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

In the Matter of	)	
	)	
Implementing a Nationwide, Broadband,	)	
Interoperable Public Safety Network in the	)	PS Docket No. 06-229
700 MHz Band	)	
	)	

COMMENTS OF SPRINT NEXTEL CORPORATION

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EXECUTIVE SUMMARY

As evidenced by the daunting number of questions raised in the *Further Notice*, the Commission's decision to mandate that all public safety broadband networks adopt Long Term Evolution ("LTE") as their technology platform does not guarantee nationwide interoperability. Hundreds or even thousands of detailed network design decisions must be made to ensure that the thousands of public safety agencies are able to interoperate on a nationwide basis. Codifying these individual decisions is unwise. First, it is premature because many public safety entities are years away from launching network construction as they wait for more clarity regarding the disposition of the D Block and possible funding. In the meantime, however, LTE standards are rapidly evolving and other technical issues raised by the *Further Notice* will likely become obsolete. Second, it is impractical and unrealistic for the Commission to attempt to design, for the first time, an interoperable network by codifying an extraordinary number of design parameters, which will take years to update and will never keep pace with technological innovation.

Rather than attempting to micro-manage the vast array of design choices necessary for a nationwide interoperable network, the Commission should leverage the experience and resources of commercial wireless providers. Commercial wireless providers working in partnership with the public safety community could design and implement a flexible, innovative nationwide interoperable network at a fraction of the cost of a purely public network. The public safety community would also reap substantial benefits from a public-private partnership approach, including commercial economies of scale for devices and other technology, access to the most advanced wireless technologies, higher overall network capacity, and extended geographic coverage.

To lay the groundwork for a public-private partnership approach, and to stimulate vendors, wireless providers, and the public safety community to begin working towards consensus on the "big picture," the Commission should act now to clarify the future use of the entire 700 MHz band, regardless of the ultimate disposition of the D Block. First, the Commission should promote interoperability across the 700 MHz band to further harness economies of scale for the benefit of public safety. Second, the Commission should ensure priority access for public safety users roaming in that band, which will provide public safety with sufficient redundancy, reliability, and capacity, particularly in emergencies. Finally, the Commission should authorize flexible use of public safety's narrowband spectrum, which will promote innovation and investment, and allow public safety entities to access that spectrum when and if they need it to satisfy capacity needs. Moreover, Commission action on these issues will facilitate resolution of the hundreds or thousands of network design elements required to implement such a network, including many of those raised in the *Further Notice*.

During the pendency of this proceeding, the Commission should carefully scrutinize any future requests for early deployment waivers. If public safety networks are established based on today's technology, they may be difficult to integrate into a nationwide interoperable network that deploys different, more advanced technological protocols to be determined in the future. Once the networks are constructed, the Commission has little real ability to ensure

interoperability, especially where public safety entities are financially unable to make the changes necessary to achieve interoperability.

Sprint Nextel urges the Commission to act immediately to promote an innovative and flexible nationwide public safety network, not by codifying suffocating and detailed rules, but by encouraging public-private partnership and authorizing interoperability and priority access across the entire 700 MHz band, as well as providing for narrowband flexibility. Now is the time to groom the 700 MHz band for public safety's future needs, not relegate it to a future of outdated technologies.

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COMMENTS OF SPRINT NEXTEL CORPORATION

I. INTRODUCTION

Sprint Nextel Corporation ("Sprint Nextel") submits these Comments in response to the Fourth Further Notice of Proposed Rulemaking ("*Further Notice*") released in the above-captioned proceeding.[1] The Commission is presented with an immediate and unique opportunity to lay the groundwork for a cost-effective, innovative, and flexible nationwide interoperable public safety broadband network in the 700 MHz band. To reach that goal, the Commission should take initial steps to encourage vendors, wireless service providers, and public safety agencies to reach a consensus on the overarching governance and administrative issues necessary to coordinate a network involving state, regional, and local public safety entities. Rather than advancing this goal, however, the *Further Notice* risks subjecting the vision of nationwide public safety interoperability to death by a thousand rules. The Commission should redirect its efforts to stimulate the development of a robust public safety network by promoting interoperability across the 700 MHz band, ensuring priority access for public safety across that band, and permitting public safety entities to use their narrowband spectrum flexibly for broadband purposes.

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[1] *Service Rules for the 698-746, 747-762 and 777-792 Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Amendment of Part 90 of the Commission's Rules*, WT Docket No. 06-150, PS Docket No. 06-229, WP Docket No. 07-100, Third Report and Order and Fourth Further Notice of Proposed Rulemaking (rel. Jan. 26, 2011) ("*Third Report and Order*" and "*Further Notice*").

II. DETAILED COMMISSION-MANDATED TECHNICAL RULES ARE UNWISE AND, AT A MINIMUM, ARE PREMATURE BEFORE THE OVERARCHING INTEROPERABILITY MODEL IS DETERMINED

The Commission's *Third Report and Order* mandates that all public safety broadband networks adopt LTE as their technology platform.[2] This decision breaks with decades of Commission policy preferring technological neutrality over heavily prescriptive rules that pick technology winners and losers. Although the Commission first moved away from heavily prescriptive rules in the commercial context, it more recently has trended toward applying the same regulatory philosophy in various public safety-related contexts, recognizing that rules should be as "technologically neutral as possible … to avoid hindering or precluding future innovative technological developments."[3] In these public safety-related orders, the Commission has mandated a particular result – such as the delivery of E911 location information,[4] the avoidance of interference by public safety licensees,[5] or the delivery of emergency mobile alerts[6] – without micro-managing the technical choices involved in achieving those results.

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[2] *Third Report and Order* at ¶ 10.

[3] *Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010*, First Report and Order and Third Notice of Proposed Rulemaking, 14 FCC Rcd 152 ¶ 106 (1998).

[4] *See E911 Requirements for IP-Enabled Service Providers*, First Report and Order, 20 FCC Rcd 10245 ¶ 5 (2005) (adopting E911 rules that allow VoIP providers "flexibility to adopt a technological solution that works best for them"); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Third Report and Order, 14 FCC Rcd 17388 ¶ 82 (1999) ("a policy of technological and competitive neutrality best promotes the public safety and welfare goals of this proceeding").

[5] *See Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27 and 90*, Third Report and Order, 23 FCC Rcd 5319 ¶ 3 (2008) (noting that the more flexible power limits granted for 700 MHz public safety broadband operations "created a more technologically neutral environment").

[6] *Commercial Mobile Alert System*, First Report and Order, 23 FCC Rcd 6144 ¶ 33 (2008) ("Consistent with the Commission's well-established policy of technologically-neutral regulation of the wireless telecommunications industry, we believe that CMS providers and equipment manufacturers are in the best position to select and incorporate the technologies that will enable them to most effectively and efficiently deliver mobile alerts.").

The Commission has justified its break with this precedent by arguing that the LTE mandate is necessary to ensure nationwide interoperability.[7] However, the mere adoption of LTE Release 8 falls far short of guaranteeing interoperability. There are still hundreds if not thousands of individual network design decisions to be made within the framework of LTE that have the potential to thwart interoperability between different public safety networks. For example, hardware and software differences in the base stations of different equipment vendors – all running on an LTE platform – can result in dropped sessions when a first responder moves from one system to another. Indeed, commercial carriers regularly perform extensive interoperability testing on all mobile devices to minimize issues with such intersystem handoffs.

Even in those cases where a common LTE platform is successful in allowing mobile devices to "connect" to another network's RF signals, that connection will be of little use if first responders are unable to access and use critical applications when roaming. Decisions will need to be made for each application as to whether the roaming first responder will access that application from the host network, or from its home network. Applications located on a home network are often secured behind a firewall. Without agreed-upon protocols for how a secure Internet "pipe" is established, the roaming first responder may not be able to tunnel through to its home network to access needed applications. Public safety networks that run on different releases of LTE can also encounter interoperability issues that hinder access to applications. The requirement to be backward compatible to Release 8 will be of little help in many cases, given that Release 8 is much more limited in its support for various features and capabilities compared to Releases 9 and 10. For example, Release 8 does not support location-based services, which first responders operating in an unfamiliar area may particularly need. Finally, some

[7] *Third Report and Order* at ¶ 5.

applications, like push-to-talk capabilities, would require a common database of users or some other method to easily import/export users of a given response group of first responders.

These are but a few examples of the flexible parameters within the LTE framework that can affect interoperability. The *Further Notice* seems to have some awareness of the massive number of technical details that are involved in attempting to establish interoperability, seeking comment on well over 400 questions.[8] But even the lengthy list of questions that the *Further Notice* advances only begins to identify the complete list of technical issues involved in establishing an interoperable nationwide public safety broadband network when trying to integrate separate systems into a single, cohesive, interoperable nationwide network. As discussed below, any attempt by the Commission to make decisions on these hundreds of questions is at best premature, and in any event is ill-advised.

Detailed Technical Decisions are Premature at this Time. LTE is evolving quickly. In explaining its decision to mandate LTE Release 8, the *Third Report and Order* cites to public comments that were filed in 2009 and early 2010.[9] Meanwhile, protocols for Release 9 were finalized in first quarter 2010 and the protocols for Release 10 are expected to be complete by June 2011.[10] Work on Release 11 is already in progress.[11] Although some public safety entities have obtained early deployment waivers, the majority of the public safety broadband network is realistically years from being constructed. It is still not known whether the 700 MHz D Block will be auctioned or reallocated to public safety, and there is no finalized governance structure in place even for the 700 MHz nationwide public safety network. It is understandable that most

[8] This count is based on the number of question marks and the number of times the words "seek comment" appears in the *Further Notice*.

[9] *Third Report and Order* at ¶ 9, notes 20-25.

[10] *See* http://www.3gpp.org/Releases (last visited April 6, 2011).

[11] *Id.*

public safety entities will not want to launch network construction until these important, overarching decisions are made. Moreover, depending on the outcome of pending legislation and the level of any possible federal funding, most public safety entities will still need to find funding before they can construct their broadband networks, a challenging task in this era of fiscal constraints.

If the Commission were to make decisions now – based on the comments currently being filed in this docket – on the hundreds of issues raised in the *Further Notice*, the Commission would be locking future public safety networks into severely outdated technological choices. Even if networks have the option to deploy more recent releases of LTE, the requirement that those newer releases be backward compatible at least as far as Release 8 to achieve interoperability may defeat any advantages to interoperability that the newer technology will have to offer. As the Commission recently recognized in another proceeding, the promulgation of "detailed, prescriptive rules ... may have consequences that are difficult to foresee."[12] This warning is particularly apt here, where the technological changes in the LTE standard are moving so rapidly. Moreover, many of the technical decisions teed up in the *Further Notice* are separate from the LTE standard and are at risk of becoming obsolete regardless of the LTE release being deployed.

Rather than trying to determine answers to the highly detailed technical questions in the *Further Notice*, the Commission should continue its outreach efforts through the recently formed Public Safety Advisory Committee ("PSAC") to the Emergency Response Interoperability

[12] *Further Inquiry into Two Under-Developed Issues in the Open Internet Proceeding*, Public Notice, 25 FCC Rcd 12637 (Sept. 1, 2010).

Center.[13] The PSAC should engage in discussions with vendors, wireless service providers and public safety agencies to help first form a consensus on the "big picture" governance and administrative issues that are a critical prerequisite for establishing a nationwide interoperable network that involves thousands of individual public safety entities.

Responsibility for Interoperability Should Neither Rest with Thousands of Individual Public Safety Agencies Nor Be Dictated by Commission Fiat. As indicated above, there are at least many hundreds of discrete network design parameters that can make or break interoperability. It would be impractical for the thousands of individual public safety agencies across the country to reach consensus on these details.[14] By seeking comment on hundreds of technical questions, the *Further Notice* seems to recognize the need for centralized decision-making to ensure interoperability. Unfortunately, the Commission leaves the distinct impression that it might try to become that centralized decision-maker by codifying a vast array of network design parameters on a scale never before seen in Commission rulemaking. That would be a mistake for two reasons.

First, codifying the details of network design eliminates flexibility and stymies future innovation and efficiency. Updating a rule to reflect newer technologies can easily take a year or two, by which time they are no longer "newer technologies" (and public safety communications will suffer from any lag behind the dynamic pace of commercial network design and technology deployment).

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[13] *FCC Announces Membership of the Emergency Response Interoperability Center Public Safety Advisory Committee*, Public Notice, DA 11-196 (rel. Feb. 2, 2011).

[14] Creating several regional public safety governing bodies would not make the process much more manageable in reality, because each body would first have to reach internal decisions after taking into consideration the concerns of its many constituent members.

Second, like the public safety entities themselves, the Commission has no experience in establishing interoperable networks. By contrast, commercial wireless operators work to ensure interoperability every day. Thus, as discussed further in Section III below, interoperability could best be achieved by commercial entities working in partnership with public safety. This intermediary entity could translate field-level needs into the thousands of discrete design choices (that work as well in an urban area as a rural area) needed to ensure nationwide interoperability.

Additional Early Deployments Should Be Very Limited. In determining to mandate LTE Release 8, the *Third Report and Order* cited to its similar decision in the *Waiver Order* proceeding,[15] in which the Commission granted 21 public safety entities conditional waivers to pursue early deployment of statewide, regional or local broadband networks.[16] For the same reason that it is premature to establish the myriad technical parameters of a nationwide network, the Commission should carefully consider the dangers inherent in granting additional early deployment waivers, especially those covering large geographic areas. If local or state networks are established based on today's technology, they may be difficult to integrate into a nationwide interoperable network that deploys different, more advanced technological protocols to be determined in the future.

While the *Waiver Order* was conditioned on compliance with any later-adopted interoperability requirements, such a condition may be hard to enforce in practice. Once the investments have been made and equipment purchased, public safety entities may find that they are financially unable to make the necessary changes to ensure interoperability, which could be

[15] *See Requests for Waiver of Various Petitioners to Allow the Establishment of 700 MHz Interoperable Public Safety Wireless Broadband Networks,* Order, 25 FCC Rcd 5145 (2010) (*"Waiver Order").*

[16] *Third Report and Order* at ¶ 9.

as significant as actually replacing incompatible equipment.[17] Once the systems are built, the Commission has little real ability as a practical matter to ensure interoperability. To limit the deleterious effects of a profusion of incompatible systems built at different times to different specifications, future waivers should be carefully scrutinized and be strictly limited to meet immediate needs of public safety entities fully ready to deploy a broadband network.[18]

III. A PUBLIC-PRIVATE PARTNERSHIP MODEL OFFERS MANIFOLD BENEFITS

A public-private partnership model is the most viable and beneficial means of facilitating the deployment of a flexible, nationwide, interoperable public safety broadband network. Although the Commission's envisioned mandatory public-private model[19] did not come to fruition, it should not prematurely jettison this general public-private partnership approach, and all of its attendant benefits, in favor of prescriptive and suffocating technological rules. As noted in the National Broadband Plan, "The Commission should overcome past challenges by encouraging, though not requiring, incentive based partnerships to ensure success."[20] Properly implemented, public-private partnerships may enable public safety agencies to leverage commercial broadband technology to realize extensive cost savings and gain access to the most advanced technologies. In addition, such partnerships may prove central to achieving the

[17] For example, equipment containing a proprietary layer that could hinder roaming or prevent other vendors from building interoperable systems may need to be modified or replaced.

[18] In particular, waivers should be limited to entities where immediate funding is available, as well as the technical expertise to monitor new technological developments and ensure future interoperability.

[19] *See Service Rules for the 698-746, 747-762 and 777-792 Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, Second Report and Order, 22 FCC Rcd 15289, 15431 ¶ 395 (2007) ("*Second Report and Order*").

[20] *See* Federal Communications Commission, *Connecting America: The National Broadband Plan* at 315 (rel. Mar. 16, 2010) ("*NBP*"), *available at* www.broadband.gov.

Commission's goals of facilitating deployment of a nationwide interoperable network that is innovative and adaptive.[21]

In 2007, the Commission recognized that the primary advantage of a public-private partnership model is that it addresses "the most significant obstacle to constructing a public safety network": the limited supply of public funding.[22] This benefit is as salient today as it was in 2007.[23] As noted by the FCC's Omnibus Broadband Initiative's ("OBI") cost model, "leveraging of commercial technologies will enable public safety agencies to achieve greater communications capabilities, but at much lower costs."[24] OBI calculated that the capital expenses alone for a stand-alone public safety network would approach $34.4 billion, compared to just $6.5 billion for a network built under a public-private partnership model.[25] Moreover, OBI estimated that the operating costs of a stand-alone network would be "proportionally even more" than the operating costs of a shared network.[26] A public-private partnership will not only

[21] *See id.* at 314 ("Ultimately, this system must be flexible, allowing public safety entities to forge incentive-based partnerships with commercial operators and others. This system will allow the public safety community to realize the benefits of commercial technologies, which will reduce costs and ensure the network evolves.").

[22] *See, e.g.*, *Second Report and Order* at 15431 ¶ 396; *NBP* at 315 ("The public safety community must be able to partner with commercial operators and others . . . to lower the costs of building the network and encourage its evolution.").

[23] *See* Federal Communications Commission, *A Broadband Network Cost Model: A Basis for Public Funding Essential to Bringing Nationwide Interoperable Communications to America's First Responders* at 3-6 (Apr. 2010) ("*Broadband Network Cost Model*") (report of the FCC's Omnibus Broadband Initiative explaining how public safety agencies can leverage the deployment of 4G commercial wireless networks to reduce construction costs of a nationwide broadband network); *NBP* at 315; *Ex Parte* filing by Coalition for 4G in America, PS Docket No. 06-229, 1-2 (filed June 3, 2010) ("*Coalition June 3 Ex Parte*"). Sprint Nextel is a member of Connect Public Safety Now, formerly Coalition for 4G in America.

[24] *Broadband Network Cost Model* at 1.

[25] *Id.* at 3-5.

[26] *Id.* at 5.

defray the build-out costs in the shared spectrum, but also ensure that the spectrum is used efficiently when it is not used for public safety.[27]

In addition to these substantial cost savings, numerous other benefits will also inure to public safety agencies from a public-private partnership model.[28] For example, partnering with commercial networks will give public safety entities dedicated servers for applications and services that require high levels of security, privacy, and reliability.[29] Commercial partners will be able to guarantee public safety entities initial access under congested conditions, higher overall network capacity, extended geographic coverage, and commercial economies of scale.[30] As the National Broadband Plan recognized, "[t]here are significant benefits, including cost efficiencies and improved technological advancement, if the public safety community can increasingly use applications and devices developed for commercial broadband networks."[31] Indeed, a public-private partnership model will give public safety entities the ability to use off-

[27] *See Broadband Network Cost Model* at 5-6; *Second Report and Order* at 15431 ¶ 396; Federal Communications Commission, *The Public Safety Nationwide Interoperable Broadband Network: A New Model for Capacity, Performance and Cost*, 10-11, 16-17 (June 2010) ("*Capacity Study*").

[28] Indeed, the cost savings, economies of scale, and other benefits that would result from a public-private partnership have already been borne out in the commercial marketplace, where commercial carriers have entered into partnerships among themselves to obtain some of the same benefits. For example, T-Mobile noted that it has successfully partnered with Cingular (now AT&T) "to share a wireless network in California and New York," and is pursuing a similar network sharing partnership with Orange in the United Kingdom. *Ex Parte* filing by T-Mobile USA, Inc., WT Docket No. 10-133, ET Docket No. 10-123, PS Docket No. 06-229, WT Docket No. 05-265, 3 (filed Jan. 6, 2011).

[29] *See Broadband Network Cost Model* at 1; *Coalition June 3 Ex Parte* at 2; *NBP* at 316 ("Infrastructure sharing can also reinforce network reliability and service continuity among commercial networks, particularly carriers entering into incentive-based partnerships with public safety organizations.").

[30] *See NBP* at 315-16; *Capacity Study* at 16; *Ex Parte* filing by T-Mobile USA, Inc. and Sprint Nextel Corporation, PS Docket No. 06-229, WT Docket No. 06-150; GN Docket No. 09-51, 1 (filed Mar. 2, 2011) ("*T-Mobile and Sprint Nextel Ex Parte*") (attaching a detailed study, "Public Safety Priority Access to Shared Commercial Networks," prepared by Roberson and Associates, LLC to evaluate the feasibility of a shared public-private network).

[31] *NBP* at 314.

the-shelf technology and to piggyback off of commercial carriers' research and development regarding advanced, innovative wireless technologies.[32]

Many public safety entities are, in fact, already familiar with the advantages of partnering with commercial carriers in emergency situations. Sprint Nextel has extensive experience in partnering with state and local agencies when public safety networks are damaged or unable to handle the communications demands associated with natural or man-made disasters.[33] A long term public-private partnership would ensure even more rapid coordination and seamless operations in times of emergency.

Continuing the Commission's recent practice of granting *ad hoc* waivers for early deployment of statewide or regional broadband networks threatens to thwart the goal of an interoperable nationwide network. As the Commission recognized in 2007, such an *ad hoc* approach will likely leave much of the country unserved by the interoperable public safety network.[34] This approach also jeopardizes the goal of nationwide interoperability. A flexible, innovative, interoperable nationwide public safety network will prove immensely challenging without one or more commercial partners, who are ideally situated to achieve the performance specifications that public safety requires while ensuring interoperability.

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[32] *See id.* at 316 ("Commercial devices should allow the public safety community access to better and less expensive options for use in the public safety spectrum."); *Second Report and Order* at 15431 ¶ 396.

[33] For example, Sprint Nextel has assisted the following jurisdictions in specific emergency situations: City of Baton Rouge, LA (Hurricanes Gustav and Ike, 2008); Florida Department of Agriculture (wildfires, November 2009); City of Fargo, ND (floods, March 2010); City of Moorhead, MN (floods, March 2011); Mine Safety and Health Administration (West Virginia mine accident, April 2010); and Metro Government Nashville, TN (floods, May 2010). Sprint Nextel also works with agencies in disaster preparedness training exercises, such as the Southwest Florida Regional Planning Council Homeland Security Exercise held this month.

[34] *Id.* ¶ 397.

IV. THE COMMISSION SHOULD ADDRESS CRITICAL FUTURE PUBLIC SAFETY NEEDS NOW RATHER THAN PRESCRIBE OVERLY DETAILED, UNNECESSARY, AND SUFFOCATING RULES

The 700 MHz band offers the Commission a once-in-a-generation opportunity to groom spectrum on the front-end for public safety's future needs. By laying the groundwork for flexibility and interoperability now, the Commission can ensure that tomorrow's nationwide public safety broadband network is cost-effective, innovative, and spectrum efficient.[35] But as more time passes and the 700 MHz spectrum becomes increasingly encumbered, the Commission's command-and-control approach risks leaving public safety stranded in the past with outdated and inefficient spectrum and devices. And if it continues to develop and prescribe a host of technical rules at the physical, network, and application layers, as proposed in the *Further Notice*, the Commission will ensure the demise of the adaptive, innovative, and evolving nationwide public safety broadband network envisioned in the National Broadband Plan.[36] The Commission should adopt a forward-looking approach by laying the groundwork for an advanced and flexible public safety network for the future, thereby obviating the need to resolve many of the stand-alone technical issues or prescribe countless static technological rules as proposed in the *Further Notice*. That groundwork should include provisions to ensure interoperability throughout the entire 700 MHz band, priority access for public safety users roaming on commercial broadband networks in the 700 MHz band, and flexibility to use current public safety narrowband and guard band spectrum for broadband service.

[35] *See* Reply Comments of Sprint Nextel Corp., PS Docket No. 06-229, 2-5 (filed Jan. 7, 2011) ("Sprint Nextel Reply Comments").

[36] *See NBP* at 314-16.

Interoperability Across the 700 MHz Band. Interoperability across the 700 MHz band is critical to ensure deployment of a nationwide interoperable public safety broadband network.[37] The National Broadband Plan emphasized that "[t]o ensure the necessary resiliency, capacity and redundancy, the public safety community should be able to roam and obtain priority access on other commercial broadband networks."[38] Without interoperability across the entire band, which is ideally suited for nationwide public safety coverage, the development of a nationwide public safety network will be substantially delayed and more costly, especially in rural areas.[39]

No matter how public safety ultimately is accommodated in the D Block, the myriad public safety devices that are required for mission-critical operations must interoperate. Indeed, the National Broadband Plan envisioned that the Commission would "encourage the deployment of public safety devices that transmit across the entire broadband portion of the 700 MHz band."[40] Interoperability across the 700 MHz band will ensure that the public safety community has access to the best devices.[41] Public safety will be able to tap into the economies of scale driven by commercial volumes to obtain lower-cost devices that feature cutting-edge capabilities.[42] Interoperability across the 700 MHz band, particularly where it is deployed under

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[37] *Ex Parte* filing by Connect Public Safety Now, WT Docket No. 06-150, PS Docket No. 06-229, GN Docket No. 09-51, RM-11592, 2 (filed Dec. 2, 2010). *See also In re 700 MHz Block A Good Faith Purchasers Alliance Petition for Rulemaking Regarding 700 MHz Band Mobile Equipment Design and Procurement Practices*, Public Notice RM No. 11592, DA 10-278 (rel. Feb. 18, 2010).

[38] *NBP* at 315.

[39] *See* Peter Cramton, *700 MHz Device Flexibility Promotes Competition*, attachment to *Ex Parte* filing by the Rural Cellular Association, RM Docket No. 11-592, 7-8 (filed Aug. 9, 2010) ("*Cramton Study*").

[40] *NBP* at 316.

[41] *See id.*; *Ex Parte* filing by Coalition for 4G in America, WT Docket No. 06-150, PS Docket No. 06-229, GN Docket No. 09-51 (filed June 17, 2010) (noting that interoperability throughout the 700 MHz band would "further . . . competitive benefits and economies of scale").

[42] *See* Roberson and Associates, LLC, *Public Safety Priority Access to Shared Networks*, attachment to *T-Mobile and Sprint Nextel Ex Parte*, 12 ("*Roberson Study*").

a public-private partnership approach, would also eliminate the need for many of the technical rules raised in the *Further Notice*.[43]

An additional benefit of interoperability across the 700 MHz band is the redundant capacity such interoperability would provide public safety users. For example, as noted by the *Capacity Study*, roaming with priority access on commercial broadband networks in the 700 MHz band would give public safety users surge capacity without wasting spectrum.[44] Specifically, the *Capacity Study* noted that the "most cost-effective and spectrally efficient way to meet the emergency communications needs of the public safety community is through providing adequate infrastructure and spectrum sharing."[45] Adequate infrastructure and spectrum sharing, in turn, includes "ensuring a backstop capability for times when the public safety network is unavailable or there is a huge surge in demand" by implementing the National Broadband Plan's priority access and roaming regime.[46] In addition, interoperability would enhance public safety network capacity by enabling it to capture the efficiency gains of commercial technologies.[47] For these reasons, the Commission should fulfill the vision of the National Broadband Plan and ensure an interoperable public safety network across the 700 MHz band.

Priority Access. As noted above, the *Capacity Study* recognized that priority access for public safety users roaming on the 700 MHz band is necessary to ensure that the nationwide interoperable public safety broadband network has sufficient redundancy, reliability, and

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[43] *See Further Notice* ¶¶ 35-37, 85-99.

[44] *Capacity Study* at 11-12.

[45] *Id.*

[46] *Id.*

[47] *See Further Notice* ¶ 63 (stating "it is important to ensure that public safety broadband networks are able to capture [the] efficiency gains" of commercial technologies).

capacity.[48] The National Broadband Plan recommended that "authorized public safety users should get priority access on commercial networks, including all networks using the 700 MHz band" and that the Commission require CMRS providers to "give public safety users the ability to roam on commercial networks in the 700 MHz" band.[49] By providing for both priority access and roaming across the 700 MHz band, the Commission can "ensure that there is sufficient capacity available when major emergencies occur."[50] The Commission would also obviate the need for several of the technical rules raised in the *Further Notice*, particularly where a commercial provider worked in partnership with the public safety community to address the design parameters necessary for priority access.[51]

Priority access is not a lofty goal – it is a critical and attainable component of a nationwide interoperable public safety network. As the *Roberson Study* found, a commercial wireless broadband network operating on a shared basis with a public safety network in the 700 MHz band can meet priority access requirements and provide expanded geographic coverage when public safety requires it.[52] Specifically, the *Roberson Study* demonstrated that commercial networks can guarantee priority access to public safety users even when the commercial network is operating at capacity, can guarantee a required amount of capacity for public safety users, and can guarantee automatic priority access without explicit action by a public safety user.[53] Furthermore, interoperability in the 700 MHz band will not cause harmful or burdensome

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[48] *Id.* at 10-13.

[49] *NBP* at 315-16.

[50] *Capacity Study* at 10; *Ex Parte* filing of Coalition for 4G in America, WT Docket No. 06-150, PS Docket No. 06-229, GN Docket Nos. 09-47, 09-51, 09-137, RM Docket No. 11592, 3 (filed June 22, 2010).

[51] *See Further Notice* ¶¶ 90-92.

[52] *Roberson Study* at 11; *see also T-Mobile and Sprint Nextel Ex Parte* at 1.

[53] *Roberson Study* at 66-69.

interference, particularly given LTE system deployment techniques and interference management mechanisms.[54] The National Broadband Plan's goal of ensuring priority access for public access users roaming in the 700 MHz band is feasible and necessary, and the Commission should take the appropriate steps now to make priority access a reality.

Narrowband Flexibility. The Commission should authorize flexible use of public safety's 700 MHz narrowband spectrum so that public safety entities may upgrade to broadband applications when and if they deem it appropriate or necessary. Given that the transition from narrowband public safety operations to broadband operations is inevitable, and that different jurisdictions will be ready to make that leap at different times, granting flexibility now is necessary to avoid holding back public safety when an entity is ready and willing to make the transition.[55] The interests of public safety are not served by a legacy mandate requiring yesterday's technology for tomorrow.[56] Such a mandate is particularly troubling where so much narrowband spectrum remains unused throughout vast areas of the country – and is likely to remain unused indefinitely.[57]

Flexibility will provide the public safety community with the means to upgrade to broadband in a cost-effective and spectrum-efficient manner without the need for further

[54] *Ex Parte* filing by Coalition for 4G in America, WT Docket No. 06-150, PS Docket No. 06-229, GN Docket No. 09-51, 2 (filed Sept. 20, 2010) ("*Coalition Sept. 20 Ex Parte*"); Wireless Strategy, *Lower 700 MHz Interference Management*, attachment to *Coalition Sept. 20 Ex Parte*, 18.

[55] *See* Sprint Nextel Reply Comments at 2; Comments of T-Mobile USA, Inc., PS Docket No. 06-229, 4-6 (filed Dec. 3, 2010) ("T-Mobile Comments"); Reply Comments of T-Mobile USA, Inc., PS Docket No. 06-229, 13-14 (filed Jan. 7, 2011) ("T-Mobile Reply Comments").

[56] *See* Comments of Sprint Nextel Corp., PS Docket No. 06-229, 3, 5 (filed Dec. 3, 2010) ("Sprint Nextel Comments").

[57] *See* Sprint Nextel Reply Comments at 3 (noting that according to a survey conducted by the Association of Public-Safety Communications Officials – International, Inc., many public safety entities have little or no interest in using 700 MHz spectrum for narrowband operations).

Commission or Congressional action.[58] And because flexibility, by its nature, provides choice, each jurisdiction will have discretion to use its spectrum for broadband if and when it is ready. Moreover, flexibility will benefit *all* public safety entities, even the ones who are not early adopters, by promoting technological development, innovation, competitive choices, and investment.[59] Narrowband flexibility would also provide a means by which public safety entities could satisfy spectrum needs because it would add additional broadband capacity they could access during occasional surges in demand.[60] Finally, the Commission should authorize narrowband flexibility because it would advance the National Broadband Plan's spectrum and public safety goals.[61]

The Commission Should Act Now. The Commission can and should address these issues before Congress determines whether to reallocate the D Block. Flexible use could be implemented quickly in the 700 MHz public safety band, and the benefits of that use could be achieved after an appropriate notice and comment period. Likewise, the Commission should not delay taking steps to promote interoperability across the 700 MHz band and to ensure priority access for public safety users roaming in that band, as these measures promise immense benefits to public safety, regardless of how the D Block is allocated. Moreover, by ensuring interoperability and priority access across the 700 MHz band, as well as providing for narrowband flexibility, the Commission will lay the foundation on which vendors, wireless service providers and public safety agencies can build a consensus on the governance and administrative issues necessary to establish a nationwide interoperable network. Commission

[58] *See id.* at 2-8; T-Mobile Reply Comments at 2.

[59] Sprint Nextel Comments at 2-3.

[60] Sprint Nextel Reply Comments at 8; T-Mobile Comments at 7-8.

[61] *NBP* at 75, 315.

action on these issues will also streamline resolution of the hundreds or thousands of network design elements required to implement such a network, and reprieve the Commission from attempting to codify – and constantly update – these parameters. The Commission should start advancing these important public safety initiatives now, as the time is ripe to prepare the 700 MHz band for public safety's future needs – before it is hopelessly encumbered by millions of incompatible mobile devices and equipment.

V. CONCLUSION

As the Commission develops a regulatory framework for a nationwide interoperable public safety network, it must take care that its well-intentioned efforts do not burden public safety entities with extensive prescriptive rules that keep them forever hitched to yesterday's technology. Tomorrow's nationwide interoperable public safety network must be agile, innovative, and efficient to keep pace with rapidly evolving wireless platforms and technologies. The Commission should ensure that public safety continues to evolve – and is able to do so cost effectively – by implementing a public-private partnership approach that harnesses commercial economies of scale for public safety's needs. The Commission should also stimulate the development of a robust public safety network by promoting interoperability across the 700 MHz band, ensuring priority access for public safety across that band, and permitting public safety entities to use their narrowband spectrum flexibly for broadband purposes. These initiatives will not only benefit the public safety community, but also relieve the Commission of the daunting task of codifying and updating the vast array of technical rules necessary for it to design from scratch a nationwide interoperable public safety broadband network.

Respectfully submitted,

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