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 No. 06-229
	)	
Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010	)	WT Docket No. 96-86

NINTH NOTICE OF PROPOSED RULEMAKING

Adopted: December 20, 2006 **Released: December 20, 2006**

Comment Date: (45 days after date of publication in the Federal Register)
Reply Comment Date: (60 days after date of publication in the Federal Register)

By the Commission: Chairman Martin, and Commissioners Copps, Adelstein, Tate and McDowell issuing separate statements.

I. INTRODUCTION

1. In the Commission's Eighth Notice of Proposed Rulemaking, the Commission sought comment on whether certain channels within the current 24 megahertz of public safety spectrum in the 700 MHz band (764-776 MHz and 794-806 MHz) should be modified to accommodate broadband communications.[1] The Commission stated that this action "is consistent with national priorities focusing on homeland security and broadband and our commitment to ensure that emergency first responders have access to reliable and interoperable communications."[2]

2. As also noted in the *Eighth NPRM*, the Commission previously announced principles for ensuring effective public safety use of the 700 MHz band, including standardization necessary to achieve nationwide interoperability, development of competitive equipment markets, and a degree of regional flexibility necessary to allow opportunities for tailored approaches to meeting the needs of regional communities.[3] The Commission also noted that Congress has recognized that the 700 MHz spectrum is "ideal" for providing first responders with interoperable communications channels, and established February 17, 2009 as the date by which this spectrum will be cleared of incumbent broadcasters.[4] Furthermore, the Commission found, in its Report to Congress submitted pursuant to the Intelligence

[1] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Eighth Notice of Proposed Rulemaking*, 21 FCC Rcd 3668 (2006) (*Eighth NPRM*). "Broadband" refers to systems that may utilize a bandwidth of 1 megahertz or more. *Id.* at 3670 n. 18.

[2] *Id.* at 3669 ¶ 1.

[3] *See id.* at 3669 ¶ 2.

[4] *See id.*

Reform Act, that deployment of an integrated, nationwide, interoperable network capable of delivering broadband communications would offer the public safety community many benefits, including video surveillance, real-time text messaging and email, high resolution digital images and the ability to obtain location and status information of personnel and equipment in the field.[5] We thus are presented with an opportunity to put into place a regulatory framework that would ensure the availability of effective spectrum in the 700 MHz band for interoperable, public safety use.

3. In this Ninth Notice of Proposed Rulemaking, we seek to expand and build upon the themes raised in the *Eighth NPRM* by proposing a comprehensive plan that we believe may best promote the rapid deployment of a nationwide, interoperable, broadband public safety network, and thereby improve emergency responsiveness. Particularly in light of the nation's current and anticipated public safety and homeland security needs, we propose a centralized and national approach to maximize public safety access to interoperable, broadband spectrum in the 700 MHz band, and, at the same time, foster and promote the development and deployment of advanced broadband applications, related radio technologies, and a modern, IP-based system architecture.

4. Our proposed plan is a departure from prior public safety allocations, and is designed to speed deployment, decrease costs of roll-out, promote nationwide interoperability and provide a source of funding for constructing a broadband public safety communications network. The proposal includes that the Commission (1) allocate 12 megahertz of the 700 MHz public safety spectrum from wideband to broadband use; (2) assign this spectrum nationwide to a single national public safety broadband licensee; (3) permit the national public safety broadband licensee also to operate on a secondary basis on all other public safety spectrum in the 700 MHz band; (4) permit the licensee to use its assigned spectrum to provide public safety entities with public safety broadband service on a fee for service basis; (5) permit the licensee to provide unconditionally preemptible access to its assigned spectrum to commercial service providers on a secondary basis; (6) facilitate the shared use of commercial mobile radio service (CMRS) infrastructure for the efficient provision of public safety broadband service; and (7) establish performance requirements for interoperability, build out, preemptibility of commercial access, and system robustness.

II. BACKGROUND

5. The current band plan for the public safety portion of the 700 MHz band provides narrowband (voice and low speed data) and wideband (image/high speed data and slow scan video) communications channels. The allocation of the 700 MHz band between narrowband and wideband channels is depicted in Figure 1. The four narrowband segments are 764-767 MHz (Channels 1-480), 773-776 MHz (Channels 481-960), 794-797 MHz (Channels 961-1440) and 803-806 MHz (Channels 1441-1920).[6] Each 6 megahertz narrowband segment is divided into 480 channels with a channel size of 6.25 kilohertz, which may be aggregated to 25 kilohertz.[7] The two wideband segments are 767-773 MHz (Channels 1-120) and 797-803 MHz (Channels 121-240).[8] Each 6 megahertz wideband segment is divided into 120 channels with a channel size of 50 kilohertz.[9] Wideband channels may be aggregated to

[5] *See* Report to Congress on the Study to Assess the Short-Term and Long-Term Needs for Allocations of Additional Portions of the Electromagnetic Spectrum for Federal, State, and Local Emergency Response Providers, WT Docket No. 05-157 at 13 ¶ 26 (Dec. 16, 2005).

[6] 47 C.F.R. § 90.531(b).

[7] 47 C.F.R. § 90.531(d)(1).

[8] 47 C.F.R. § 90.531(c).

[9] *Id.*

form 100 kilohertz or 150 kilohertz channels.[10] By specifying a minimum channel size for narrowband and wideband communications, the Commission sought to address both the ability of Regional Planning Committees[11] to combine these channels as needed and spectrum efficiency concerns.[12]

NB-1 (base)
NB-2 (mobile)

NB-3 (base)
NB-4 (mobile)

6. Within the narrowband and wideband channel segments the Commission included general use, interoperability and reserve spectrum. The Commission designated 12.5 megahertz of spectrum for general use, which includes 7.7 megahertz for narrowband use and 4.8 megahertz for wideband.[13] All wideband general use channels are designated for assignment to public safety eligibles subject to Commission-approved RPC plans.[14] The Commission designated 2.6 megahertz of the 700

[10] 47 C.F.R. §§ 90.531(c) and (d)(2).

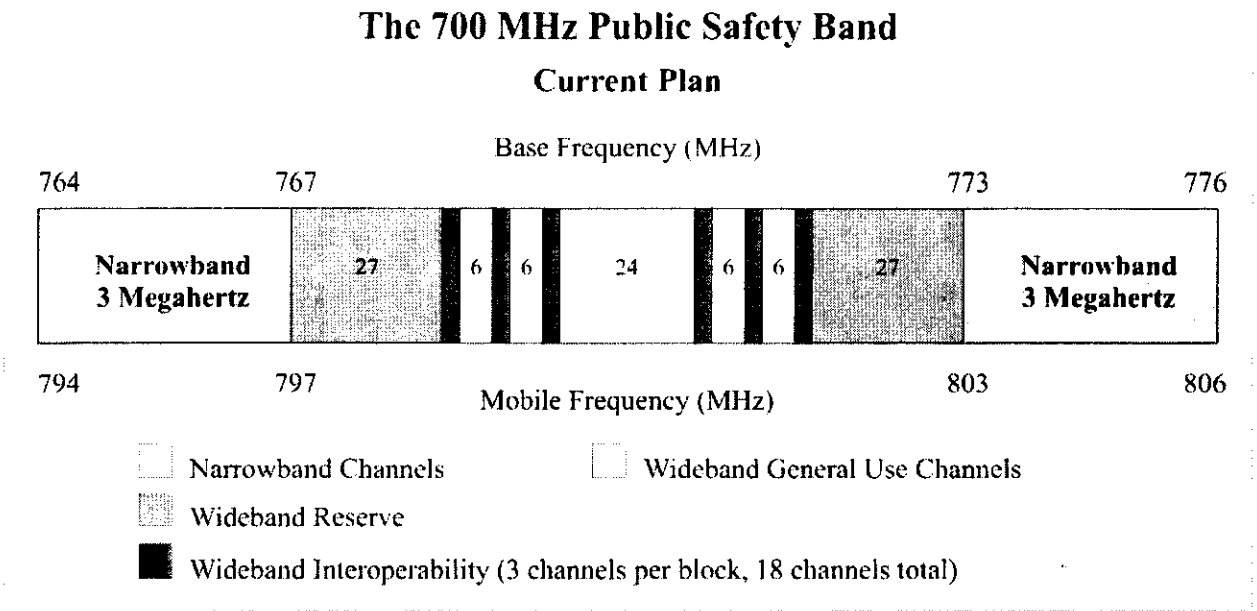
[11] A large portion of the 700 MHz public safety spectrum, approximately 53 percent (12.5 megahertz), is designated for general use by local, regional and state users. A regional planning process was adopted to govern management of this public safety spectrum. Regional Planning Committees (RPCs) are responsible for creating and managing regional plans. Regional planning for the 700 MHz band was modeled after the Commission's national plan for public safety regional planning channels in the 800 MHz band. When the Commission established 700 MHz RPCs, the Commission based its decision largely on the success of 800 MHz RPCs in ensuring that public safety spectrum was fairly and efficiently put to its best, most appropriate, and most efficient use for public safety services. *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket No. 96-86, *First Report and Order and Third Notice of Proposed Rulemaking,* 14 FCC Rcd 152, 191 ¶ 78 (1998) (*First Report and Order*), *aff'd,* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket 96-86, *Second Memorandum Opinion & Order*, 15 FCC Rcd 16844, 16872 ¶ 60 (2000) (*Second MO&O*). The Commission requires that there be two separate and distinct regional plans, one for the 800 MHz band and one for the 700 MHz band.

[12] To ensure this spectrum is used efficiently, the Commission specified a "data rate per unit bandwidth" relative to the narrowband and wideband channels. *See First Report and Order*, 14 FCC Rcd at 172-175 ¶¶ 36-41; *Second MO&O*, 15 FCC Rcd at 16855 ¶ 20 (affirming wideband data rate); 47 C.F.R. §§ 90.535(b) and (c).

[13] 47 C.F.R. §§ 90.531(b)(6) and (c)(3).

[14] 47 C.F.R. § 90.531(c)(3).

MHz public safety spectrum for nationwide interoperable communications, which consists of 0.8 megahertz for narrowband interoperability and 1.8 megahertz for wideband interoperability.[15] The Commission also designated 6 megahertz of public safety spectrum to be held in reserve, which consists of 0.6 megahertz for narrowband and 5.4 megahertz for wideband use.[16] The Commission intended this reservation of 5.4 megahertz of wideband spectrum to accommodate future needs for narrowband, wideband or broadband that may be identified through the regional planning process or developments in technology.[17] Figure 2 depicts the basic design of the wideband segments, which comprise 12 megahertz of the 700 MHz public safety band.[18]



7. The Commission has made progress towards achieving nationwide interoperability in the 700 MHz public safety band. In 2000, the Public Safety National Coordination Committee[19] (NCC) recommended that the Commission adopt Project 25 Phase I (Project 25) as the interoperability standard for the narrowband interoperability channels.[20] Subsequently, the Commission adopted Project 25 as the

[15] 47 C.F.R. §§ 90.531(b)(1) and (c)(1).

[16] 47 C.F.R. §§ 90.531(b)(2) and (c)(2).

[17] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket 96-86, *Third Report and Order and Third Memorandum Opinion and Order*, 15 FCC Rcd 19844, 19874 ¶ 69 (2000).

[18] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket 96-86, *Fourth Memorandum Opinion and Order*, 17 FCC Rcd 4736, Appendix D (2002). The numbers in the wideband portion indicate the number of channels.

[19] The NCC was a federal advisory committee established by the Commission in 1999 to advise the Commission on operational and technical parameters for use of the 700 MHz public safety band. The NCC's charter expired on July 25, 2003.

[20] *See* Public Safety National Coordination Committee, Recommendations to the Federal Communications Commission for Technical and Operational Standards for Use of the 764-776 MHz and 794-806 MHz Public Safety Band Pending Development of Final Rules, at 17 ¶ 54 (Feb. 25, 2000).

narrowband digital standard for the interoperability channels.[21] As a result, mobile and portable narrowband radios are required to be capable of operating on the interoperability channels using the Project 25 standard, ensuring that all public safety entities using 700 MHz narrowband radios will be able to communicate with each other.[22] Thus, the Commission and the public safety community are poised to move forward with nationwide interoperability on the narrowband channels, once this spectrum is cleared of incumbent broadcasters.

8. In 2003, the NCC recommended that the Commission adopt the 700 MHz wideband standard known as Scalable Adaptive Modulation (SAM) for the wideband interoperability standard.[23] The SAM standard was developed by industry consensus in cooperation with the Telecommunications Industry Association (TIA). In the *Seventh NPRM*, the Commission sought comment on its tentative conclusion to adopt the SAM standard as the interoperability standard for the 700 MHz wideband interoperability channels and to require all wideband radios be capable of operating on the wideband interoperability channels using SAM.[24]

9. After the close of the comment period, several parties submitted *ex parte* proposals asking the Commission to step back from its efforts to complete work on wideband interoperability and instead consider whether changes could be made that would allow use of broadband technologies in the 700 MHz public safety band. For example, the Coalition for Wideband Data Deployment requested the Commission to revisit the band plan to provide for broadband channels.[25] The National Association of Regional Planning Committees requested that the Commission permit aggregation above 150 kilohertz in the wideband spectrum to permit both wideband and broadband applications.[26] In addition, the National Public Safety Telecommunications Council (NPSTC) stated that the Commission should not alter the 700 MHz narrowband allocation, but should explore how the wideband and reserved channels could be used to promote broadband access.[27]

10. The *Eighth NPRM* sought comment on whether certain channels within the current 24 megahertz of public safety spectrum in the 700 MHz public safety band (764-776 MHz and 794-806 MHz) should be modified to accommodate broadband communications, and if so, how. The *Eighth NPRM* sought comment on specific proposals to accommodate broadband, submitted by the NPSTC, Motorola, Inc., and Lucent Technologies, Inc. The Commission also asked commenters to update the

[21] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Fourth Report and Order and Fifth Notice of Proposed Rulemaking*, 16 FCC Rcd 2020 (2001); 47 C.F.R. § 90.548.

[22] *See* 47 C.F.R. §§ 90.547(a), 90.548.

[23] *See* letter from Kathleen Wallman, Chair, National Coordination Committee, to Michael Powell, Chairman, Federal Communications Commission, WT Docket 96-86 at 2 (July 25, 2003).

[24] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communications Requirements Through the Year 2010, WT Docket 96-86, *Fifth Memorandum Opinion and Order, Sixth Report and Order, and Seventh Notice of Proposed Rulemaking*, 20 FCC Rcd 831, 851-53 ¶¶ 49-50 (2005) (*Seventh NPRM*).

[25] *See ex parte* letter from Elizabeth R. Sachs, Esq., to Marlene H. Dortch, Secretary, Federal Communications Commission at 15 (Nov. 30, 2005).

[26] *See ex parte* letter from William Carter to Marlene H. Dortch, Secretary, Federal Communications Commission at 3 (Oct. 13, 2005).

[27] *See ex parte* letter from Vincent R. Stile, Chair, NPSTC, to Michael J. Wilhelm, Chief, Public Safety and Critical Infrastructure Division, Wireless Telecommunications Bureau, Federal Communications Commission, WT Docket Nos. 96-86 and 05-157 at 1 (Nov. 18, 2005).

record regarding wideband interoperability and the SAM standard.

III. DISCUSSION

11. We believe that the time may have come for a significant departure from the typical public safety allocation model the Commission has used in the past. In prior allocations for public safety, individual public safety jurisdictions have been able to apply for and utilize individual licenses. The Commission also has permitted public safety regional planning committees to develop plans for frequency coordination on a regional basis. While this system has had significant benefits for public safety users, in terms of permitting them to deploy voice and narrowband facilities suitable for their needs, the system also has resulted in uneven build-out across the country in different bands, balkanization of spectrum between large numbers of incompatible systems, and interoperability difficulties if not inabilities. In developing our proposal, we are guided by the following objectives for public safety communications in the twenty-first century.

A. Objectives of Public Safety Model

12. *Broadband.* Presently, there is no allocation in the 700 MHz public safety band for broadband communications. Broadband technologies hold the potential to provide public safety entities integrated access to voice and high-speed data capabilities, and thus may dramatically reduce the time it takes to access information during emergencies. We believe that we should maximize opportunities for broadband use of 700 MHz spectrum due to the many benefits of broadband communications, including video surveillance, real-time text messaging and email, high resolution digital images and the ability to obtain location and status information of personnel and equipment in the field. For example, police officers could exchange mug shots, fingerprints, photographic identification, and enforcement records; firefighters could have access to floor and building plans and real-time medical information; forensic experts could provide high resolution photographs of crime scenes and real-time video monitoring transmitted to incident command centers.

13. *Nationwide Interoperability.* All emergency personnel involved in an incident need to be able to communicate seamlessly. The availability of a nationwide, interoperable, broadband communications network for public safety substantially could enhance the ability of public safety entities to respond to emergency situations, whether due to severe weather events or criminal or terrorist activities, and likely would save lives and preserve property. Yet, only 2.6 megahertz is designated for nationwide interoperable communications in the 700 MHz public safety band. Furthermore, the radios used by federal, state and local first responders generally are not interoperable. Instead, the highly fragmented structure of public safety agencies, whether among different public safety agencies serving the same community (*i.e.*, local police, fire, emergency medical), neighboring communities or states, or among local, state, and federal levels, has resulted in many different and distinct communications infrastructures. As a consequence, public safety personnel often must carry multiple radios to coordinate their activities. Even when some interoperability is reached on a regional level,[28] there still is a lack of nationwide interoperability.

14. *Adequate Funding.* Any proposal for improving public safety communications should address potential new sources of funding. Traditionally, public safety agencies have had great difficulty funding the build-out and operation of modern communications systems. None of the other objectives of a public safety communications system can be met without adequate funding.

[28] *See supra* note 11.

15. *Cost Effectiveness.* Public safety services should be provided at the least cost given the characteristics, *e.g.*, capacity, reliability and coverage, of services provided. Economies of scale and scope in production and competition in supply are important in achieving cost effectiveness. Also of importance is the ability to continually evolve technologically and incorporate new capabilities, while preserving backward compatibility and interoperability with subscriber units in the field.

16. *Efficient Spectrum Use.* Public safety communications systems should be spectrum-efficient. Public safety services should use spectrum efficient technologies that appropriately reflect the value of spectrum. For example, public safety providers could increase capacity through improvements in infrastructure when it is less costly than adding spectrum. The high spectrum efficiency observed in the production of CMRS could be a benchmark for public safety.

17. *Robustness.* Survivability is an important objective of the envisioned nationwide public safety broadband system. The widespread destruction caused by Hurricane Katrina illustrated the vulnerability of the terrestrial communications infrastructure to natural disasters, as well as similarly destructive terrorist attacks. When a disaster destroys the terrestrial infrastructure, public safety workers can be left without any communications. The system could be inherently robust by incorporating flexible routing and other features (possibly including a satellite component operating in other spectrum) that will maintain essential operations when parts of the infrastructure have been destroyed or disabled.

18. *Flexible Modern Architecture.* A public safety communications network employing modern IP-based wireless system architecture may have many advantages in terms of flexibility, cost and compatibility with the existing IP-based networks. An IP-based broadband wireless public safety system also readily could be integrated with legacy public safety and other wireless non-IP systems. IP-based architecture provides great flexibility in combining multiple services, *e.g.* voice, data and video, on a common infrastructure and into the same device.

B. Proposal

19. We propose that the 12 megahertz of spectrum at 767-773 MHz and 797-803 MHz, currently designated as wideband segments, be allocated for broadband use and that a single, national public safety broadband licensee be assigned this spectrum on a primary basis. The licensee also would be authorized to use all other public safety spectrum in the 700 MHz band on a secondary basis. Using this spectrum, the licensee would be authorized to provide public safety agencies voluntary access to broadband services, on a fee-for-service basis. The licensee also would be permitted to provide unconditionally preemptible access to this spectrum to commercial entities through leases or in the form of public/private partnerships. The national public safety broadband licensee may enter into arrangements with commercial service providers for accessing or sharing their communications systems infrastructure in order to create the nationwide, interoperable, broadband public safety communications network. We would leave significant discretion to the national licensee to carry out its responsibilities. We believe, however, that it would be necessary for the Commission to establish certain baseline performance requirements, including those for broadband, interoperability, build-out of national coverage, unconditional preemption of commercial use, and disaster restoration capability. We seek comment broadly on our proposed approach or any alternatives, as well as any potential impact on existing operations or planning activities by public safety in this spectrum.

1. Single National Public Safety License

20. A central theme of our proposal is the licensing of a single, national public safety entity for the provision of public safety broadband service in lieu of the traditional practice of licensing individual state and local jurisdictions. We believe that centralizing the licensee responsibilities into a single entity representative of the public safety community could best serve the objectives discussed

above. A centralized, national network providing a wide range of communications services on a broadband backbone, using a flexible, modern architecture, could (1) enable nationwide interoperability; (2) reduce costs; (3) increase efficiency of spectrum usage; and (4) enhance network robustness.

21. *Interoperability.* A national public safety licensee may be in the best position to solve the interoperability and broadband capacity problems that have been the topic of increased concern, especially apparent in the wake of 9/11 and last year's hurricanes. A single, national network could provide a nationwide level of interoperability not achievable by an otherwise fragmented approach. A centralized approach also could ensure a single technical framework for system implementation that could be designed, for example, to provide adequate capacity for new high-bandwidth uses including real-time mobile video.

22. *Cost effectiveness.* A national system also by its very nature may be more cost-effective than any collection of individual systems. Planning a public safety broadband network on a national level could achieve certain economies of scale, including in production and competition in supply of network and radio equipment. In this regard, we would expect that economical, state-of-the-art, "off-the-shelf" technology particularly suitable for broadband use more rapidly could be made available to the public safety community. Logically, a national public safety licensee could benefit from the same kinds of economies that have led to the evolution of nationwide CMRS systems as a way to improve their own cost-effectiveness in a highly competitive environment.

23. Further cost savings may be possible through the envisioned shared use of infrastructure between public safety and commercial uses. Having a single, national licensee could create significant purchasing power in acquiring equipment and services needed for the nationwide broadband public safety system. A single national licensee may expedite (and reduce the cost of) decisions on technology and other standards that will be needed to ensure nationwide interoperability.

24. Our proposal is aimed at facilitating the introduction of broadband technology that is able cost effectively to combine voice, data and video traffic on a common system. A unified public safety communications system could reduce cost and increase capacity by using the spectrum more efficiently. Combining spectrum into a single system could serve the same number of users with less spectrum and hence lower cost because of greater efficiency in sharing spectrum among users. With fragmented systems, spectrum may be idle on one system while another system in the same area has reached capacity.

25. *Efficient use of spectrum.* A broadband system that combines different kinds of public safety traffic with different peak demands (*e.g.*, the peak demand for voice, data and video may occur at different times) could require less spectrum overall than if different services are accommodated on multiple, specialized or narrowband systems. Similar spectrum efficiency gains are possible by multiplexing a larger number of users on the same system and by combining users with different periods of peak traffic, as may be generally true with public safety and commercial traffic. Broadband technology could be the key to such improvements in spectrum efficiency, and our proposal is aimed at facilitating the rapid, nationwide deployment of broadband technology for public safety use.[29]

26. *Robustness and survivability.* Finally, a single national licensee may be in a better position to ensure robustness and survivability, especially when large geographic areas are affected that cut across traditional public safety jurisdictions. A national licensee also may be in a uniquely

[29] *See* J. M. Peha, "How America's Fragmented Approach to Public Safety Wastes Spectrum and Funding, *Proc. Telecommunications Policy Research Conference*, Sept. 2005, www.ece.cmu.edu/~peha/safety.html (assigning spectrum to a unified national system would provide additional capacity to enhance public safety communications, and likely could do so at lower cost than dividing spectrum up among the many existing public safety systems).

advantageous position to efficiently stockpile equipment and transportable infrastructure that could be deployed quickly to disaster areas as needed. It also could be well-situated to contract for national satellite service and benefit from economies of scale in integrating satellite capability into its radios to the extent that such integration is beneficial.

2. Selection of the National Licensee

27. We envision that the national licensee would have many important responsibilities, including the design and implementation, build-out, and maintenance of the nationwide network, coordination of use by eligible local, state, and federal public safety agencies, and leasing excess capacity on an unconditional, preemptible basis to commercial users, including the discretion to terminate such commercial use when the interest of public safety so demands. As a consequence, we propose that selection of the national public safety broadband licensee should be based on a number of criteria, including experience with public safety frequency coordination, not-for-profit status, and ability to directly represent all public safety interests. We also propose 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. We seek comment on these and any other criteria that would be appropriate to ensure that the national licensee is able and qualified to adequately address the needs of all public safety users.

3. Funding Options

28. We believe that the national public safety licensee should be able to charge fees for the use of its services. Such fees could serve the public interest in a number of ways. First, they could serve as a source of funding for the build-out, maintenance and continued operation of the system. Second, they 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. For example, absent a usage-based fee system for the broadband wireless service, a public safety entity might choose to distribute a non-time-sensitive or low priority video via the wireless network, rather than employing alternatives not dependent on spectrum availability, such as by a wireline network or by DVD media. Usage fees could help decentralize decision-making about priorities of delivering broadband content over the public safety network, as opposed to reliance on administrative rules that may not necessarily comport with efficiency and fair use, *e.g.*, a rule that would state that live video always has priority over recorded video. We seek comment on the use of fees and other means for funding and promoting the efficient network usage.

29. Fees derived from secondary, unconditionally preemptible commercial use of spectrum assigned to the national public safety broadband licensee (as discussed more fully below) could provide an additional source of funding for the buildout of a nationwide public safety system. Such additional funding, coupled with the potential cost savings of shared use of CMRS infrastructure, could allow a more rapid and extensive buildout of a broadband public safety system than could be achieved under traditional licensing and funding mechanisms. The prospect of a single, efficient and interoperable broadband public safety system also may facilitate a more focused and effective use of scarce funds available through more traditional federal and state funding mechanisms, especially given the high national priority of effective, interoperable public safety communications during major disasters.

30. Acquiring broadband service on a fee-for-service basis also may pose less of a financial burden for local jurisdictions, especially smaller ones, which may find it easier to budget for annual usage fees than to raise large amounts of upfront capital to construct individual systems. Comments are invited on the viability and adequacy of these funding sources and suggestions for others.

4. Requirements of the National Public Safety Network

31. *Broadband Communications*. We seek comment on how the national licensee can best implement a broadband network that maximizes the inherent advantages of broadband communications. We do not intend, however, for our proposals herein to preclude our consideration of alternative band plans for the Upper 700 MHz Guard Band spectrum, including the rearrangement of the channels within the public safety allocation.[30]

32. *System Architecture*. Modern IP-based system architecture has many advantages in terms of flexibility and cost. It could enable multiple technologies – narrowband terrestrial, broadband terrestrial and satellite – to be integrated. This could permit the joint use of a common infrastructure by commercial and public safety users, with priority for public safety users. It could provide great flexibility in combining multiple services, *e.g.*, voice, data and video, into the same device. It could allow the public safety system to benefit from economies of scale in the production of commercial devices.[31] On the other hand, there may be issues as to whether IP technology can provide the required quality-of-service guarantees for certain public safety applications that must operate with a high degree of reliability in life-threatening situations. Should the national public safety licensee have the discretion to choose the best system architecture, or should the Commission establish system architecture requirements, and, if so, what should they be?

33. *Nationwide Interoperability*. Under our proposal, the national licensee would be required to construct a network that would provide interoperability for all devices operating on the national broadband public safety network. In addition, should we require that all public safety systems have the ability to interoperate with the national broadband system at a network level using IP-based methods? Should we require the national broadband licensee to provide any degree of physical layer (radio) interoperability with certain legacy systems, such as through the use of software defined radio or other technologies? What would be the cost and benefits of such additional interoperability requirements? We seek comment on these and other interoperability requirements.

34. We also seek comment on whether federal law enforcement and other federal users such as the Department of Defense should be permitted to use the national broadband public safety broadband communications system and, if so, on what basis. Federal users may find subscribing to a nationwide, broadband public safety system to be a cost-effective alternative or complement to the construction of separate systems. Joint use of a common infrastructure by federal, state and local public safety agencies also could facilitate interoperability and coordination between those sectors.

35. *Network Build-Out*. We seek comment on appropriate timing and scope of build-out requirements for the national broadband public safety system. In order to expedite the availability of ubiquitous coverage, we believe that the national licensee should issue requests for proposals for the construction of the national network by third parties. While the network service specifications would remain the domain of the national licensee, the core infrastructure needed for the public safety network may be able to leverage the efforts of commercial service providers. We expect, for example, that the mobile and portable devices for the public safety network could incorporate commercial, off-the-shelf

[30] *See Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010*, WT Docket Nos. 06-169, 96-86, *Notice of Proposed Rulemaking*, FCC 06-133 at ¶¶ 42-48 (rel. Sept. 8, 2006).

[31] See Philip J. Weiser, "Clearing the Air: Convergence and the Safety Enterprise," *The Aspen Institute, Communications and Society Program* (2006), p. 6, http://www.aspeninstitute.org/atf/cf/%7bDEB6F227-659B-4EC8-8F84-8DF23CA704F5%7d/C&S%20FINALAIRSREP06.PDF.

chipsets that could be integrated into hardware that meets the increased ruggedness and reliability standards of public safety users. The nationwide, interoperable, broadband communications network also could leverage existing commercial network siting and infrastructure to lower build-out costs, by using existing towers, backhaul facilities, and, potentially, switches and routers. We believe this framework may result in substantial economies of scale and scope that provide significant cost savings when compared to the costs of individual localities and agencies funding network development and deployment. We seek comment on this approach, including how we can ensure that the public safety network reaches rural and underdeveloped areas of the country.

36. *Network Resiliency and Disaster Restoration.* Public safety communications should be robust against destruction of terrestrial infrastructure. This may require that the national public safety network proposed herein incorporate one or more of the following: IP-based routing, a satellite component (via arrangements with satellite providers), and temporary base stations (on the ground and in aircraft) that can be deployed in emergencies. We seek comment on what requirements, if any, the Commission should establish for network resiliency and disaster restoration and how any such requirements should be specified. Should some robustness requirements be imposed on all public safety systems, not just the national public safety system?

37. As noted above, having the nationwide broadband public safety license reside in a single, national public safety licensee may best serve the objectives of the public safety communications network proposed herein. To address or meet particular local needs, however, we also seek comment on how much discretion the national public safety licensee should permit subscribing local public safety entities, consistent with the standard technical criteria governing use of the nationwide network established by the national public safety licensee and consistent with the baseline performance requirements specified above.

5. Secondary Operations in Public Safety Spectrum in the 700 MHz Band

38. Under our proposal, the national public safety broadband licensee would be permitted to operate on a secondary basis on the remaining 12 megahertz of public safety spectrum in the 700 MHz band, *i.e.*, the narrowband channels. By secondary we mean that the national public safety licensee (1) may not interfere with primary use; (2) must immediately remedy any interference it causes to primary uses at its own expense (or shut down the interfering use); and (3) must accept any interference it receives from primary uses that are operating in accord with their licenses. One way to ensure that existing uses are not impacted may be through the employment of advanced technologies, such as cognitive radios.

39. We believe that permitting the national licensee to use narrowband public safety spectrum in the 700 MHz band on a secondary basis significantly could increase the amount of spectrum available for broadband public safety use. Such secondary use also could provide a migration path for a gradual transition to the nationwide, interoperable, broadband public safety communications system from legacy narrowband systems. We anticipate that the national system can integrate voice and data capabilities into a single broadband communications network.

40. Secondary use of public safety narrowband spectrum in the 700 MHz band offers yet another potential means for improved spectrum efficiency. Present narrowband systems and patterns of use inevitably create unused and largely unusable time and frequency slots, *i.e.*, spectrum "white space" in these bands. Broadband cognitive radio technology, possibly employing OFDM or similar advanced waveforms, may be able to dynamically and efficiently exploit these unused spectrum fragments and aggregate them into a valuable "virtual" broadband spectrum resource for the benefit of public safety uses. Importantly, it could do this without interfering with, or in anyway reducing the value or flexibility of, the primary narrowband use. New technology with these capabilities currently is being developed and could be available within the timeframe anticipated for the build-out of the envisioned national public

safety system.[32] Creating a nationwide public safety licensee with secondary access to the 700 MHz narrowband public safety spectrum may establish an important additional market for such technology and help achieve economies of scale. Also, a national licensee representing the broad interests of the public safety community at large may be able to enlist the support and cooperation of narrowband users to facilitate secondary access in ways that otherwise would not be possible.

6. Unconditionally Preemptible Access to Commercial Service Providers and Joint Provision with Commercial Services

41. Under our proposal, the national public safety licensee would be permitted to lease access to commercial service providers on an unconditionally preemptible basis and enter into spectrum lease arrangements with commercial service providers in the manner of a public/private partnership for joint provision of public safety and commercial services. A key element of permitting commercial service is 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 would 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. Clearly, then, commercial users would need to ensure that, as part of any business plan, they have spectrum or communications alternatives in place to anticipate the event that their use may be preempted. We also envision, however, that our dedication to creating a nationwide, interoperable, broadband public safety network could incent accelerated development and use of advanced technologies, such as cognitive radios, by both public safety users as well as secondary commercial users. We seek comment on our proposal to permit commercial use on an unconditional preemptible basis as described above.

42. We believe that preemptible use by commercial service providers could have a number of benefits. First, all of the economies of scale noted above that could be achieved for public safety by the implementation of a centralized, national communications network would apply equally to commercial users. For example, the provision of public safety and commercial services over a common network infrastructure could act as an incentive to ensure more extensive coverage than may ordinarily be experienced with construction of a commercial-only network. Cell sites established in particularly remote or rural areas to ensure nationwide coverage of the public safety network also could serve the secondary spectrum use needs of commercial providers. Second, permitting unconditional, preemptible commercial use could maximize efficient use of public safety spectrum we propose for nationwide, interoperable, broadband public safety use. Third, allowing interruptible commercial use of public safety spectrum may offer a potential new source of funding.

43. Negotiating and managing such arrangements may be facilitated by the creation of a single nationwide public safety licensee. We envision that mutually satisfactory agreements between the national public safety licensee and the commercial users could result in like-kind exchanges, direct payments to the national public safety licensee, or some combination of both. For example, a commercial service provider could enter into an arrangement whereby it permits the use by the national public safety licensee of its communications network infrastructure in exchange for having a secondary source of

[32] Software defined radio and cognitive radio technologies likely are to be important enabling technologies for efficient secondary use of public safety spectrum by the national licensee. *See* SDR Forum, Public Safety Special Interest Group, *Software Defined Radio Technology for Public Safety* (Apr. 14, 2006), http://www.sdrforum.org/uploads/pub_36302706_a_0001_v_0_00_public_safety_04_14_06.pdf.

spectrum to meet its communications needs. We particularly are interested in the prospects for *public/private partnerships to overcome the traditional funding problems associated with creation of* large-scale public safety communications networks. Specifically, we seek comment on whether opportunities exist for our nation's public safety community to leverage the expected build-out of 700 MHz communications systems by CMRS providers, as well as the existing national communications infrastructure such as towers, backhaul communications links, and power supplies.

44. *Related Legal Matters*. Under the Commission's current secondary markets rules, public safety licensees may lease their spectrum usage rights only to other public safety entities and entities providing communications in support of public safety operations. The Commission determined based on the record then before it that public safety licensees should not be permitted to enter into spectrum leasing arrangements for commercial or other non-public safety operations.[33] Consistent with the reasons explained above for why we believe it would be advantageous to permit commercial use on an unconditionally interruptible basis, we propose that we should amend the Commission's spectrum leasing rules to permit the national public safety licensee to enter into spectrum leasing arrangements with commercial entities. We seek comment on this proposal. In addition, commenters may want to address whether the current standard in the general leasing context for determining what constitutes a transfer of control is appropriate for the proposed leasing arrangements.

45. When adopting the spectrum leasing rules applicable to public safety licensees, the Commission contemplated the potential application of smart or opportunistic technological developments, such as cognitive radios, that could enable "interruptible" spectrum leasing arrangements.[34] Indeed, in a subsequent *Report and Order*, the Commission described technical methods that a cognitive radio could use to enable interruptible secondary use of licensed spectrum by other parties.[35] We seek comment on the potential use of technologies, such as cognitive radios, in connection with our proposal to enable the national public safety licensee to lease spectrum for commercial use.

46. We also note that Section 337(a)(1) of the Communications Act requires that the 700 MHz public safety spectrum be allocated for "public safety services," and Section 337(f) defines "public safety services" as follows:

> (f) Definitions. For purposes of this section:
> (1) Public safety services. The term "public safety services" means services –
> (A) the sole or principal purpose of which is to protect the safety of life, health, or property;
> (B) that are provided –
> (i) by State or local government entities; or
> (ii) by nongovernmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services; and
> (C) that are not made commercially available to the public by the provider.

In light of this statutory provision – particularly subparagraph (f)(1)(C) – we seek comment on whether it would be necessary, in order to allow the commercial use of this spectrum on an unconditionally

[33] *See* Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, WT Docket No. 00-230, *Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking*, 19 FCC Rcd 17503, 17529-31 ¶¶ 53-56 (2004).

[34] *Id.* at 17531 ¶ 56; *see also id.* at 17546-53 ¶¶ 86-99.

[35] *See* Facilitating Opportunities for Flexible, Efficient, and Reliable Spectrum Use Employing Cognitive Radio Technologies, ET Docket No. 03-108, *Report and Order*, 20 FCC Rcd 5486, 5514-16 ¶¶ 80-90 (2005).

preemptible, secondary basis, to make a specific allocation for such secondary use in the 700 MHz public safety band and then issue a separate license to the national licensee for purposes of offering such use of the network on this basis. If these measures are not statutorily required, we propose to incorporate directly into the national public safety license a license term permitting such commercial use. While we consider the proposal to comport with all statutory requirements, we welcome comment on the issue of whether our proposal is generally consistent with Section 337.

IV. PROCEDURAL MATTERS

A. *Ex Parte*

47. This proceeding shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.[36] Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one- or two-sentence description of the views and arguments presented is generally required.[37] Other rules pertaining to oral and written presentations are set forth in Section 1.1206(b) of the Commission's rules as well.

B. Initial Regulatory Flexibility Analysis

48. Pursuant to the Regulatory Flexibility Act (RFA),[38] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the proposals considered in this *Notice*. The text of the IRFA is set forth in the Appendix. Written public comments are requested on this IRFA. Comments must be filed in accordance with the same filing deadlines for comments on the *Notice*, and they should have a separate and distinct heading designating them as responses to the IRFA. The Commission will send a copy of the *Notice*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[39]

C. Initial Paperwork Reduction Act of 1995 Analysis

49. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

D. Comment Filing Procedures

50. Pursuant to Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998).

---

[36] 47 C.F.R. §§ 1.1200, 1.1206; Amendment of 47 C.F.R. § 1.1200 *et seq.* Concerning Ex Parte Presentations in Commission Proceedings, GC Docket No. 95-21, *Report and Order*, 12 FCC Rcd 7348 (1997).

[37] 47 C.F.R. § 1.1206(b)(2).

[38] *See* 5 U.S.C. § 603. The RFA has been amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[39] 5 U.S.C. § 603(a).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: http://www.fcc.gov/cgb/ecfs or the Federal eRulemaking Portal: http://www.regulations.gov. Filers should follow the instructions provided on the website for submitting comments.

    - For ECFS filers, if multiple dockets or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send and e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

  Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

    - The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, DC 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

    - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

    - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, S.W., Washington, DC 20554.

51. Comments and reply comments and any other filed documents in this matter may be obtained from Best Copy and Printing, Inc., in person at 445 12th Street, S.W., Room CY-B402, Washington, DC 20554, via telephone at (202) 488-5300, via facsimile at (202) 488-5563, or via e-mail at FCC@BCPIWEB.COM. The pleadings will be also available for public inspection and copying during regular business hours in the FCC Reference Information Center, Room CY-A257, 445 12th Street, S.W., Washington, DC 20554, and through the Commission's Electronic Filing System (ECFS) accessible on the Commission's Web site, http://www.fcc.gov/cgb/ecfs.

52. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (TTY).

53. Commenters who file information that they believe is should be withheld from public inspection may request confidential treatment pursuant to Section 0.459 of the Commission's rules. Commenters should file both their original comments for which they request confidentiality and redacted comments, along with their request for confidential treatment. Commenters should not file proprietary

information electronically. *See* Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission, *Report and Order*, 13 FCC Rcd 24816 (1998), *Order on Reconsideration*, 14 FCC Rcd 20128 (1999). Even if the Commission grants confidential treatment, information that does not fall within a specific exemption pursuant to the Freedom of Information Act (FOIA) must be publicly disclosed pursuant to an appropriate request. *See* 47 C.F.R. § 0.461; 5 U.S.C. § 552. We note that the Commission may grant requests for confidential treatment either conditionally or unconditionally. As such, we note that the Commission has the discretion to release information on public interest grounds that does fall within the scope of a FOIA exemption.

V. ORDERING CLAUSES

54. Accordingly, IT IS ORDERED that pursuant to sections 1, 2, 4(i), 5(c), 7, 10, 201, 202, 208, 301, 302, 303, 307, 308, 309, 310, 314, 316, 319, 324, 332, 333, 337 and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 155(c), 157, 160, 201, 202, 208, 301, 302, 303, 307, 308, 309, 310, 314, 316, 319, 324, 332, 333, 337 and 403, this NINTH NOTICE OF PROPOSED RULEMAKING is hereby ADOPTED.

55. IT IS FURTHER ORDERED that pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on the NINTH NOTICE OF PROPOSED RULEMAKING on or before 30 days after publication in the Federal Register, and reply comments on or before 45 days after publication in the Federal Register.

56. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Notice*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch

Marlene H. Dortch
Secretary

APPENDIX

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act (RFA),[40] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) regarding the possible significant economic impact of the policies and rules proposed in this *Ninth Notice of Proposed Rule Making* (*Notice*) on a substantial number of small entities. Written public comments are requested regarding this IRFA. Comments must be identified as responses to this IRFA and must be filed by the deadlines for comments identified in the *Notice*. The Commission will send a copy of this *Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[41] In addition, this *Notice* and IRFA (or summaries thereof) will be published in the *Federal Register*.[42]

A. Need for, and Objectives of, the Proposed Rules

2. This *Notice* seeks to promote homeland security, and to advance the Commission's commitment to ensure that emergency first responders have access to reliable, interoperable and broadband communications. To place this *Notice* in context we briefly review the history of the 700 MHz public safety spectrum. Pursuant to Congressional directive, the Commission reallocated 24 megahertz of spectrum in the Upper 700 MHz Band to meet the communications needs of public safety.[43] In many areas of the United States this public safety spectrum is encumbered by incumbent television stations.[44] In January 1999 the Commission chartered a federal advisory committee, the Public Safety National Coordination Committee (NCC), to advise the Commission on service rules for the 700 MHz Public Safety Band, which the Commission had divided into narrowband voice and data channels and wideband data channels, with designated interoperability channels in each of these band segments. In March 2006, the Commission adopted an *Eighth NPRM* in which it sought comment on whether certain channels within the current 24 megahertz of public safety spectrum in the 700 MHz public safety band (764-776 MHz and 794-806 MHz) should be modified to accommodate broadband communications, and if so, how. The *Eighth NPRM* sought comment on specific proposals to accommodate broadband, submitted by the National Public Safety Telecommunications Council, Motorola, Inc., and Lucent Technologies, Inc. The Commission also asked commenters to update the record regarding wideband interoperability and the SAM standard. This *Notice* is another step in the Commission's ongoing efforts to develop a regulatory framework in which to meet current and future public safety communications needs.

3. In this *Notice*, we seek comment on a proposal that the Commission (1) allocate 12 megahertz of the 700 MHz public safety spectrum from wideband to broadband use; (2) assign this spectrum nationwide to a single national public safety broadband licensee; (3) permit the national public safety broadband licensee also to operate on a secondary basis on all other public safety spectrum in the 700 MHz band; (4) permit the licensee to provide unconditionally preemptible access to commercial

[40] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[41] *See* 5 U.S.C. § 603(a).

[42] *See id.*

[43] *See* 47 U.S.C. § 337(a)(1); Reallocation of Television Channels 60-69, the 746-806 MHz Band, ET Docket No. 97-157, *Report and Order*, 12 FCC Rcd 22953 (1997).

[44] Pursuant to the Deficit Reduction Act of 2005, Congress has established February 17, 2009, as the deadline for the end of the Digital Television transition. Thereafter, use of the 700 MHz Public Safety band will not be affected by incumbent television broadcasters.

service providers; (5) facilitate the shared use of CMRS infrastructure for the efficient provision of public safety broadband service; (6) permit the licensee to charge fees for use of its system; and (7) establish performance requirements for interoperability, build out, preemptibility of commercial access, and system robustness. *This Notice seeks to promote effective public safety communications and innovation in* wireless services in support of public safety and homeland security

4. Consistent with national priorities focusing on homeland security and broadband, and the Commission's commitment to ensure that emergency first responders have access to reliable and interoperable communications, this *Notice* will allow the Commission to compile a record in an effort to determine whether there is a need for changes to the current 700 MHz public safety band plan. The *Notice* is intended to explore whether, particularly in light of the nation's current and anticipated public safety and homeland security needs, a centralized and national approach would maximize public safety access to interoperable, broadband spectrum in the 700 MHz band, and, at the same time, foster and promote the development and deployment of advanced broadband applications, related radio technologies, and a modern, IP-based system architecture. At the same time, the *Notice* also seeks to provide public safety entities with a cost effective and spectrally efficient communications system.

B. Legal Basis

5. The authority for the action proposed in this rulemaking is contained in Sections 1, 2, 4(i), 5(c), 7, 10, 201, 202, 208, 301, 302, 303, 307, 308, 309, 310, 314, 316, 319, 324, 332, 333, 337and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154(i), 155(c), 157, 160, 201, 202, 208, 301, 302, 303, 307, 308, 309, 310, 314, 316, 319, 324, 332, 333, 337 and 403.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

6. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.[45] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[46] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[47] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[48]

7. *Governmental Entities.* The term "small governmental jurisdiction" is defined as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[49] As of 2002, there were approximately 87,525 governmental jurisdictions in

[45] 5 U.S.C. § 603(b)(3).

[46] 5 U.S.C. § 601(6).

[47] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[48] 15 U.S.C. § 632.

[49] 5 U.S.C. § 601(5).

the United States.[50] This number includes 38,967 county governments, municipalities, and townships, of which 37,373 (approximately 95.9%) have populations of fewer than 50,000, and of which 1,594 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall *to be 85,931 or fewer.*

8. *Public Safety Radio Licensees.* As a general matter, public safety radio licensees include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[51] The SBA rules contain a definition for cellular and other wireless telecommunications companies which encompass business entities engaged in wireless communications employing no more than 1,500 persons.[52] According to Census Bureau data for 2002, in this category there was a total of 8,863 firms that operated for the entire year.[53] Of this total, 401 firms had 100 or more employees, and the remainder had fewer than 100 employees.[54] With respect to local governments, in particular, since many governmental entities as well as private businesses comprise the licensees for these services, we include under public safety services the number of government entities affected.

9. *Wireless Communications Equipment Manufacturers.* The SBA has established a small business size standard for radio and television broadcasting and wireless communications equipment manufacturing. Under the standard, firms are considered small if they have 1000 or fewer employees.[55] Census Bureau data for 1997 indicates that, for that year, there were a total of 1,215 establishments[56] in this category.[57] Of those, there were 1,150 that had employment under 500, and an additional 37 that had

[50] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, pages 272-273, Tables 415 and 417.

[51] *See* subparts A and B of Part 90 of the Commission's Rules, 47 C.F.R. §§ 90.1-90.22. Police licensees include 26,608 licensees that serve state, county, and municipal enforcement through telephony (voice), telegraphy (code), and teletype and facsimile (printed material). Fire licensees include 22,677 licensees comprised of private volunteer or professional fire companies, as well as units under governmental control. Public Safety Radio Pool licensees also include 40,512 licensees that are state, county, or municipal entities that use radio for official purposes. There are also 7,325 forestry service licensees comprised of licensees from state departments of conservation and private forest organizations that set up communications networks among fire lookout towers and ground crews. The 9,480 state and local governments are highway maintenance licensees that provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. Emergency medical licensees (1,460) use these channels for emergency medical service communications related to the delivery of emergency medical treatment. Another 19,478 licensees include medical services, rescue organizations, veterinarians, persons with disabilities, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities.

[52] *See* 13 C.F.R. § 121.201 (NAICS code 517212); U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[53] U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Employment Size of Establishments for the United States: 2002," Table 2, NAICS code 517212.

[54] *Id.*

[55] 13 C.F.R. § 121.201, NAICS code 334220.

[56] The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the number given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census break-out data for firms or companies only gives the total number of such entities for 1997, which were 1,089.

[57] U.S. Census Bureau, *1997 Economic Census*, Industry Series: Manufacturing, "Industry Statistics by Employment Size," Table 4, NAICS code 334220.

employment of 500 to 999.[58] The Commission estimates that the majority of wireless communications equipment manufacturers are small businesses.[59]

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

10. This *Notice* seeks comment on possible revisions to the 700 MHz public safety band that may modify reporting, recordkeeping and other compliance requirements. The Commission requests comment on proposals to apply its Secondary Markets leasing regime to a national public safety licensee. Application of secondary markets leasing to the 700 MHz public safety band would require a modification of current reporting and recordkeeping requirements.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered

11. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[60]

12. Generally, the Commission's primary objective in issuing the *Notice* is to maximize public safety access to interoperable, broadband spectrum in the 700 MHz band and, at the same time, foster and promote the development and deployment of advanced broadband applications, related radio technologies, and a modern, IP-based system architecture. To assist the Commission in its analysis, commenters are requested to provide information regarding which public safety entities and manufacturers would be affected by the proposed changes to the 700 MHz public safety band plan as described in this *Notice*. In particular, we seek estimates of how many small entities might be affected and whether any of the proposals under consideration would be too burdensome to public safety.

13. In the *Notice*, we seek data demonstrating the costs and benefits of modifying the 700 MHz band to accommodate a nationwide, broadband, interoperable public safety communications network. Pursuant to the proposed plan, a single nationwide public safety licensee would be selected to hold a single nationwide license for 12 megahertz of public safety spectrum. The national licensee then would make this spectrum available for broadband, interoperable public safety operations, as well as in the 700 MHz narrowband spectrum on a secondary basis. Furthermore, the national licensee would be able to lease excess capacity in these bands to commercial entities on an unconditionally preemptible basis. The *Notice* asks commenters to identify the criteria for selection of a national public safety licensee, how the national licensee can best implement a broadband, interoperable network, the amount of discretion the national licensee should be afforded in designing the best system architecture, how to ensure nationwide build-out, and the appropriate degree of network resiliency and disaster restoration

[58] Census Bureau information for 2002 indicates that there were 1,041 establishments in this category. *See* U.S. Census Bureau, *2002 Economic Census*, Subject Series: Manufacturing, "Industry Statistics for Industry Groups and Industries: 2002," Table 2, (issued October 2005) NAICS code 334220. However, the 2002 Census data does not specify employment size information for establishments in this category.

[59] We note, however that major providers of 700 MHz equipment, Motorola and M/A-COM Private Radio Systems, Inc., are not considered small businesses.

[60] *See* 5 U.S.C. § 603(c).

capabilities for this public safety network. The *Notice* also explores funding options, including the imposition of usage fees charged to public safety users as well as commercial users. Accordingly, we seek comment on the costs and benefits of modifying the existing rules to accommodate deployment of a broadband, interoperable public safety network as proposed.

14. With regard to alternatives, we do not anticipate that any of the proposals under consideration in this *Notice* would impose any additional economic burdens on public safety entities. We believe our proposals will provide a resource for public safety entities to utilize a more cost-effective and spectrally efficient communications system to address their homeland security and emergency response needs. Indeed, one of the major objectives underlying this proposal is to minimize economic burdens on public safety entities. Because we do not anticipate that our proposal will impose additional economic burdens on public safety, and is in fact designed to reduce economic burdens on public safety, we see no reason to propose alternatives to accomplish our objectives. However, we remain open to discussing alternatives to reaching our objectives should an alternative be stated in comments for the specific purpose of minimizing the impact on public safety entities. Accordingly, we seek comment on alternatives including any that may further minimize the impact on public safety entities.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rule

None.

STATEMENT OF
CHAIRMAN KEVIN J. MARTIN

Re: Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band: Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, Ninth Notice of Proposed Rulemaking, (PS Docket No. 06-229, WT Docket No. 96-86).

In our Intelligence Reform Act report to Congress last year, the Commission found that emergency response providers would benefit from development of an integrated, interoperable network capable of delivering broadband services nationwide. Consistent with that finding, and at the urging of public safety, earlier this year the Commission asked whether certain channels within the current twenty-four megahertz of public safety spectrum in the 700 MHz band should be modified to accommodate broadband communications.

Today we expand upon our earlier inquiry by seeking comment on a national approach to maximize public safety access to interoperable, broadband spectrum in the 700 MHz band. I believe this proposal could offer many public safety benefits and is consistent with public safety's views on achieving an interoperable broadband network. Many national and local public safety organizations have expressed support for a public-private partnership approach for a single, national licensee to achieve an interoperable public safety broadband network in the context of other public safety proposals. One example is the Cyren Call proposal, which involves spectrum not currently allocated to public safety. The proposal in today's notice contains these elements, and it involves only the portion of the spectrum already allocated for public safety.

Although today's proposal is similar to other public safety proposals, it is not intended to be a substitute for them. The question of how the nation's spectrum resources in the 700 MHz band should be allocated is ultimately a question for Congress, not the Commission. If Congress determines that additional spectrum resources in the 700 MHz band should be allocated to public safety, the Commission would implement that determination.

In the meantime, however, the Commission is charged with efficiently and effectively managing the 700 MHz spectrum already allocated to public safety by Congress. We must continue to discharge that obligation to the best of our ability consistent with our statutory authority. To do otherwise would abdicate our responsibility at a time when it is more important than ever to ensure that our rules give first responders the communications capabilities they need to protect safety of life and property of the American public.

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

Re: Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, Ninth Notice of Proposed Rulemaking, (PS Docket No. 06-229, WT Docket No. 96-86).

As I have said many times, the safety of the people must always be the first and foremost responsibility of government. We are now over five years out from the tragedy of 9/11 and over a year since Hurricane Katrina, and we know this: America is not as ready as it could be and should be for the next attack or natural disaster, whenever that awful day should come. And that sad truth is not because there are any real disagreements about the policy objectives here with respect to our nation's heroic first responders. Everyone understands the need to provide the nation's first responders with interoperable equipment when they charge into a burning building or perform the thousands of other dangerous tasks each year that keep us safe. Everyone understands the importance of making sure that these dedicated public servants have the resources and funding they need to keep us – and themselves – out of harm's way. And everyone understands that public safety providers must be able to avail themselves of all the extraordinary advances that high-tech companies and commercial providers have made in network architecture and advanced hardware.

Today's NPRM attempts to address these objectives by proposing an inventive public safety model – the creation of a nationwide, interoperable broadband public safety communications network in the 700 MHz band. Specifically, the NPRM seeks comment on whether a national licensee can create such a network through a public-private arrangement, whereby commercial providers would assist public safety agencies in implementing this network.

As I have stated before, government-commercial sharing of public safety spectrum raises a host of complex technical and policy questions – the margin for error is uniquely low, and we must be exceptionally confident that there are no unintended consequences flowing from any actions we approve. At the same time, given the long-standing need for reform in this area, we simply cannot afford to ignore innovative ideas that could potentially revolutionize existing public safety spectrum management. I therefore applaud the Chairman's initiative in seeking comment on this proposal. Thanks also to the staff of the Public Safety and Homeland Security Bureau for preparing and presenting this thoughtful NPRM. I look forward to reading comments from interested and knowledgeable stakeholders, who can help this agency sort through the important and technically complex questions raised by today's item.

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN

Re: Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, Ninth Notice of Proposed Rulemaking, (PS Docket No. 06-229, WT Docket No. 96-86).

I am very pleased to support this Notice of Proposed Rulemaking because it represents a creative approach to an interoperability problem that has long plagued our nation's public safety community. As we become fully immersed in the digital broadband world, it is critical that our first responders have access to the same first-rate communications systems that many consumers already enjoy. Our proposal today puts us closer to that goal than we have come in a long time.

True interoperability has been an elusive goal for the public safety community. Despite our best efforts, the Commission's policies to date have not provided the results we had hoped. While we have seen recent efforts to create certain state-wide and metropolitan area networks, most public safety communications systems remain localized, and interoperability between local, state, and federal agencies is limited. Our item today leapfrogs these previous interoperability efforts and focuses attention on our ability to leverage the licensing process to create a real incentive for nationwide interoperability through a careful balance of flexibility and conditions.

This "carrot and stick" approach is consistent with a view of spectrum policy that I have long advocated. I believe that the Commission has a responsibility to be more resourceful in its approach to spectrum policy and to take a more active role in being on the leading edge of spectrum technology. I have called for the Commission to consider policies that promote flexibility and innovation. Since the spectrum is a finite public resource, we need to see results as well – particularly in the area of wireless broadband, whether for public safety or commercial purposes. I am pleased that this item follows many of these same principles.

Finally, while I wholeheartedly support the launch of this proceeding today, I do want to counsel for taking a cautious and deliberate approach to an ultimate resolution. It is important to acknowledge that our proposal today talks in very broad strokes and looks to commenters to fill in many important details and specifics. A Further Notice of Proposed Rule Making that details a more specific and complete proposal may be needed in order to make sure that we really get this proceeding right. Our item today puts the Commission in a place that it does not routinely occupy. If we decide to go forward with a national broadband public safety licensee, we need to get the specifics nailed down as clearly as possible. We may only have one real bite at this apple, and for the sake of public safety, we want it to be a good one.

STATEMENT OF
COMMISSIONER DEBORAH TAYLOR TATE

Re: Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, Ninth Notice of Proposed Rulemaking, (PS Docket No. 06-229, WT Docket No. 96-86).

Earlier this year, I had an opportunity to hear local public safety personnel recount their experiences on the ground during the tragic events of Hurricanes Katrina and Rita. Their eyewitness accounts underscore how important it is that our nation's first responders have access to reliable and redundant communications in the event of an emergency, and how much remains to be done before those tools are available. A key challenge to effective emergency communications is the current shortfall in the number of interoperable systems that enable different public safety entities to communicate with each other and coordinate their efforts when time is of the essence. Therefore, it is *critical* that we take steps to improve public safety interoperability for all types of disasters – whether terrorist, natural, or even a health pandemic.

With this Notice of Proposed Rulemaking, we propose a centralized and national approach to maximize public safety access to interoperable, broadband spectrum in the 700 MHz band, and, at the same time, foster and promote the development and deployment of advanced broadband applications, related radio technologies, and a modern, IP-based system architecture. I look forward to working with my fellow Commissioners on this proceeding and hearing from public safety entities, state and local officials, and all interested stakeholders regarding what we can do to ensure the reliability and interoperability of communications in order to better protect all Americans.

STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL

Re: Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, Ninth Notice of Proposed Rulemaking, (PS Docket No. 06-229, WT Docket No. 96-86).

I have said many times that I am fully committed to ensuring that the Commission takes advantage of all opportunities to spur technological innovation and increased access to broadband services by emergency response providers. Our country is teeming with entrepreneurs who are ready, willing and able to invest and take the risks necessary to accelerate the development and roll-out of advanced services for an array of customers, including public safety agencies. Moreover, given that over 220 million Americans rely upon wireless technologies for anytime, anywhere communications, the public has high expectations for reliable communications and effective coordination among emergency personnel in times of crisis. I am hopeful that the questions we pose today will enhance the ongoing dialogue regarding partnerships among the public safety community and the commercial wireless industry. The same market and technological forces that have made advanced wireless services an everyday part of living for the vast majority of Americans can and should be leveraged by the public safety community to make robust, redundant, low cost solutions widely available to our nation's first responders.

I'd like to thank the Bureau staff for their work on this NPRM. I'd also like to thank Angela Giancarlo of my staff for her guidance on this matter.