations that 24 MHz from the 746-806 MHz band be reallocated immediately for public safety.¹ PSWAC emphasized in its report that **"unless immediate measures are taken to alleviate spectrum shortfalls and promote interoperability, Public Safety agencies will not be able to adequately discharge their obligation to protect life and property in a safe, efficient, and cost effective manner."**² Congress

¹ APCO will address another critical PSWAC recommendation, the need for 2.5 MHz of interoperability spectrum below 512 MHz, in its comments responding to the Third Notice of Proposed Rulemaking.

² Public Safety Wireless Advisory Committee Final Report, Volume I, at 2 (September 1996) (emphasis in original).

responded by requiring that 24 MHz be reallocated for public safety services by the end of 1997, and that the Commission “commence assignment of licenses” by September 30, 1998.³ Now, rather than respond to this Congressional directive, the Commission has needlessly stopped all progress and adopted policies that effectively place the new 700 MHz public safety spectrum “on the shelf” for at least six years.

The Commission has mandated that digital modulation be used in the new 700 MHz public safety spectrum and has required that all radio equipment in the band be able to operate on all channels designated as “interoperability” channels. The Commission has also recognized that interoperability in a digital environment requires certain baseline equipment standards. However, rather than accept an existing TIA/ANSI-approved public safety digital standard now and allow immediate use of the spectrum, the Commission has deferred any action on a standard, pending a recommendation in four years from a yet-to-be created and unfunded advisory committee, which must itself first seek and obtain ANSI accreditation.

The Commission must reconsider its decision, and accept the TIA/Project 25 Phase I Common Air Interface and Vocoder as baseline digital standards for the interoperability channels. **These elements of the Project 25 standard have now been approved as Telecommunications Industry Association (TIA) and American National Standards Institute (ANSI) standards.** Equipment complying with the ANSI-approved Project 25 standards exists today, is being offered by multiple equipment vendors in a competitive marketplace, and has been ordered and/or installed by federal,

³ Balanced Budget Act of 1997, Pub. L. No. 105-33, § 3004, 111 Stat. 251 (1997), codified at 47 U.S.C. § 337.

state, and local public safety agencies across the nation (and in other countries). There is no reason for the Commission to start all over again, ignoring the years of hard work that went into the TIA/Project 25 standard on the part of both users and manufacturers.

The Commission's stated reason for not adopting TIA/Project 25 Phase I now is that it is a 12.5 kHz standard, whereas the 700 MHz band is channeled for 6.25 kHz operation. Yet, the Commission is allowing 12.5 kHz operation in the 700 MHz band, so long as it meets the Commission's 9.6 kbps/12.5kHz efficiency requirement (*i.e.*, 4.8 kbps/6.25 kHz). TIA/Project 25 Phase I equipment meets (and actually exceeds) that efficiency requirement. Furthermore, Project 25 Phase II will be a 6.25 kHz standard, and will be backwards compatible to Phase I equipment. Therefore, there is no rational reason not to permit immediate use in the 700 MHz interoperability channels of digital equipment meeting the TIA/Project 25 Phase I Common Air Interface and Vocoder standard.

However, if the Commission continues to refuse to adopt the current TIA/Project 25 Phase I CAI and Vocoder, it must permit at least some use of analog systems in the 700 MHz band now and until a reasonable period after the ultimate selection of a digital standard. If there is no digital standard, and no analog use permitted, the 700 MHz band will remain fallow despite severe spectrum shortages.

The Commission must also clarify its eligibility rules to ensure that nongovernmental organization (NGO) use will not diminish spectrum availability for more critical governmental public safety operations. In particular, any NGO frequency assignments must be approved by the relevant Regional Planning Committee (RPC).

The RPC process also needs additional guidance from the Commission and/or the National Coordination Committee on a variety of important matters left unresolved in the *Report and Order*. Most importantly, the Commission must facilitate a mechanism to provide basic funding for RPC activities.

The Commission has also adopted broadcast/land mobile interference rules which place unnecessary and burdensome restrictions on public safety use of the spectrum. To rectify this situation, the Commission should modify its rules to reflect the specific frequency propagation characteristics of the 700 MHz band. Unless changed, the result of the Commission's action will be to defer public safety operations in several key areas until the end of the digital television (DTV) transition in 2006, if not later.

Finally, certain other rules adopted in the *Report and Order* must be clarified or reconsidered to provide for rapid, efficient, and effective public safety utilization of the reallocated spectrum.

II. THE TIA/PROJECT 25 PHASE I COMMON AIR INTERFACE AND VOCODER HAVE BEEN APPROVED BY ANSI, AND MUST BE ACCEPTED AS INTEROPERABILITY STANDARDS IN THE 700 MHz BAND TO AVOID UNNECESSARY AND HARMFUL DELAY.

The Commission requires in the *Report and Order* that all 700 MHz radio systems have digital modulation as a primary mode of communication,⁴ and that all radios be capable of operating in all of the designated Interoperability channels.⁵ The Commission

⁴ *Report and Order* at ¶¶ 110 and 128; and new Section 90.535, *Report and Order*, Appendix E-7.

⁵ Additional clarification of the rule implementing this point may be necessary. In the *Report and Order*, at ¶135, the Commission states that it is "adopting a rule to require that all narrowband mobile and portable 700 MHz band public safety radios be capable of operating on all of the narrowband nationwide interoperability channels." However, new Section 90.547, implementing that requirement states that

also recognizes that interoperability between digital radios requires a baseline equipment standard. APCO and other parties had urged the Commission to accept the Project 25 Phase I Common Air Interface (CAI) and Vocoder as such a baseline standard,⁶ while others merely indicated that the Commission should recognize an ANSI approved standard (at the time of the comments and reply comments, the Project 25 standards had not yet been approved by ANSI).⁷ However, the Commission refuses to take such action in the *Report and Order*, and instead delegates the standards review process to a yet-to-be formed federal advisory committee, the National Coordination Committee (NCC).⁸ APCO strongly opposes this failure to act, which will cause dangerous and lengthy delay in public safety use of the 700 MHz band. Especially now that the Project 25 Phase I CAI and Vocoder have been approved by TIA and ANSI,⁹ the Commission should accept those standards as baseline digital interoperability standards and allow use of the new public safety spectrum to go forward.

Many parties had urged the Commission to adopt 12.5 kHz analog FM, not digital, as the baseline technology for interoperability channels. Under that approach, all radios in the 700 MHz band would either (i) have analog FM as at least one operating mode, or (ii)

“mobile and portable transmitters designed pursuant to standards adopted by the National Coordination Committee to operate in the 764-776 MHz and 794-806 MHz frequency bands must be capable of operating on any of the designated nationwide narrowband interoperability channels approved by the Commission.” *Report and Order*, Appendix E-16. The rule could be misinterpreted to mean that equipment not meeting the standard need not operate in the interoperability channels.

⁶ *E.g.*, Comments of New York State Police, State of California, State of Florida, International Association of Chiefs of Police (June 18, 1998 letter), Project 25 Steering Committee, and APCO.

⁷ *See, e.g.*, Comments of FLEWUG.

⁸ *Report and Order* at ¶¶ 111-113.

⁹ The CAI was approved on April 15, 1998 (ANSI/TIA/EIA-102.BAAA-1998), and the Vocoder was approved on May 5, 1998 (ANSI/TIA/EIA 102.BABA-1998).

be digital radios complying with a standard that is backwards compatible with analog FM. (Notably, such backwards compatibility to analog FM is a critical element of the Project 25 digital standard). The Commission has chosen not to take that route. Instead, the Commission is requiring that all radios in the 700 MHz band be digital, with analog limited to a secondary mode on portables and mobiles. However, having selected digital as the mode of interoperability communication, the Commission must reconsider its refusal to adopt a digital interoperability standard at this time.¹⁰

Without a digital interoperability standard, nothing will happen in the 700 MHz band. All 700 MHz radios must be able operate in the Interoperability portion of the band and, therefore, must be compatible with the digital interoperability standard. As a result, manufacturers will not develop any 700 MHz equipment until such a standard is finalized. In the meantime, the 700 MHz spectrum will continue to go unused while public safety agencies across the country suffer from spectrum shortages. Normally when the FCC delays implementation of spectrum, the only consequence is economic. Here, delay could cost lives and lead to unnecessary destruction of property.

The Commission's *Report and Order* provides that the NCC will make a recommendation to the Commission in four years regarding an interoperability standard for the 700 MHz band.¹¹ Assuming a minimum 6-12 month delay until Commission

¹⁰ As discussed below, in Section III, APCO would support allowing some analog systems (including infrastructure) to be installed in the band for a limited period if the Commission refuses to adopt a digital standard at this time.

¹¹ *Report and Order* at ¶ 122.

action occurs on that recommendation, and the usual two year developmental period after standards approval until equipment becomes available, the Commission has effectively delayed use of the 700 MHz band for another 6-7 years. This assumes, of course, that the NCC is able to complete the daunting task of selecting a standard within the allotted time period. The NCC does not even exist yet, has no funding, no members, and no operating procedures. Yet it must attempt to obtain ANSI accreditation (a difficult and expensive process in its own right, with no guarantees of success) and develop detailed digital equipment standards. This cannot be accomplished without the active participation of the manufacturers and their technical expertise. It also requires enormous commitments of volunteer time by public safety agency personnel, all of whom have other full-time responsibilities. Having already gone through the Project 25 process, it is not at all clear that any of these essential players will be able to devote the time and resources necessary for the NCC to succeed.¹² And what if the NCC does fail? Where does that leave the public safety community in four years?

Some might suggest that a delay until 2004 or 2005 is irrelevant since many major metropolitan areas are unable to use the 700 MHz band until at least 2006 due to existing channel 60-69 television operations. However, there are major population centers where at least some portion of the spectrum reallocated for public safety is available now. While the exact areas of use will require further engineering analysis, it would appear that at least one 12 MHz channel pair is likely to be available in the following areas: Chicago,

¹² There have been an estimated 750,000 hours of user and manufacturer personnel time invested into the Project 25 process, with a Phase I work product consisting of over 30 documents and 1,800 pages of comprehensive technical information (now available on CD ROM). *See* Comments of Project 25 (Dec. 24, 1997).

Washington, Miami, Dallas, Houston, Pittsburgh, San Diego, Minneapolis, St. Louis, Phoenix, Tampa, Seattle, Denver, Kansas City, Milwaukee, Norfolk, San Antonio, Portland, New Orleans, Orlando, Salt Lake City, Nashville, and Memphis.¹³ Aside from these metropolitan areas, other large geographic areas with significant population could also benefit immediately, but only if equipment for the band is available.

The Commission's decision to create a new standards-setting body is also inconsistent with long-standing Congressional and Executive Branch policy which favors industry-developed standards over government agency-developed standards. By taking matters into its own hands (albeit through a federal advisory committee), the Commission is substituting its own judgment for that of users and manufacturers who must live by the standard. Ironically, in this case, the Commission is also refusing to recognize an ANSI-approved industry standard which was developed through cooperation with Federal users. Representatives of the Federal government serve on the Project 25 Steering Committee, and the Steering Committee is funded in large part by a grant from the National Institute of Justice (a program within the U.S. Department of Justice).

The Commission must not ignore the progress made to date. There is no reason to start over and seek ANSI accreditation for the National Coordination Committee. If a Commission advisory committee is to have any role regarding standards, it should be limited to just that, advising the Commission.

The Commission's decision to rely on the NCC, rather than adopt TIA/Project 25 Phase I now, appears to be the result of two unwarranted concerns by the Commission.

¹³ Additional metropolitan areas, including New York, Philadelphia, Baltimore, Cincinnati, and Columbus, could be added to this list if the Commission modifies its broadcast/land mobile interference rules in the manner proposed by Motorola and others.

First, is the fact that the Project 25 Steering Committee is not itself an ANSI-accredited body. However, as noted above, the Project 25 Phase I Common Air Interface and Vocoder have now been independently adopted as TIA standards, and have now been approved by ANSI. The standards have thus gone through a rigorous, open, and fair industry and public review conducted according to ANSI guidelines. How can the Commission on one hand insist upon an ANSI-accredited standard, and on the other hand refuse to accept the existing TIA/ANSI approved Project 25 Phase I CAI and Vocoder standards?

The Commission's other apparent reason for not adopting the TIA/Project 25 Phase I standard is that it is a 12.5 kHz standard, while the channel plan for the new band is for 6.25 kHz channels.¹⁴ Yet, the Commission has permitted 12.5 kHz operation by combining two 6.25 kHz channels, so long as the equipment used in the channels meets a 4.8kbps/6.25 kHz efficiency standard set forth in the *Report and Order*.¹⁵ In other words, 12.5 kHz operation is permitted if its data rate is 9.6kbps or better. The TIA/Project 25 Phase I equipment standard meets or exceeds that requirement.¹⁶

¹⁴ *Report and Order* at ¶ 113.

¹⁵ *Report and Order* at ¶¶ 37-38. The new rule implementing this requirement, Section 90.535(b), should be modified to provide that "Transmitters designed to operate in the narrowband segment using digital modulation must be capable of maintaining a channel data rate of not less than 4.8 kbps in a 6.25 kHz bandwidth, or 9.6 kbps in a 12.5 kHz bandwidth." The current rule refers to "throughput," an imprecise term in this context. The term "channel data rate" is more precise, and is consistent with industry nomenclature. "Data rate" is also the term used in the Commission's discussion in paragraphs 37-38, and in the "spectrum refarming" rule upon which the Commission is relying. See 47 C.F.R. §90.203(j)(3).

¹⁶ The TIA/Project 25 Phase II requirements for the FDMA track call for 9.6 kbps in 6.25 kHz, TWICE the efficiency standard mandated in the *Report and Order*.

The Commission should also reconsider its decision to use 6.25 kHz channelization in the Interoperability channels. A 12.5 kHz channelization for Interoperability channels would accommodate a wider range of equipment options, and thus enhance both competition and interoperability. Furthermore, operation on 6.25 kHz channels (as opposed to combining two channels for comparable efficiency) will require linear amplifiers and frequency stability techniques which are still years from being widely available in the marketplace.

Adoption of the TIA/Project 25 Phase I 12.5 kHz CAI and Vocoder certainly does not prevent the possibility of a 6.25 kHz standard in the near future. Indeed, the most promising current effort to develop such a standard is Project 25 Phase II, which may have a dual track to accommodate both FDMA and TDMA. Most importantly, a critical requirement for any Project 25 Phase II 6.25 kHz (or equivalent efficiency) standard will be backwards compatibility with Phase I 12.5 kHz equipment. Ericsson, Motorola, and others have all accepted the Phase I CAI as the interoperability mode between Project 25 Phase II and Phase I. Full receiver compatibility between the FDMA modes of Phase I and Phase II will also allow users a graceful migration path from 12.5 kHz to 6.25 kHz.

Thus, equipment from multiple vendors using a wide range of competing digital technologies (TDMA/FDMA), and bandwidths (12.5/6.25 kHz) could be implemented in the 700 MHz band over time while maintaining baseline interoperability at 12.5 kHz using the TIA/Project 25 Phase I CAI and Vocoder. The Project 25 Phase II standards for 6.25 kHz channels are being developed with the cooperation of TIA, and will also be subject to TIA/ANSI approval. Indeed, a TIA standards committee (TR8.15) recently

voted unanimously to initiate the standards balloting process for the Phase II CAI. Final TIA/ANSI approval could occur early in 1999.

Another important advantage of TIA/Project 25 Phase I equipment is that the Project 25 Statement of Requirements provides that Phase I equipment is to be backwards compatible to 12.5 kHz analog, thus greatly facilitating interoperability with any analog operations that the Commission decides to permit in the 700 MHz band. Backwards compatibility to analog will also allow for potential interoperability with the huge base of recently installed 800 MHz analog public safety systems. Such interoperability with 800 MHz systems had been one of the original incentives for allocating additional public safety spectrum in the nearby 746-806 MHz band.

TIA/Project 25 has also gained wide acceptance for federal, state, and local radio systems, with an estimated \$2 billion worth of equipment installed or ordered which is either Project 25 Phase I compliant, or upgradable to Project 25 Phase I.¹⁷ Some of the companies that have already committed to produce TIA/Project 25 Phase I equipment include ADI, Ltd., Daniels Electronics, King Communications, Motorola, and Transcript International (including its E.F. Johnson division).¹⁸ In addition, Project 25 Phase II, with its dual FDMA and TDMA tracks, will encourage other companies to build equipment that will be fully interoperable with TIA/Project 25 Phase I.¹⁹ A total of 41 companies

¹⁷ Recent examples of such orders include the Federal Bureau of Investigation, Department of Interior, Immigration and Naturalization Service, Department of Energy, State of Michigan, State of Vermont, City of Baltimore, City of Los Angeles, City of Phoenix, and Canadian Department of Corrections.

¹⁸ Multi-vendor equipment complying with Project 25 Phase I has been demonstrated at the last two Annual APCO Conferences and Expositions.

¹⁹ Of particular note, Ericsson has indicated a desire to offer Phase II equipment through a TDMA track, and provide backwards compatibility with Phase I equipment.

have signed the Project 25 Memorandum of Understanding on Intellectual Property Rights,²⁰ many of whom are expected to join the ranks of companies building and selling equipment that meets various elements of the Project 25 standards.

In conclusion, the Commission must reconsider its decision regarding a digital interoperability standard for the 700 MHz band. Rather than establish a new standards-setting body in the form of the NCC, the Commission should accept the TIA/ANSI approved Project 25 Phase I Common Air Interface and Vocoder as interoperability standards for 12.5 kHz operation in the 700 MHz band.

III. IF A DIGITAL STANDARD IS NOT ACCEPTED NOW, THEN SOME LIMITED ANALOG OPERATION MUST BE PERMITTED TO FACILITATE IMMEDIATE SPECTRUM UTILIZATION.

APCO's principal reason for advocating above that the Commission adopt the current TIA/ANSI digital standards is to expedite use of the 700 public safety spectrum. Agencies in areas where the 700 MHz band is available now must not be forced to wait 6-7 years to use that spectrum for their critical public safety operations. The delay is not merely a matter of inconvenience or economics, it is a matter of life and death. Therefore, while APCO's strong preference is for the adoption of a digital standard now, should the Commission wrongly refuse to take such action, then the only acceptable alternative is to allow analog radio systems (including base stations) to be installed in the 700 MHz band on an interim basis.

²⁰ The MOU requires signatories to license intellectual property rights essential to Project 25 standards on "fair and reasonable terms." The TIA/ANSI standards process imposes additional IPR licensing obligations, which thus apply to any Project 25 standards that are also adopted as TIA/ANSI standards (such as the Phase I CAI and Vocoder).

APCO agrees with the Commission that there are substantial advantages to dedicating the new 700 MHz band for digital operation.²¹ However, the Commission's priority must be to make this newly allocated spectrum available as soon as possible. In the absence of a digital standard, allowing analog systems into the band would facilitate such immediate use. There is 800 MHz analog 12.5 kHz equipment available now and it could be easily adapted for the 700 MHz band.

However, if the Commission takes this analog path, it should require that analog systems be replaced with digital systems by a specified period following adoption of standards to preserve the long-term goal of making the 700 MHz band all digital. The time frame should be long enough to permit a reasonable amortization of analog equipment, but short enough to discourage analog system implementation except where absolutely necessary. APCO proposes five years from standards adoption as the deadline, as that would also allow for full development of digital radio equipment.

By requiring that the Commission "commence assignment of licenses" by September 30, 1998, the Congress has clearly intended that the newly allocated public safety spectrum be made available for immediate use. As it is, the Commission is skirting the September 30, 1998 requirement by merely adopting rules by that date (which do not become effective until January 4, 1999). More importantly, however, if the Commission refuses either to adopt a digital standard (APCO's preferred solution) or to allow analog use of the band, then it will have blatantly violated the Congressional directive. Doing nothing and following the decisions in the *Report and Order* is not an acceptable option.

²¹ *Report and Order* at ¶ 108.

IV. THE 700 MHz CHANNEL PLAN NEEDS TO BE MORE FLEXIBLE TO ADAPT TO VARIATIONS IN REGIONAL SPECTRUM REQUIREMENTS.

The Commission has largely adopted the channel plan proposed by the National Public Safety Telecommunications Council (which APCO helped to develop). While the Commission's plan reflects the best current evaluation of the relative spectrum requirements for narrowband (defined by the Commission as 6.25 kHz channels) and wideband (defined as 50 kHz) operations, it lacks necessary flexibility. Some regions will need more narrowband channels, and less wideband channels, whereas the opposite could be the case elsewhere. These variations could result from historic spectrum allocation and allotment patterns, geographic factors effecting channel reuse, and the extent to which agencies in a region are willing and able to implement various narrowband and wideband applications. Some densely populated areas that anticipate substantial demand for wideband applications are already concerned that the close proximity of their jurisdictions will limit channel reuse options, with the result that the wideband channels will be quickly depleted.

Therefore, APCO requests that the Commission allow each Regional Planning Committee the flexibility (1) to aggregate narrowband channels to create additional wideband channels; and (2) to split wideband channels to produce additional narrowband channels. In either case, RPCs should be allowed to modify the channel plan only as a last resort. Unassigned narrowband channels should not be aggregated unless and until all existing wideband channels have been exhausted (and vice versa as to splitting unused wideband channels). Finally, Interoperability channels should not be subject to such

modifications, due to the need to maintain a common nationwide channel plan for interoperability purposes.

V. ADDITIONAL SAFEGUARDS ARE NEEDED REGARDING NON-GOVERNMENTAL ORGANIZATION (NGO) USE OF 700 MHz PUBLIC SAFETY FREQUENCIES.

The Commission has adopted rules that permit non-governmental organizations (NGOs) to hold 700 MHz licenses under very limited circumstances. Specifically, the NGO's use of the spectrum must be for services, the sole or principal purpose of which is to protect the safety of life, health or property, and the NGO must have the written consent of a state or local government entity.²² The NGO is also prohibited from making those services commercially available to the public.²³ APCO has long recognized that some NGOs play an important role in providing public safety services. Examples include volunteer fire departments, disaster relief organizations, neighborhood watch committees, and similar organizations. While the 1997 Budget Act authorizes certain NGO use of the 700 MHz band, APCO is concerned that adequate safeguards be in place to ensure that "public safety services" receive priority in spectrum allocations.

APCO is particularly concerned that the Commission has allowed for-profit NGOs to become eligible licensees in public safety spectrum, albeit under very narrow circumstances.²⁴ There may well be some for-profit entities that provide *bona-fide* "public safety services" under the auspices of a state or local government, and are not making such services "commercially available to the public." However, the FCC's decision

²² *Report and Order* at ¶¶ 54-59.

²³ *Report and Order* at ¶ 72.

²⁴ *Report and Order* at ¶ 72.

regarding NGO eligibility, combined with the opportunity to operate in this newly allocated spectrum without auctions or fees, could lead some unscrupulous NGOs to try to obtain licenses under the “veil” of public safety.

The FCC’s requirement that NGO’s be sponsored by a state or local government should be helpful in discouraging such abuse. However, that could open the door for small, unsophisticated agencies to become unknowing “pawns” in an NGO’s scramble for spectrum. Fortunately, the FCC has allowed other agencies to challenge an NGO’s qualifications.²⁵ As further protection, APCO urges that regional planning committees (RPCs) be allowed to scrutinize the qualifications of an NGO during the committee’s review process. Of course, where appropriate, similar scrutiny should be given to all types of applicants claiming eligibility.

The Commission should also clarify that all 700 MHz applications, whether from government entities or NGOs must also go through the regional planning process. RPCs are expected by the Commission to develop procedures for ensuring fair and efficient channel allotments among eligible applicants.²⁶ Scarce public safety spectrum must be allotted to the eligible users with the “highest and best” use according to the FCC-

²⁵ *Report and Order* at ¶ 58.

²⁶ *Report and Order* at ¶ 84.

approved guidelines established in each committee. This screening and prioritization process will be particularly important prior to the end of the DTV transition, when far less than 24 MHz will be available in many of the most spectrum congested metropolitan areas.

VI. THE COMMISSION MUST PROVIDE ADDITIONAL GUIDANCE TO THE REGIONAL PLANNING COMMITTEES, AND MUST PROVIDE FOR A MECHANISM TO FUND BASIC COMMITTEE FUNCTIONS.

APCO strongly supports the Commission's decision to rely upon Regional Planning Committee's (RPCs) for most of the 700 MHz spectrum, and will be advocating in response to the Third NPRM that the remaining spectrum in the band also be subject to the RPC process. Now, however, the Commission needs to clarify the specific role of the RPCs, especially as to how the planning process relates to frequency coordination. Even more importantly, the Commission must address the need to create a funding mechanism for the RPCs.

The Commission is delegating substantial responsibility to the RPCs, but is leaving them without a common set of rules and procedures, without a national body with the authority to oversee and guide the planning process, and without a source of funding. While the Commission is in the process of creating a National Coordination Committee (NCC) the Commission has limited the NCC's authority to giving "voluntary" assistance to the RPCs.²⁷ At the same time, the Commission has designated four entities to coordinate the 700 MHz band on a competitive basis, thus limiting their incentive and ability to provide technical and financial support for the RPCs. To fill these voids left in the Report and Order, APCO recommends the following:

²⁷ *Report and Order* at ¶ 92.

First, the Commission must clarify, or require the NCC to clarify, the role of RPCs. A critical initial issue is whether the RPCs should be authorized to make frequency-specific assignments, or limited to allotting channels among users or types of users, thus leaving it to applicants and coordinators to identify specific frequencies for their use. Many RPCs are likely to lack the time, resources, or technical expertise to make frequency-specific assignments, though some larger, more active committees did take that approach in the 821 MHz band and may be willing and able to do so again.

Perhaps RPCs can be left to decide their level of activity, but they need to know their obligations and constraints. In any event, all four coordinators must be required to abide by any variations that may occur between regions. For example, a coordinator must not be permitted to make frequency assignments to the Commission without first determining whether that assignment is consistent with the relevant regional plan (or plans if the applicant is near a regional border). From APCO's experience with the 821 MHz band, this will require flexibility by the coordinator, and will necessitate close working relationships between coordinators and RPCs. In this regard, APCO remains concerned that some of the other coordinators do not have extensive local involvement in each of the regions comparable to the APCO Local Frequency Advisors (who had convened and in many cases chair the 821 MHz planning committees).

The Commission should also clarify the role of the NCC in resolving disputes between RPCs. While substantial disagreements between regional committees have been exceedingly rare in the 821 MHz band, such disagreements can consume scarce time and resources unless quickly and fairly resolved.

Second, there must also be a common data base of regional plans. In the *Report and Order*, the Commission appears to confuse this regional planning data base with the application and license database that is created once applications are filed.²⁸ The planning data base will be critical to ensure that coordinators follow the relevant plans, and to avoid conflicts between adjacent regions. The National Public Safety Telecommunication Council (NPSTC), which includes APCO and the other coordinators, is exploring options for the maintenance of the planning database. Direction and oversight from the Commission (and the NCC) would be appropriate, however, to ensure that database is created and maintained in a manner consistent with Commission policy for the 700 MHz band.

Third, the Commission must develop or at least sanction a funding mechanism for the RPCs. From the very beginning, RPCs will have significant out-of-pocket expenses related to publication and distribution of notices that must be sent to all potential participants. There will also be substantial costs for photocopies, telephone charges, travel costs, and meeting expenses, as well as items such as computers and engineering studies. While some in-kind costs might be absorbed by agencies sending representatives to the RPC, most of the basic overhead expenses are likely to be left unresolved. In the 821 MHz band, APCO and its local chapters provided much of the basic initial operating expenses for many of the regions.

APCO had previously offered to provide technical, organizational and financial support to the 700 MHz RPCs, but only if it was named the sole frequency coordinator and could recover its costs through its coordination fees (as it had been able to do in the

²⁸ *Report and Order* at ¶¶ 99-100.

821 MHz band). However, the Commission has decided that there should be four competing frequency coordinators for the 700 MHz band, making it financially impossible for APCO alone to absorb the costs of supporting RPCs. APCO does not seek reconsideration of the Commission decision to certify four coordinators, though it does urge that the Commission revisit the issue of using the coordination fee collection process to create a fund that can be used to cover RPC expenses. One important caveat, however, is that most RPC expenses will occur long before coordination fees are collected.

APCO continues to be willing to provide “upfront” financial support for the RPCs, provided that there is a mechanism for subsequently recovering those costs. One alternative is for APCO to establish and administer a special fund to pay documented RPC expenses, with APCO’s contributions to that fund recovered through a uniform surcharge added to all 700 MHz band coordination fees. APCO would obviously be willing to abide by appropriate oversight and operating guidelines regarding the administration of such a fund.

There may well be other alternatives, and APCO would actually prefer that others take on the RPC funding responsibility. Doing nothing, however, is not an acceptable option. Therefore, APCO urges that the Commission either adopt a cost-recovery proposal itself, or require that the four public safety coordinators jointly develop a mutually agreeable cost-recovery mechanism within a specified time frame. That plan could then be reviewed and approved by the NCC and/or the Commission.

VII. RULES GOVERNING TRANSMITTER POWER AND ANTENNA HEIGHT LIMITS MUST BE MODIFIED.

The Commission has imposed transmitting power and antenna height limits for all users of the 700 MHz band which are identical to the requirements for the 800 MHz band.²⁹ APCO does not object to those specific limitations. However, the Commission should modify its rule to allow the Regional Planning Committees to revise those requirements to accommodate the unique geography and usage patterns that occur in some regions. Such flexibility is necessary to ensure the most efficient and effective spectrum utilization.³⁰

The Commission must also reconsider its decision to require use of automatic power control (APC) in mobile and portable units.³¹ APC should be an option, but not a requirement. While APC may be useful in the cell-type infrastructure used in commercial mobile radio architecture and certain other types of radio systems, it is incompatible with most public safety dispatch systems. Specifically, APC will not function in the satellite receiver/voter comparator systems used in many public safety radio operations, as APC could reduce the reduce a unit's power to the point where only a single receiver is able to receive its signal.

²⁹ *Report and Order* at ¶143.

³⁰ This is particularly important for state-wide systems where customized antenna and transmitter powers are often necessary to provide adequate coverage in a cost-effective manner.

³¹ *Report and Order* at ¶144.

VIII. THE COMMISSION HAS ADOPTED UNNECESSARILY RESTRICTIVE BROADCAST/LAND MOBILE INTERFERENCE GUIDELINES THAT WILL INHIBIT PUBLIC SAFETY USE OF THE 700 MHz BAND.

Until the end of the DTV transition period, public safety systems in the 700 MHz band must avoid interference with existing full power analog and interim digital television stations. Therefore, the specific Commission guidelines defining unacceptable levels of interference will have a substantial impact on the extent of public safety use of the band. Unfortunately, the Commission's decision in the *Report and Order* is overly conservative in its protection of television stations, at the expense of public safety agencies.

The Commission adopted a D/U signal ratio of 40 dB for co-channel separation, properly rejecting the broadcasting industry's request for 50 dB D/U signal ratio.³² The Commission recognized in the *Report and Order* that a 40 dB ratio had been used successfully in the 470-512 MHz band in New York without causing interference. However, the Commission did not give adequate consideration to the Motorola analysis that even further reductions were possible because of propagation differences between the 470-512 MHz band and the 764-806 MHz band.³³ APCO understands that Motorola will be filing a Petition for Reconsideration on that issue with further technical evidence for its position.

The Commission must also reconsider its rules which simply apply some of the

³² Report and Order at ¶ 152.

³³ *Report and Order* at ¶ 151.

existing broadcast/land mobile adjacent channel mileage separations to the 700 MHz band. There needs to be greater flexibility to allow for engineering solutions. Arbitrary separations are overly protective, and might prevent the installation of a carefully engineered public safety systems using directional antennas and other interference avoidance techniques.

APCO supports these and other modifications to the broadcast/land mobile interference rules that might expand the ability of public safety agencies to utilize the 700 MHz band now, rather than waiting for the increasingly uncertain end of the DTV transition.

CONCLUSION

For the reasons set forth above, the Commission must reconsider and clarify its *Report and Order* in the manner described herein.

Respectfully submitted,

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