

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington DC 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
)	

COMMENTS OF VERIZON WIRELESS

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February 26, 2007

SUMMARY

Verizon Wireless commends the Commission for its innovative and timely proposal to maximize the efficient use of public safety spectrum to meet the important broadband communications needs of first responders. The proposals in the *Ninth NPRM* will provide public safety with the best opportunity to deploy a nationwide, interoperable broadband network that takes full advantage of the technological advances fueled by commercial wireless service and the substantial cost savings and accelerated deployment that can result from the sharing of commercial wireless infrastructure. Verizon Wireless urges the Commission to move expeditiously to implement the plan outlined in the *Ninth NPRM*. That plan can produce important benefits for public safety organizations and for our country's first responders in the following respects:

- The proposed public safety broadband network would be capable of supporting the full panoply of broadband applications, such as real-time imaging, real-time interconnected Voice over Internet Protocol (“VoIP”) service, and other advanced applications.
- The proposed broadband allocation is consistent with spectrum blocks for commercial broadband services. Such systems can support robust broadband capacities consistent with current commercial systems, if properly engineered.
- The use of COTS equipment, systems and technology, coupled with a national licensee's purchasing power would allow public safety to capitalize on commercial advances in a cost-effective manner. The benefits that would accrue to public safety would not be limited to infrastructure, but would also apply to the data devices and applications for public safety users.
- The sharing of commercial infrastructure for parts of the public safety broadband network could produce even more public safety cost savings. A standalone public safety network would cost many billions, but the leveraging of existing Commercial Mobile Radio Service (“CMRS”) infrastructure could cut those costs by roughly one-third. And, capital expenditures for such a shared infrastructures system over ten years could be roughly half of those for a standalone public safety network.
- The use of existing CMRS infrastructure would also cut network deployment times by almost half. Thus, there is a unique opportunity to accelerate the availability of broadband capabilities for first responders.

Finally, the Commission should consider the benefits of an open competitive bidding (“RFP”) process to enable the public safety broadband licensee to secure equipment, facilities, and systems at competitive rates. The use of such a process is the best way to generate a wide range of approaches to meet public safety's needs.

TABLE OF CONTENTS

SUMMARY	i
I. INTRODUCTION AND SUMMARY.....	1
II. THE 24 MHz PUBLIC SAFETY ALLOCATION ESTABLISHED BY CONGRESS CREATES A UNIQUE OPPORTUNITY TO ACHIEVE ADVANCED BROADBAND CAPABILITIES	4
III. THE PROPOSED USE OF COMMERCIAL BROADBAND TECHNOLOGIES AND COTS EQUIPMENT COULD PROVIDE SUBSTANTIAL ADDITIONAL BENEFITS TO PUBLIC SAFETY	6
IV. THE COMMISSION IS CORRECT THAT PUBLIC SAFETY USE OF EXISTING CMRS INFRASTRUCTURE CAN HAVE ENORMOUS BENEFITS	11
V. CONCLUSION	18

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Verizon Wireless submits these comments in response to the Federal Communications Commission’s (“Commission’s”) Ninth Notice of Proposed Rulemaking in the above-captioned proceeding.¹ As detailed herein, the Commission’s innovative proposal will maximize the efficient use of public safety spectrum to effectively address the important broadband communications needs of first responders.

I. INTRODUCTION AND SUMMARY

The proposals in the *Ninth NPRM* provide public safety with a new approach to deploy a nationwide, interoperable broadband network. Using this approach, public safety can take full advantage of the many technological advances fueled by standardized commercial wireless technologies and the substantial cost savings and accelerated deployment that can result from leveraging key commercial wireless infrastructure.

¹ *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, FCC 06-181 (rel. Dec. 20, 2006) (“*Ninth NPRM*”).

The Commission and our country's first responders have a unique opportunity to forge, for the first time, a national broadband and interoperable network for public safety communications. Congress has set aside 24 MHz of prime spectrum for public safety and required that this prime 700 MHz allocation be cleared of all other users. The key now is to define a sound framework to ensure this spectrum meets the short term and long term communications needs of our vital public safety organizations.

To date, public safety has not yet deployed broadband systems or invested in broadband technology that will provide the services contemplated for this band.² Accordingly, public safety entities are not constrained by past technology choices or equipment investment. As a result, many of the practical and financial problems associated with changing legacy systems or implementation processes – well-known in the narrowband context – do not apply to the development of broadband systems in public safety's 700 MHz spectrum allocation.³

The Commission has correctly recognized that Congress has presented it with a major opportunity to implement an approach that may depart from tradition, yet more effectively address the critical communications needs of the public safety community. The *Ninth NPRM* is a deft and innovative proposal that allows for localized public safety decisions for near term narrowband requirements, while charting a bold vision of an advanced IP-based future for unmet and evolving needs. The Commission raises for the first time the prospect of allowing public safety to capitalize on economies of scale by

² Some state and local governments have been considering the deployment of broadband systems using commercial technology. For example, the District of Columbia has been working with local governments in Maryland and Virginia on plans for a broadband network in the National Capital Region. However, that system has not yet been deployed.

³ We note, however, that public safety agencies still face highly distributed decision-making processes that create organizational and funding challenges. We believe these challenges can be aided by the creation of a national broadband licensee.

creating a single national licensee to manage the broadband network. The *Ninth NPRM* also raises for the first time the prospect of public safety using commercial off-the-shelf (“COTS”) broadband solutions and exploiting commercial wireless infrastructure already blanketing the country. This does not preclude public safety’s ability to shape enhancements to commercial systems, but it would lock in the benefits of the underlying standards-based technologies.

As detailed below, Verizon Wireless commends the Commission for its foresight and believes that the path outlined in the *Ninth NPRM* can produce important benefits for public safety organizations and for our country’s first responders in the following respects:

- The proposed public safety broadband network would be capable of supporting the full panoply of broadband applications, such as real-time imaging, real-time interconnected Voice over Internet Protocol (“VoIP”) service, and other advanced applications.
- The proposed broadband allocation is consistent with spectrum blocks for commercial broadband services. Such systems can support robust broadband capacities consistent with current commercial systems, if properly engineered.
- The use of COTS equipment, systems and technology, coupled with a national licensee’s purchasing power would allow public safety to capitalize on commercial advances in a cost-effective manner. The benefits that would accrue to public safety would not be limited to infrastructure, but would also apply to the data devices and applications for public safety users. Many public safety agencies – federal, state, and local – are already relying on broadband services provided by nationwide commercial wireless networks.
- The sharing of commercial infrastructure for parts of the public safety broadband network could produce even more public safety cost savings. A standalone public safety network would cost many billions, but the leveraging of existing Commercial Mobile Radio Service (“CMRS”) infrastructure could cut those costs by roughly one-third. And, capital expenditures for such a shared infrastructures system over ten years could be roughly half of those for a standalone public safety network.

- The use of existing CMRS infrastructure would also cut network deployment times by almost half. Thus, there is a unique opportunity to accelerate the availability of broadband capabilities for first responders.

Finally, the Commission should consider the benefits of an open competitive bidding (“RFP”) process to enable the public safety broadband licensee to secure equipment, facilities, and systems at competitive rates. The use of such a process is the best way to generate a wide range of approaches to meet public safety’s needs.

II. THE 24 MHZ PUBLIC SAFETY ALLOCATION ESTABLISHED BY CONGRESS CREATES A UNIQUE OPPORTUNITY TO ACHIEVE ADVANCED BROADBAND CAPABILITIES

The allocation of 24 MHz of spectrum from the 700 MHz band for public safety uses provides a unique opportunity to develop and deploy advanced communications systems with the capabilities necessary to properly execute homeland security efforts well into the 21st century. This allocation is a tremendous new asset for public safety – it more than doubles the amount of spectrum available for mission critical land mobile systems in most parts of the country and, approximately two years from today, it will be entirely free of incumbent users. Never before has public safety been given such a large clean slate of contiguous spectrum to design its next generation communications systems.

In order to promote the rapid deployment of a nationwide, interoperable, broadband public safety network within the existing public safety 700 MHz allocation, the *Ninth NPRM* seeks comment on a comprehensive plan that would: (1) allocate 12 MHz of the 700 MHz public safety spectrum for 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 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.⁴ Verizon Wireless applauds the Commission for this innovative framework for effectively addressing the public safety community's future communications needs.

Designating 12 MHz of public safety spectrum for broadband applications will provide public safety users with a network capable of providing the full panoply of broadband applications such as real-time imaging (including streaming video between user devices and the network infrastructure and direct unit-to-unit streams), real-time VoIP interconnected service that will help reduce congestion on public safety's narrowband channels, instant messaging and full internet and intranet access.

As proposed, the spectrum to be designated for public safety broadband systems would be comprised of two paired 6 MHz blocks. This would be sufficient in bandwidth to accommodate multiple broadband carrier signals using commercially available technologies. For example, the CDMA-based EV-DO Rev A. technology standard requires 1.25 MHz of bandwidth for each carrier. Therefore, the public safety national broadband licensee would be able to deploy at least three EV-DO Rev. A carriers within the 6 MHz spectrum blocks, depending on the amount of internal guard band that would be needed to protect public safety narrowband systems.

⁴ *Ninth NPRM*, ¶ 4.

Deployment in this manner would provide capacity similar to CMRS networks, which today serve more than a million customers for each megahertz of spectrum allocated. The 12 MHz of spectrum designated for broadband public safety services, if used as described above, would support the provision of broadband services to more than ten million public safety users. In fact, the Commission has made available for auction several commercial spectrum blocks that provide the same or less spectrum than what the *Ninth NPRM* proposes be made available for public safety broadband needs.⁵ Adding a fourth carrier within the 12 MHz of spectrum would provide even greater capacity and data rates over the 700 MHz network.

III. THE PROPOSED USE OF COMMERCIAL BROADBAND TECHNOLOGIES AND COTS EQUIPMENT COULD PROVIDE SUBSTANTIAL ADDITIONAL BENEFITS TO PUBLIC SAFETY

There is no mistaking the fact that public safety users have unique operational needs that demand specialized equipment. In the past, these specialized needs have driven the public safety community to niche proprietary technologies that did not leverage economies of scale derived from the larger commercial market.

As the Commission recognized in issuing the *Ninth NPRM*, the commercial wireless market has achieved tremendous success in areas such as:

Interoperability: Today's commercial networks offer national and even international service over multiple and sometimes competing networks.

Spectrum Efficiency: Offering service to more than 200,000,000 Americans, commercial wireless carriers have achieved loading levels exceeding 1,000,000 users per megahertz of deployed spectrum.

⁵ For example, the A, B, and C blocks in the Lower 700 MHz band are each 12 MHz in total bandwidth. The Broadband PCS and the recently auctioned Advanced Wireless Service spectrum each contain three spectrum blocks of 10 MHz.

Economies of Scale: A global market for wireless telecommunications services provides manufacturers with tremendous economies of scale. Coupled with the significant purchasing power realized by nationwide carriers, these dynamics help keep equipment costs relatively low.

Evolving Technologies and Applications: The vast potential of the commercial wireless market ensures ever-increasing innovation and efficiencies without the risk of premature obsolescence.

From all indications, the public safety community is increasingly recognizing the value of leveraging commercial wireless technologies and networks for its own communications needs. For example, public safety successfully encouraged the Commission to reconsider technical standards originally adopted for the 4.9 GHz allocation so that public safety devices can better leverage off-the-shelf components designed for commercial 802.11 products in the nearby 5 GHz band.⁶ Also, the Commission has already adopted a number of policies to ensure that the narrowband portion of the 700 MHz public safety band will be used more efficiently and effectively than traditional public safety allocations.⁷ The *Ninth NPRM*, however, expands these previous efforts and contemplates even more significant changes.

Today, the market for public safety communications is fragmented, due in large part to the fact that public safety systems have developed around different and sometimes incompatible technologies that are not used by the much broader commercial wireless

⁶ *In the Matter of The 4.9 GHz Band Transferred from Federal Government Use*, WT Docket No. 00-32, Memorandum Opinion and Order, 19 FCC Rcd 22,325, 22,327 (¶5) (2004) (The Commission reconsidered certain technical standards as recommended by National Public Safety Telecommunications Council ("NPSTC") to "better leverage currently available (*i.e.*, "commercial-off-the-shelf" (COTS)) technologies used in adjacent bands.").

⁷ The public safety community and the Commission have already agreed to a number of regulatory policies for the 700 MHz narrowband channels that reflect significant departures from the rules for other public safety allocations. For example, based on the recommendations of public safety groups such as APCO and NPSTC, the FCC has adopted a digital interoperability standard for 700 MHz voice operations. *In the Matter of The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, WT Docket No. 96-86, Fourth Report and Order and Fifth Notice of Proposed Rule Making, 16 FCC Rcd 2020 (2001).

market. This has prevented public safety from benefiting from the more affordable, more readily available and generally more advanced technologies used in the commercial sector. The *Ninth NPRM* contemplates that the national broadband licensee might use commercial “off-the-shelf” technology and, as discussed in the next section, the possibility of sharing various infrastructure components with existing providers of wireless broadband services.⁸ Verizon Wireless believes that leveraging these existing advancements of the commercial market can bring significant benefits to public safety.

As an initial matter, were the national public safety licensee to utilize the cellularized architecture of commercial wireless broadband systems, it could substantially expand the system’s capacity to accommodate many more users and more bandwidth intensive applications than traditional public safety systems. While public safety networks have typically relied upon as few base stations as possible, operating at as high a power as possible, cellularized systems rely upon multiple base stations in a given operational area. By breaking the operational area into many smaller service areas, cellularized architectures are able to provide significant gains in capacity. Additionally, by further subdividing coverage into smaller and smaller operating areas, a network operator can respond to capacity needs on an as needed basis. Further, as power is a key parameter for providing high speed data capabilities, a cellularized network is much more capable of ensuring that the power levels needed to sustain a high data rate to an end user product are met and sustained. In contrast, a network infrastructure that relies upon a single, high powered base station will have uneven power levels and will much more

⁸ *Ninth NPRM*, ¶¶ 22-23.

quickly experience capacity challenges. This leads to inconsistent data rates, especially as the user moves away from the base station.

In addition, the use of the underlying commercial wireless broadband technology, particularly chipsets, would provide myriad benefits to public safety. First, the use of commercial technology would enable the public safety community to enjoy substantially lower equipment costs because of the ability to leverage off the commercial sector's large scale economies. These benefits will be best achieved if the public safety broadband licensee selects technologies that, at a minimum, are based on the same integrated circuits that provide the key functions for commercial wireless technologies. The lower cost of commercial equipment flows from the enormous scale of the worldwide commercial wireless industry, where commercial carriers buy handsets by the millions. In contrast, in the public safety community, each entity makes individualized equipment decisions, meaning that for small agencies purchases are made in tens and twenties. The small quantities of equipment purchased by public safety substantially increase the cost of equipment.⁹

Second, commercial equipment is also generally readily available and thus its use could substantially speed deployment time. The development cycle for new equipment

⁹ Handsets provide the easiest measure of cost. A typical commercial wireless handset has a retail price of about \$100. Units at prices as high as \$400 or \$500 are considered expensive. Radios used in public safety are much pricier. A planning document for the San Diego/Imperial Valley regional communication system prepared by the San Diego Sheriff Department used \$4,200 for the cost of a Project 25 radio with trunking capabilities. Car-based mobile units were budgeted at \$4,400 each. The price list for the Florida Statewide Law Enforcement Radio System indicates that a typical portable unit costs about \$3,500. See <http://eits.myflorida.com/slers/docs/scl.xls>. The Thales 25 Radio (a Project 25 radio without trunking capability) lists for \$2475 on the company's website, but is available to federal government buyers for \$2117 on the Government Services Administration (GSA) schedule. See http://www2.thalescomminc.com/details.asp?item_id=106&tgs=687108:15696534&cart_id. See also https://www.gsaadvantage.gov/advgsa/advantage/catalog/product_detail.do?BV_UseBVCookie=Yes&oid=34676164.

typically takes several years.¹⁰ If the national licensee were to elect to use individualized, proprietary technology, such technology would need to go through the full development cycle and its deployment would likely be years away. In contrast, commercial broadband services have already been deployed on the commercial side and the underlying chipsets and circuit boards for this technology are readily available. Thus, the use of commercial technology could cut years off the schedule for deploying broadband services to the public safety community.

Finally, COTS technology already supports or has in active development a broad spectrum of applications that would be beneficial to public safety. In fact, many in the public safety community are already familiar with the benefits of COTS equipment as they are current users of broadband commercial networks deployed by Verizon Wireless and other commercial operators. For example, Verizon Wireless uses its CDMA EV-DO network to provide broadband data and other services to tens of thousands of first responders in hundreds of public safety agencies across the country. This includes local police and fire departments in both small and large cities, state police departments throughout a state's geographic area, and many federal agencies that use our network throughout the country.

Verizon Wireless' broadband EV-DO network enables police officers to gain immediate access to criminal records and other information that would have taken several minutes through a voice dispatcher. In addition to providing quicker access to

¹⁰ *See, e.g.*, Petition to Defer Enforcement of Section 90.203(j)(5) of the Commission's Rules, submitted by EF Johnson Company, Kenwood U.S.A. Corporation and Motorola, Inc., WT Docket No. 99-87 (July 14, 2004). While asking the FCC to defer enforcement of a rule designed to implement new technical standards for land mobile radios, these three manufacturers of public safety wireless equipment stated that "[a]lthough this standardization project was initiated in January of 2002, complete system standardization efforts typically take three to five years to complete."

information, the wireless data service also frees up the police department's private radio network for mission-critical voice communications. Similar data services are provided to numerous fire departments across the country, providing access to online databases that contain a variety of information helpful in fighting fires, such as building diagrams and information about chemicals or other hazardous materials inside the burning structure.

Utilizing COTS equipment with a dedicated public safety broadband network would allow public safety to take advantage of existing commercial developments and functionalities without substantial development costs or time delays, while still permitting customization of handsets and applications. It would also enable public safety officials to use dedicated public safety networks and commercial networks interchangeably without requiring separate wireless data devices.

IV. THE COMMISSION IS CORRECT THAT PUBLIC SAFETY USE OF EXISTING CMRS INFRASTRUCTURE CAN HAVE ENORMOUS BENEFITS

As noted in the *Ninth NPRM*, there are also likely to be significant benefits from the sharing of infrastructure between public safety and commercial uses.¹¹ The cost of building a public safety broadband network can be reduced substantially where the national public safety broadband licensee procures the rights to share certain network infrastructure components with existing CMRS networks. Multiple commercial wireless providers already provide nationwide or near-nationwide service, and thus their infrastructure can serve as the base footprint for the great majority of the areas that public safety desires to serve.

¹¹ *Ninth NPRM*, ¶ 23.

Examples of network components that could be shared between the two operations include base transmitter site structures such as the shelter and tower, generator, backhaul circuits, radio network controller and packet data service node core infrastructure, and the PSTN and IP gateway core infrastructure. Importantly, these infrastructure sharing opportunities exist with many commercial operators and not just those that obtain licenses in the 700 MHz band. If the public safety and commercial networks both employ 700 MHz spectrum, the base antenna could also be shared – providing even greater savings.

Leveraging the existing commercial wireless infrastructure could significantly decrease the costs of deploying public safety broadband capabilities. The use of existing commercial wireless infrastructure – towers, base station cabinets, primary and back-up power sources, certain base station hardware, backhaul, routing networks – could significantly decrease capital expenditures required to deploy broadband capabilities for public safety. In general, providing broadband coverage throughout the nation would likely require 30,000 to 40,000 base stations. Should public safety embark on a standalone plan for deploying such capabilities, most if not all of these base station sites would need to be located, moved through the local zoning process, subjected to FAA approvals as necessary, constructed and turned on. In contrast, utilizing existing commercial facilities, many of which have already been updated for broadband, would avoid these costly steps.

While some commercial facilities may need to be supplemented to meet public safety requirements for redundancy and survivability, the use of existing facilities provides a jumpstart that translates directly into financial savings and speeds deployment.

The use of commercial wireless providers' experience and skill in deploying radio systems could also decrease the costs of extending coverage into new areas. In addition, teaming with a commercial wireless provider(s) would give public safety access to engineering expertise and customer care they otherwise would not have.

Verizon Wireless has considerable experience over many years in designing and deploying wireless infrastructure including radio, switching, and transport systems, as well as various support systems such as tower sites and power systems. Based on that experience, we estimate that if the public safety broadband network were deployed in cooperation with a commercial carrier(s) using shared network infrastructure, these initial costs could be reduced by approximately one third. These cost savings assume that public safety spectrum, as well as antennas, base station equipment, radio controllers and application servers, would remain dedicated exclusively to public safety. These estimates consider only infrastructure costs and not the cost of user devices. However, based on our extensive experience as a major purchaser of wireless devices, we estimate that the savings associated with using commercial technology in handsets and other wireless data devices would also be dramatic.

The use of existing commercial infrastructure would also substantially decrease public safety's operating costs over time. For example, the costs of routine maintenance and upgrades at commonly shared facilities – indeed, the whole apparatus that has been developed by carriers for ensuring continued network reliability – could be allocated on a *pro rata* basis. Given the substantial fixed overhead in a site visit, the cost savings could be tremendous, as much as one half over a ten year period. The use of competitive

procurement procedures, as proposed in the *Ninth NPRM*,¹² could potentially increase these cost savings. Thus, the cost savings realized by using existing infrastructure over a region may allow smaller public safety entities and those in rural areas to access services they never could have afforded to implement on their own, and may permit larger public safety entities to use their resources more effectively.

The shared infrastructure model will also expedite the construction and availability of a public safety broadband network. Verizon Wireless estimates that a new standalone broadband network could take up to seven years to fully complete, whereas a network that relies on shared infrastructure with an existing commercial carrier that already has a large operational footprint could be completed within four years.

Because of the significant savings and accelerated deployment that can be achieved through utilization of commercial technology and sharing of existing wireless infrastructure, Verizon Wireless urges the Commission to consider the establishment of competitive procurement procedures to govern the deployment of broadband systems within the 12 MHz broadband allocation. To promote the greatest cost savings possible, this procurement should be open to and encourage consideration of proposals from a wide variety of commercial entities including commercial wireless providers who might be able to utilize their existing infrastructure to benefit public safety.

The contemplated procurement process is envisioned as an open, transparent process designed to provide public safety the benefit of receiving the broadest range of proposals and ideas as to how to deploy a state-of-the-art, interoperable broadband system in the most timely, efficient and economical manner. A procurement process

¹² *Ninth NPRM*, ¶ 35.

would stimulate a broad range of possible deployment solutions, enabling public safety to select the approach that best meets their needs, budget and timeframe. A procurement process that is open to all commercial entities will maximize opportunities to provide public safety with substantial benefits – among them, substantially lower capital expenditures, lower operational expenditures, faster roll-out, access to state-of-the-art research resulting in periodic technology refresh, and interoperability guaranteed from the outset.

As an initial matter, Verizon Wireless believes that a competitive procurement process is the best means to allow public safety to leverage existing commercial infrastructure and resources. Competitive procurement processes are well recognized as appropriate and effective means to attract and secure the most cost-effective solution that meets articulated needs and parameters.¹³ It is for this reason that the U.S. government entrusts this process as the method used to procure its most important security assets, such as new fighter jets and defense systems. Indeed, Congress, by statute, has mandated that federal agencies “in conducting a procurement for property or services . . . shall obtain full and open competition through the use of competitive procedures.”¹⁴ In this

¹³ See Enhancing Communications Interoperability: Guidelines for Developing Requests for Proposals (RFPs), SAFECOM (Mar. 31, 2006), available at <http://www.safecomprogram.gov/NR/rdonlyres/48779A66-33A8-4491-A772-7223914A70D2/0/GuidelinesforRFPDevelopmentCW62806.doc> (noting that “[t]he RFP process provides formal, specific guidance to the vendor community on the requirements and expectations of the buyer agency or community that is conducting the procurement[,] fosters competition among vendors[,] provides advantages to the buyers because a solution, equipment, or service can be selected that best fits their needs at an optimal price[, and] often leads to a reduction in costs and improved, customer-focused delivery of service”).

¹⁴ 41 U.S.C. § 253(a)(1) (requiring the use of competitive procedures in federal government procurements by most executive agencies except in extremely limited situations); 10 U.S.C. § 2304(a)(1) (requiring the use of competitive procedures in federal government procurements by the Secretary of Defense, the Secretary of the Army, the Secretary of the Navy, the Secretary of the Air Force, the Secretary of Homeland Security, and the Administrator of the National Aeronautics and Space Administration except in extremely limited situations). To comply with this provision, a federal agency may either solicit sealed

case, a competitive procurement process would effectively reduce system implementation costs and speed network activation by attracting a broad range of possible deployment solutions. It is also likely to elicit innovative proposals that may more effectively meet public safety's critical communications needs.

Ensuring that the procurement process be open to proposals from commercial wireless providers promises further benefits. While public safety licensees have considerable experience in the deployment of the localized, relatively high power narrowband systems that have characterized mission critical voice systems to date, the broadband systems to be deployed in the proposed public safety broadband allocation are considerably different, both as an operational and technical matter. Commercial wireless providers bring to the table extensive experience in designing and operating these new broadband systems. They also have already deployed infrastructure optimized for broadband wireless networks.

Over the past decade, commercial wireless operators have developed and deployed nearly two hundred thousand base station facilities that provide a variety of basic and advanced services to hundreds of millions of customers.¹⁵ As noted above, these customers include many federal, state, and local public safety agencies. In so doing, commercial wireless operators have already developed experience and expertise

bids or request competitive proposals if sealed bids are inappropriate. 1 U.S.C. § 253(a)(2); 10 U.S.C. § 2304(a)(2).

¹⁵ There is no question that commercial technology can accommodate public safety's capacity needs. Today, commercial networks have evolved to digital broadband systems that carry 20 times more traffic as compared to the early analog systems in the exact same amounts of spectrum. For example, the commercial wireless industry has approximately 220 million customers. *See* http://www.ctia.org/research_statistics/statistics/index.cfm/AID/10202. Those 220 million customers are served in, at most, 170 MHz of CMRS spectrum (50 MHz of cellular spectrum and 120 MHz of PCS spectrum). The CMRS industry therefore has approximately 1.29 million customers per 1 megahertz of spectrum.

with the deployment of broadband systems – they have implemented broadband capabilities in numerous areas of the country and expand their broadband footprints on almost a daily basis. The Commission’s *11th Annual CMRS Report* found that “[a]t least 99% of the U.S. population lives in counties with some form of Next Generation Network deployment” and “[h]igher speed Next Generation Networks (wireless broadband) technologies – EvDO and HSPDA – are available in counties containing 63% and 20% of the U.S. population, respectively.”¹⁶ These systems are exceptionally efficient, highly reliable, and have relatively broad and deep coverage where they have been introduced. Obviously, construction of a public safety broadband network will differ in some important respects, including, among other things, engineering for a different expected load demand and implementing more extensive redundancy and backup capabilities. Nevertheless, the resources and expertise available from commercial operators could be a great boon to public safety.

Indeed, commercial operators have real world experience that is invaluable. They have already conducted interference analyses, developed search rings, and rolled out broadband data capabilities for a substantial percentage of the public. These time-consuming and resource intensive activities need not be duplicated unnecessarily by public safety. In fact, there is no inherent reason why a fully functional public safety broadband network could not, in many areas, duplicate the cell patterns and locations used by commercial providers. Commercial carriers also have core expertise not only in site development and the physical construction of cell sites, but also in systems integration necessary to achieve interoperability and transparency. While a typical small

¹⁶ “FCC Adopts Annual Report on State of Competition in the Wireless Industry,” Division Presentation at 6 (rel. Sept. 26, 2006).

public safety user may be required to implement one or two cell sites every ten years, commercial operators have been adding tens of thousands of cell sites annually, and rapidly and efficiently stitching those sites into an integrated network.

VI. CONCLUSION

Verizon Wireless commends the Commission for its innovative and timely proposal to maximize the efficient use of public safety spectrum to meet the important broadband communications needs of first responders. The proposals in the *Ninth NPRM* will provide public safety with the best opportunity to deploy a nationwide, interoperable broadband network that takes full advantage of the technological advances fueled by commercial wireless service and the substantial cost savings and accelerated deployment that can result from the sharing of commercial wireless infrastructure and technology. Verizon Wireless urges the Commission to move expeditiously to implement this plan.

Respectfully submitted,

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