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
	)	
	)	
	)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	WT Docket No. 06-150
	)	

COMMENTS OF AT&T INC.

AT&T INC.

By: */s/Robert Vitanza*
Robert Vitanza
Gary L. Phillips
Paul K. Mancini

1120 20th Street, NW
Washington, DC 20036
(202) 457-2054

Its Attorneys

October 16, 2009

TABLE OF CONTENTS

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
	)	
	)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands	)	WT Docket No. 06-150

COMMENTS OF AT&T INC.

AT&T Inc., on behalf of AT&T Mobility LLC and its wholly-owned and controlled wireless affiliates (collectively "AT&T"), submits these comments in support of petitions for waiver of Commission rules filed by public safety entities ("Petitioners") seeking authority to deploy public safety broadband systems on a local or regional basis in the 10 MHz of 700 MHz public safety broadband spectrum currently licensed to the Public Safety Spectrum Trust ("PSST") (i.e. 763-768/793-798 MHz), and, in some cases, the 700 MHz D-Block (i.e. 758-763/788-793 MHz) (collectively, the "Requests").[1] AT&T supports these public safety initiatives and urges the Commission to act expeditiously to grant the Requests.

[1] *See* City of Boston Amended Request for Waiver, PS Docket No. 06-229 (filed May 28, 2009), as amended by City of Boston Erratum, PS Docket No. 06-229 (filed June 19, 2009) ("Amended Boston Request"); City and County of San Francisco, City of Oakland, City of San Jose Amended Request for Waiver, PS Docket No. 06-229 (filed May 27, 2009) ("Amended Bay Area Cities Request"); State of New Jersey Petition, PS Docket No. 06-229 (filed Apr. 3, 2009) ("New Jersey Request"); City of New York Petition for Waiver, PS Docket No. 06-229 (filed June 8, 2009) ("NYC Request); District of Columbia Request for Waiver, PS Docket No. 06-229 (filed June 26, 2009); New York State Request for Waiver, PS Docket No. 06-229 (filed July 1, 2009); City of Chesapeake, Virginia Request for Waiver, PS Docket No. 06-229 (filed July 9, 2009) ; City of San Antonio, Texas Petition for Expedited Waiver, PS Docket No. 06-229 (filed July 10, 2009); State of New Mexico Petition for Expedited Waiver, PS Docket No. 06-229 (filed July 10, 2009); North Dakota Waiver-Expedited Action Requested, PS Docket No. 06-229 (filed August 18, 2009); Petition for Waiver of the City of Charlotte, North Carolina, PS Docket No. 06-229 (filed Aug 4., 2009); Iowa Petition for Expedited Waiver, PS Docket No. 06-229 (filed Oct.15, 2009); New EA, Inc. dba Flow Mobile Request for Waiver, PS Docket No. 06-229 (filed July 7, 2009) (collectively, the "Requests"). The

AT&T believes that the deployment of local or regional 700 MHz networks can form the backbone of a "network of networks" that ultimately will provide public safety with interoperable broadband access across the country. Such networks can be funded and constructed using procurement practices commonly used by local governments in a manner that leverages the network infrastructure and management of commercial broadband networks. To this end, AT&T advocates the granting of the Requests and the adoption of a "leveraged network model" to enable the expeditious deployment of 700 MHz broadband public safety networks.

I. INTRODUCTION AND SUMMARY

Efforts over the past two years to build a nationwide interoperable public safety network by auctioning the 700 MHz D-Block spectrum to a commercial entity to be shared with public safety users have failed for several reasons. In the D-Block auction, commercial entities proved unwilling to bear the uncertainty of the public/private partnership and the cost of funding an open-ended public safety-grade network in exchange for secondary access to public safety spectrum. More recent attempts by the Commission to make a D-Block auction more attractive by reducing the uncertainty on commercial bidders have likewise provoked substantial opposition.[2]

Many commercial operators continue to be concerned about the financial viability of a public/private partnership, as envisioned by the Commission. Further, many commenters have objected to the concept of a single national D-Block licensee, arguing that it unwisely limits

---

original waiver requests filed by the State of North Dakota and the State of Iowa were subsequently withdrawn and replaced with the waiver requests cited above.

[2] *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, Third Further Notice of Proposed Rulemaking, WT Docket No. 06-150, PS Docket No. 06-229, FCC 08-230 (2008); *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 Notice of Proposed Rulemaking, WT Docket No. 06-150, PS Docket No. 06-229, FCC 08-128 (2008).

public safety's ability to tailor the network to unique local needs.[3] These factors lead many public safety officials to question the shared network/single public safety licensee model.

However, the Commission should not be deterred from pursuing the goal of an extensive interoperable broadband network for public safety users, though the process by which this goal is achieved may evolve. Instead, the Commission should seek to achieve this goal through a "network-of-networks" approach that relies on local and regional deployment in lieu of a single nationwide shared network. Such an approach can ensure interoperability if all local and regional networks utilize a common network technology and meet standards pre-established by the Commission. A "network of networks" approach will also promote broadband deployment to rural areas.

AT&T proposes that the Commission take two steps to further the goal of a ubiquitous public safety broadband network. As an initial step, the Commission should grant the Requests (and any similar request received in the future) to enable more timely public safety broadband deployment. The Requests seek permission to deploy regional public safety networks using the 700 MHz public safety broadband spectrum, and in some cases, the 700 MHz D-Block spectrum. Although the details of the Requests differ slightly, all of the Requests highlight the importance of rapid deployment in their localities or regions and express concern about the current status of the D-Block proceeding.[4]

Contemporaneous with granting the Requests, the Commission should clarify the specific facts that a public safety entity must demonstrate to warrant a waiver grant. Any public safety

[3] *See* Comments of The City and County of San Francisco California and the City of Oakland California, WT Docket No. 06-150 (filed Nov. 3, 2008); Comments of Philadelphia, WT Docket No. 06-150 (filed Nov. 3, 2008); Comments of the Commonwealth of Kentucky, WT Docket No. 06-150 (filed Nov. 3, 2008); Comments of the Michigan Department of Information Technology, WT Docket No. 06-150 (filed Nov. 3, 2008); Comments of the New York City Police Department, WT Docket No. 06-150 (filed Nov. 3, 2008); Comments of Regional Planning Committee 20, WT Docket No. 06-150 (filed Nov. 3, 2008).

[4] *See e.g.* Amended Boston Request, pp. 2-3; Amended Bay Area Cities Request, p. 6; New Jersey Request, pp. 2-3.

entity that is willing and able to deploy a public safety broadband network and can demonstrate in a manner directed by the Commission that such deployment is in the public interest should have the opportunity to utilize the 700 MHz public safety spectrum to deploy such a network. To ensure interoperability between public safety networks, the Commission should also impose certain minimum standards that public safety entities must meet to deploy 700 MHz public safety networks early.

As a second step, the Commission should adopt a "leveraged network" approach for the 700 MHz public safety broadband spectrum that allows public safety to utilize commercial network resources and management to provide public safety with broadband communications capabilities. This "leveraged network" approach consists of two major elements: (1) making a full 20 MHz of 700 MHz spectrum available for local and regional public safety use for broadband services; and (2) directing the local and regional public safety entities to use a request for proposal ("RFP") process to leverage commercial operator infrastructure to "host" the public-safety dedicated spectrum and fully-dedicated radio access network ("RAN") equipment. Rather than relying on mandatory sharing of public safety spectrum between public safety and commercial operators or a costly greenfield approach, a "leveraged network" approach permits public safety to take advantage of existing commercial infrastructure through a negotiated arrangement with those commercial operators that are willing and able to assist public safety in building a broadband network. This type of collaboration serves the needs and exploits the strengths of both public safety and commercial providers and avoids the enormous price tag and delay inherent in a greenfield build. Further, empowering local public safety entities to build their own networks would also allow those entities to negotiate for the expansion of broadband

service into rural areas. These and other advantages make this approach a realistic and preferred alternative.

II. AT&T SUPPORTS THE REQUESTS TO WAIVE THE COMMISSION'S RULES TO DEPLOY 700 MHZ PUBLIC SAFETY NETWORKS.

A. GRANTING THE WAIVERS TO ALLOW LOCAL OR REGIONAL NETWORKS WILL RESULT IN MORE RAPID, EFFICIENT, AND EFFECTIVE DEPLOYMENT OF PUBLIC SAFETY NETWORKS.

Each Request seeks to deploy a broadband public safety network more quickly than can be accomplished by waiting for another D-Block auction. For example, the City of Boston's objective is "to enable full and rapid deployment of a public safety broadband wireless network throughout Boston."[5] The Bay Area Cities' waiver request seeks "the accelerated availability of an interoperable, voice and broadband data public safety network . . . ."[6] Further, the State of New Jersey emphasizes that a waiver would enable it to "begin deployment as quickly as possible."[7] AT&T supports the pending Requests and believes that granting the waivers will, in fact, lead to a more rapid deployment of broadband public safety networks in Petitioners' communities than would be possible under the current strategy.

Over two years ago, the Commission took concrete efforts to facilitate the building of a nationwide interoperable public safety network by auctioning the 700 MHz D-Block spectrum to a commercial entity. The auction was part of a plan to create a partnership between the public safety community and the commercial entity awarded the 700 MHz D-Block spectrum to deploy and share a broadband network. Yet, the D-Block auction failed, in part because of uncertainty and in part because commercial entities felt that the cost to build and maintain a wireless

[5] Amended Boston Request, p. 2.

[6] Amended Bay Areas Cities Request, p. 2.

[7] New Jersey Petition, pp. 3-4.

broadband network that met public safety's requirements would likely exceed the potential revenues.[8] Despite two notice and comment cycles since the failed auction, these issues remain, and there is no clear path for Petitioners and other public safety entities to follow to realize the timely deployment of a 700 MHz public safety broadband network.

AT&T submits that the Commission should look to local and regional public safety entities for another model to realize its goal of a nationwide interoperable broadband public safety network. By granting the waivers sought by Petitioners, the Commission will enable the deployment of broadband networks over the 700 MHz public safety spectrum by local and regional public safety entities, and thus, jump start wireless broadband network deployments throughout the United States.

To the extent that certain public safety entities have the resources to construct a broadband network, the Commission should facilitate their efforts. Local governments can and should devote their resources—financial and otherwise—to promoting the welfare of their residents, including through the deployment of broadband public safety networks.[9] The Commission's rules should not preclude or deter these self-help efforts of local and regional communities, many of which lack an effective interoperable network for public safety use. Further, permitting entities to use all or some of their own financial resources to build public safety networks will reduce the number of entities that must share in limited federal funding, thus increasing the funding available to other localities and regions that may be less able to fund such

[8] *See D Block Reauction a Likely Flop, Says Lawyer*, Communications Daily, June 23, 2008 (quoting a prominent communications law attorney as noting that, considering the uncertainty about the 700 MHz auction and the burdensome and costly requirements to meet all public safety needs, the auction's failure is "not surprising"); *Martin Plan on Public Safety D-Block Overhaul Still Unclear*, Communications Daily, March 10, 2008 (noting that the requirement for the winning licensee to provide service to 99.3 percent of the U.S. population will need to be rolled back because it is so costly).

[9] The Commission should work with Congress and public safety to establish additional funding models for municipalities that do not have the resources to build their own networks.

a deployment. It is also likely that local control and input into the design and operation of the broadband public safety networks will facilitate more efficient and cost effective network deployment than would be possible with a national greenfield build.

Moreover, granting the Requests also could hasten the development of a nationwide interoperable network. The construction of these networks pursuant to the waiver grants will build momentum towards a standardized nationwide network composed of smaller interoperable networks. These Requests present the Commission with a unique opportunity to initiate the process by which this change will occur and to manage and oversee that process to ensure that all public safety entities have the opportunity to participate and to ensure the interoperability of all 700 MHz broadband networks.

B. THE COMMISSION SHOULD SET A STANDARD FOR GRANT OF WAIVER REQUESTS.

In the Requests, Petitioners provide varying facts to justify a waiver grant. Further, a number of Petitioners have amended their waiver requests to ensure that they qualify for a waiver.[10] Generally, the Commission may grant waiver requests if the applicant demonstrates that:

- the underlying purpose of the rule would not be served or would be frustrated by application to the instant case, and a grant of the requested waiver is in the public interest; or
- in view of the unique or unusual factual circumstances of the instant case, application of the rule would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.[11]

[10] *See* Amended Boston Request; Amended Bay Area Cities Request; Amended North Dakota Request.

[11] 47 C.F.R. §1.925.

AT&T believes that each of the Petitioners have met this standard, as they have demonstrated a compelling public interest arising from the early build-out of a broadband public safety network.

If the Commission agrees and grants the Requests, other public safety entities will likely seek waivers to also benefit from the use of the 700 MHz public safety spectrum to deploy broadband networks now rather than wait for the uncertainty of another D-Block auction. To encourage early public safety broadband deployment in these circumstances, the Commission should clarify the facts and other information that local and regional public safety entities must demonstrate to justify a waiver. This type of Commission guidance would allow for an efficient and fact-based process to evaluate waiver requests. It would also provide the certainty that many public safety entities need before investing the resources to evaluate the merits of deploying and funding a 700 MHz broadband public safety network prior to resolution of the D-Block issues.

By way of example, the Commission might require that future waiver requests describe the technology for the proposed network, the geographic area to be served by the proposed network, the source of funding for the proposed network build,[12] and the public safety entities that are expected to utilize the new broadband network.[13] AT&T advocates an approach whereby all public safety entities that meet the criteria pre-established by the Commission are entitled to a waiver, without the need for public notice, any other showing, or discretionary review. The Commission has developed a sufficient record to take notice of the situation surrounding the D-Block and of the need for timely upgrade of public safety networks to justify the immediate grant of waiver requests based upon pre-set criteria.

[12] Absent a negotiated agreement with a commercial operator, public safety entities seeking to build their own 700 MHz broadband networks should do so without reimbursement from any D-Block winner (assuming the leveraged network approach advocated below), any commercial licensee, or the public safety broadband licensee.

[13] Petitioners that the Commission determines fail to meet the standard for a waiver grant could be provided additional time to meet any newly enunciated requirements established by the Commission.

C. THE COMMISSION SHOULD IMPOSE CONDITIONS ON WAIVER GRANTS, INCLUDING INTEROPERABILITY.

A Commission waiver grant allowing the early deployment of a network over 700 MHz public safety broadband spectrum should impose reasonable conditions on the grant and subsequent network deployment to ensure interoperability of the network deployed with other 700 MHz public safety networks and to ensure that the deployment is consistent with the national build-out plan. For guidance on appropriate reasonable conditions to impose on any early deployment of broadband over 700 MHz public safety spectrum, the Commission could look to the current 700 MHz D-Block rules, which are not expressly applicable to the Requests because they presume the existence of a D-Block licensee. For example, current D-Block rules apply a one-year build deadline to public safety entities that deploy networks in areas where the D-Block licensee fails to commit to build.[14]

The Commission should also look to the Report of the 700 MHz Public Safety Broadband Task Force ("BBTF")[15] formed by the National Public Safety Telecommunications Council ("NPSTC"), a federation of associations representing the broad scope of public safety activities (the "BBTF Report"). The BBTF Report, which NPSTC recently forwarded to the PSST,[16] set the minimum requirements for regional 700 MHz broadband networks to ensure future interoperability and compatibility with the proposed national public safety broadband network, and is the most complete and well thought-out list of conditions to advance the build-out of public safety networks.

---

[14] 47 C.F.R. §27.1330(b)(5).

[15] *See* NPSTC 700 MHz Public Safety Broadband Task Force Report and Recommendations, p. 7 (2009), *available at* http://www.npstc.org/documents/700_MHz_BBTF_Final_Report_0090904_v1_1.pdf.

[16] *See NPSTC Votes to Send 700 MHz Broadband Task Force Report to Public Safety Spectrum Trust*, NPSTC Press Release (Sept. 15, 2009), *available at* http://www.npstc.org/documents/BBTF_Press_Release_090915.pdf

For example, the Commission should expressly condition the grant of a waiver on the two network characteristics that form the foundation for all of the recommendations in the BBTF Report—interoperability and use of Long Term Evolution ("LTE") technology.[17] Petitioners have recognized the benefits of deploying an interoperable network, as each of the Requests declare the intention to deploy a broadband network that is interoperable with any future nationwide network.[18] Thus, ensuring interoperability is clearly a key consideration for public safety.[19]

Moreover, conditioning the waiver grant on the use of LTE will ensure that public safety entities benefit from the economies of scale that will be present with LTE.[20] As of this date, the overwhelming majority of commercial 700 MHz broadband networks will utilize 3rd Generation Partnership Project ("3GPP") LTE technology or a commercially available standard air interface that will evolve to LTE. A majority of the top ten winning bidders in Auction 73 (measured by dollars spent) have stated their intention to use LTE in the 700 MHz band, including AT&T, Verizon Wireless, MetroPCS, Cox Wireless, King Street Wireless, and CenturyTel Broadband

[17] *See* BBTF Report, p. 7.

[18] *See e.g.* Amended Boston Request, p. 11 ("The City will insure that the FCC requirements for interoperability, existing and subsequent, will be effectuated. The City will require that all of its vendors, contractors and partners, both private and public, abide by the FCC regulations and requirements for interoperability."); Amended Bay Area Cities Request, p. 6 ("By using a Region-wide competitively bid and strategically negotiated contract, the Region will ensure that the selected vendor (or vendors) constructs a network that meets evolving regional and national interoperability requirements throughout all phases of the network deployment."); NYC Request, p. 8 ("Nationwide interoperability can be ensured by stipulating that any early network deployments adopt the same technology platform as the nationwide network, and that mutual roaming agreements be established between "early" deployed local networks and any subsequently deployed national or regional network(s).").

[19] If future networks rely on commercial technologies, as AT&T believes they should, nationwide interoperability is assured. As AT&T discusses later in this filing, the use of commercial technology results in substantial cost savings and other economies for public safety, while being fully able to support their service and application needs.

[20] While technical standards to enable interoperability are not limited to a common air interface, it is the key decision that will enable the development of a full suite of standards.

Wireless.[21] As a result, it is clear that a huge marketplace for LTE products will evolve over time with worldwide economies of scale.

LTE is the most advanced and spectrum efficient technology for the foreseeable future. It will offer 4G data speeds, global economies of scale derived from user pools exceeding two billion, compatibility with future networks, and the ability to fall-back to legacy 3G and 2G networks. As the standards for LTE have developed, the 700 MHz bands have been designated Band 14, covering the Upper 700 MHz D-Block and public safety broadband spectrum.

Certain Petitioners recognize the benefits of LTE and have publicly stated their willingness to utilize the LTE technology platform.[22] Leading public safety agencies also have expressed strong support for LTE. NPSTC has "unanimously endorsed LTE . . . technology as the air interface for a nationwide 700 megahertz band broadband network for public safety."[23] Additionally, the Association of Public-Safety Communications Officials ("APCO") and the National Emergency Number Association ("NENA") recently endorsed LTE as "the technological standard to be used in the development of a nationwide interoperable broadband network in the 700-MHz band assigned to public safety."[24] Ultimately, nationwide interoperability of broadband public safety networks is possible only if the Commission

[21] Two of the remaining top 10 bidders – Frontier Wireless (Echostar) and Qualcomm – are presumably using their spectrum for video delivery. The remaining two bidders – Cellular South and Vulcan Spectrum – have not identified the technology they will use for their 4G build.

[22] *See* NYC Request, p. 9 ("The network that the City proposes to construct would be based upon the LTE technology platform; which we believe will emerge as the nation's dominant 4G wireless standard."); Amended Boston Request, p. 11 ("[T]he City is committed to build, support and participate in a robust, shared and highly interoperable public safety wireless broadband network by deploying and employing state of the art technologies, including but not limited to Long Term Evolution.").

[23] *NPSTC Endorses LTE as Air Interface for Nationwide 700 MHz Band Network*, TR DAILY (June 6, 2009).

[24] *See APCO & NENA Endorse LTE as Technology Standard for the Development of Nationwide Broadband Network*, APCO Press Release (June 9, 2009), *available at* http://www.apco911.org/new/news/nena_endorse_lte.php.

recognizes the trend towards LTE and mandates that future 700 MHz public safety networks, including those proposed in the Requests, employ LTE technologies.

III. LEVERAGING COMMERCIAL INFRASTRUCTURE WILL GIVE PUBLIC SAFETY ACCESS TO BROADBAND IN ALL CITIES, LARGE AND SMALL, THROUGH A COST-EFFECTIVE, ACCELERATED DEPLOYMENT.

In addition to granting the waiver requests, the Commission should embrace a "leveraged network approach" that will enable local and regional public safety agencies to develop independent – but interoperable – 700 MHz broadband public safety networks, from which a nationwide network will emerge. This approach will ensure compatibility between the networks built by localities and regions that are granted waivers, and will provide localities and regions that seek to deploy public safety broadband networks in the future with a vehicle to facilitate such deployment. This approach also will enable public safety agencies to leverage the economies of scope and scale of commercial broadband infrastructure and technology on a local or regional basis without compromising the mission of public safety. It will also promote broadband deployment in rural areas.

A. THE LEVERAGED NETWORK MODEL.

The leveraged network approach consists of the following components:

First, Congress should repurpose the 10 MHz of 700 MHz D-Block commercial spectrum for use in local or regional public safety broadband networks.[25] United States Attorney General Eric Holder recently advocated this approach:

[25] Eight major public safety agencies have announced a "consensus position" to "petition Congress to reallocate the D-Block creating a single 20 MHz block of broadband spectrum for use by public safety." *See Public Safety Associations Meet to Form Consensus on the Development of a Nationwide Broadband Network,* APCO Press Release (May 28, 2009), *available at* http//www.apco911.org/new/news/nationwide_broadband_network.php. Other public safety agencies also have articulated support for reallocating the D-Block spectrum to public safety. *See* NYC Request, p. 11 ("The City urges that the D-Block spectrum be made available directly to public safety nationwide. Understanding that the Commission cannot unilaterally allocate the D-Block spectrum without

> I strongly support removing the D Block spectrum from auction so that it can be allocated directly to our nation's public safety officers. It is long past time to build the nationwide interoperable communications network we so desperately need in order to keep our nation safe during emergencies.[26]

As the Attorney General observes, continuing down the blind path of auctioning the D-Block will result in further delays in meeting the needs of public safety throughout the country for a broadband public safety network. Although only Congress can repurpose the D-Block spectrum, the Commission can support Congress and public safety by recommending the reallocation of the D-Block to exclusively public safety use in the National Broadband Plan.[27]

Coupled with the 10 MHz of 700 MHz broadband spectrum licensed to the PSST, use of the D-Block spectrum would give public safety entities a full 20 MHz of broadband spectrum (referred to as "Band 14" in the LTE specifications, as described above). Future wireless broadband networks likely will require a minimum of 20 MHz of spectrum to take full advantage of bandwidth intensive 4G services and applications.[28] Currently, Band 14 is the only spectrum suitable for public safety's interoperable broadband networks.[29] Other available spectrum bands lack either the bandwidth or favorable propagation characteristics possessed by the 700 MHz

---

Congressional approval, the City respectfully requests that the Commission support our efforts to petition Congress to undertake such allocation to public safety.").

[26] United States Attorney General Eric Holder, International Association of Chiefs of Police ("IACP") Conference, Denver, CO (Oct. 5, 2009).

[27] AT&T has previously advocated that State and local agencies, which typically are our first responders, our educators, and our providers of social and government services, must be part of the National Broadband Plan. *See* Comments of AT&T, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, p. 12 (filed June 8, 2009).

[28] *See* NYC Petition, p. 7 ("The City's view is that to realize true 4G data speeds for our public safety users, and to accommodate both voice and data applications on a single network, separate 10 MHz uplink and downlink channels will be required.").

[29] *See* Amended Boston Request, p. 4-5 (explaining why "4.9 GHz [spectrum] does not meet Boston's public safety needs," but use of "the 700 MHz band would allow Boston to achieve greater interoperability, cost effectiveness, and increased coverage because of the 700 MHz band's superior propagation characteristics"); Amended Bay Area Cities Request, p. 10 ("The 700MHz broadband spectrum is the only viable solution for a cost effective, regional wireless broadband system.").

spectrum.[30] Further, the public safety-dedicated spectrum should be in blocks that are as large as possible in order to maximize data throughput while minimizing the impact from adjacent band networks. A solution based on 10 MHz of downlink spectrum and 10 MHz of uplink spectrum offers the best technical solution and is a "win-win" in terms of providing public safety with a state of the art network with the most advanced technical capabilities.[31] As New York City astutely points out, allocating the full 20 MHz of 700 MHz broadband spectrum to public safety entities "would greatly improve the City's ability to deliver true fourth generation . . . broadband services to first responders."[32]

Second, Congress should permit public safety agencies to use new or existing grant programs to fund the purchase or lease of fully-dedicated network equipment and managed broadband services. Among other possibilities, the Department of Homeland Security, the Department of Justice, the NTIA or another appropriate federal agency could award funds through their existing grant programs, including the Urban Area Security Initiative, the Public Safety Interoperable Communications program and various other programs that provide funding at the local level, to any entity that demonstrates the ability to meet the criteria pre-established by the Commission for a waiver along with the funding agency's grant requirements. Additionally,

[30] The City of Boston recently explained, for example, that because of the "unavailability of 700 MHz, the City has been forced to plan to deploy [its] network within the less-efficient 4.9 GHz band . . . [But] a 4.9 GHz network has significant drawbacks including: 1) interoperability is undermined by the lack of technical standards and the absence of regional planning; 2) the band's poor propagation characteristics undermine its large-area coverage required to support public safety operations in the City . . . , and 3) the cost to deploy and maintain this system is higher than expected due to the large amount of infrastructure required to maintain adequate coverage." Amended Boston Request, pp. 4-5. Similarly, the Bay Area Cities stated that "the 4.9 GHz spectrum is not adequate for large scale, wide area deployments, as its propagation characteristics require significant investment in infrastructure." Amended Bay Area Cities Request, p. 10. The Bay Area Cities also stated that "[a]ll other potential spectrum options, including 2.4 GHz Wi-Fi and television white space, do not allow for licensing, rendering systems susceptible to interference and thus unacceptable for public safety use." *Id*.

[31] *See* NYC Request, p. 7.

[32] *See* NYC Request, p. 4.

these funds should be available to individual public safety agencies, joint powers authorities, or other regional consortia for construction of public safety broadband networks.

Third, the Commission should encourage public safety entities to use a standard RFP process – perhaps with PSST consultation – to negotiate agreements with commercial operators, system integrators, infrastructure vendors, and tower site vendors for network equipment and systems based on the public safety entity's preferred network management model. This process would typically start with a Request for Information ("RFI"), as the San Francisco Bay Area has recently issued for its Public Safety Broadband Network.[33] Following an RFI, formal RFPs are sent out to qualified bidders for a competitive procurement award.

RFP processes are well-established and proven mechanisms frequently employed to form complex public/private partnerships and to purchase some of the government's most important security assets.[34] They provide excellent value to the government and have particular relevance for work with local groups such as public safety organizations. Through the RFP process, public safety agencies would determine capital and operational expense projections, select the network management model that best meets their needs, and apply for grants from the federal program. Ultimately, public safety agencies would enter into arrangements with the commercial operators that are willing and able to provide public safety with the services they need, including the ability to connect their dedicated 700 MHz public safety network equipment to commercial

[33] *See* San Francisco Bay Area Request for Information (RFI) 2009-DEM01 for a Regional 700MHz Wireless Mobile Broadband Network, dated September 29, 2009, *available at* http://mission.sfgov.org/OCABidPublication.

[34] The COPS program of the Department of Justice is one relevant model. The Department of Homeland Security also administers various grant programs. For example, in early 2009 FEMA awarded three contracts worth up to $50 million for wireless broadband solutions for its workforce through an RFP process. *See AT&T Government Solutions Announces $50 Million Wireless Solution Award from FEMA*, AT&T Press Release (Jan. 26, 2009), *available at* http://www.corp.att.com/gov/newsevents/press_releases/press_release_01_26_09.html.

operators' core networks, thereby providing public safety with access to provisioning, billing and other information technology systems.

Further, as part of an RFP award, public safety entities could negotiate legally enforceable service level agreements – similar to those that commercial operators maintain with Federal agencies, such as the Department of Defense. A service level agreement will give public safety confidence that any unique needs will be satisfied, such as network availability (uptime), the mean time to repair outages, throughput, and other important performance metrics.

Fourth, as mentioned above in conjunction with the waiver Requests, the Commission's adoption of the leveraged network model should include the establishment of technological standards and minimum system requirements for these public safety systems.[35] The Commission should ensure, whether through regulation or oversight, that all networks adopt the LTE radio technology platform and infrastructure. The Commission also should mandate that local and regional networks interconnect their backbone networks with adjacent public safety broadband networks as the networks deploy. Ultimately, nationwide interoperability would be achieved by linking the local and regional networks and establishing reciprocal roaming agreements and credentialing procedures between all public safety entities operating over 700 MHz networks.[36]

[35] These standards also would minimize duplicative build-out efforts and ensure that regions that build-out early are not forced to spend significant resources to become compatible with later-developed networks.

[36] Nationwide interoperability would be achieved by linking regional networks. *See, e.g.*, NYC Request, p. 12 ("Regional interoperability would be achieved by adapting the dominant emerging 4G wireless technology (which, as noted, we believe will be LTE), operating within the same spectrum band and interconnecting our backbone network with adjacent public safety broadband networks as they are deployed. In a similar fashion, nationwide interoperability could be achieved by linking regional networks, and establishing reciprocal roaming agreements with other public safety 700 MHz broadband networks, enabling users with the proper credentials to access any deployed 700 MHz Public Safety broadband network in the nation.").

B. THE BENEFITS OF THE LEVERAGED NETWORK MODEL

A leveraged network approach will have far-reaching benefits. Most importantly, a localized RFP process that leverages commercial infrastructure and technology offers the quickest and most cost-effective path to providing interoperable broadband communications to the greatest number of public safety users. As discussed below, a localized RFP approach also allows for local control and input into the design and operation of broadband public safety networks. Additionally, AT&T's proposal provides a range of other benefits that allow regional and local public safety entities to maximize their use and enjoyment of broadband services, including by encouraging the deployment of broadband into rural areas.

1. LEVERAGING COMMERCIAL NETWORKS MAY ENCOURAGE THE DEPLOYMENT OF BROADBAND IN RURAL AREAS AND ENHANCE THE PUBLIC SAFETY USER'S EXPERIENCE WITH 700 MHZ NETWORKS.

Leveraging commercial networks will provide a range of benefits that will allow regional and local public safety entities (and potentially local communities) to maximize their use and enjoyment of 700 MHz broadband services. In particular, the RFP process, and specifically the ability to negotiate unique arrangements that is inherent in the RFP process, will enable public safety entities to tailor their relationships with commercial partners to fit their regional or local needs. Local or regional government organizations may negotiate with commercial providers to extend their broadband networks into rural areas. Other public safety entities may partner with commercial operators for basic infrastructure and backhaul only, whereas other public safety entities may rely on commercial partners for more comprehensive system management, billing functionality, and customer service. To this end, the leveraged network model provides public safety with a "private network inside a commercial network" experience.

In addition, the leveraged network model provides public safety entities with the opportunity to negotiate for the right to roam onto commercial networks in times of crisis or to

permit broader geographic coverage. Public safety entities and their commercial partners can develop dual-band devices with standard commercial network codes that allow public safety users to "roam" onto commercial networks when the users leave public safety's 700 MHz footprint. With the appropriately negotiated agreements, roaming between public safety networks and commercial networks (and between different regional public safety networks, for that matter) would be seamless and automatic.[37] To facilitate such roaming, AT&T has approached its device vendors about adding Band 14 into standard commercial devices. While AT&T is still evaluating the feedback from its vendors, early indications are that a device that works on all 700 MHz public safety broadband networks is feasible and can be available in the late 2011 or 2012 timeframe at near commercial prices.

Similarly, public safety users will have the option to use hardened versions of off-the-shelf commercial technology. This will reduce public safety's research and development and manufacturing costs and time to market, and will also provide public safety with access to the commercial provider's existing help desk support. Finally, the arrangement permits public safety entities to arrange for custom call detail reporting that allows for detailed billing and record-keeping as needed to meet their particular needs.

2. LEVERAGING COMMERCIAL NETWORKS WILL SPEED DEPLOYMENT AND REDUCE COSTS.

Leveraging commercial networks also takes advantage of the economies of scope and scale of commercial broadband infrastructure and technology to significantly reduce the cost and

[37] A recent NPSTC Task Force Report provides a thoughtful analysis of the means to facilitate roaming between 700 MHz networks. *See Roaming and the Shared Wireless Broadband Network*, NPSTC Broadband Task Force Governance Group (Aug. 11, 2009), *available at* http://www.npstc.org/documents/Roaming%20and%20the%20Shared%20Wireless%20Network.pdf.

speed the deployment[38] of public safety broadband networks. Indeed, it has been estimated that a nationwide network deployed using a leveraged network model would have an initial cost of $13 billion and a 10-year total cost of $35 billion—a savings of *$26 billion* over the estimated 10-year cost of a stand-alone public-safety broadband network.[39] AT&T estimates that the total federal commitment until 2013 for this system would be about $17-18 billion – less than one-third the cost of a stand-alone network.

Some of the most expensive and time-consuming parts of building and operating a wireless network involve the operational support systems ("OSS"), which dynamically allocate spectrum, provision service, maintain network inventory, configure network components, and manage faults. The leveraged network approach would allow public safety to reduce these costs and delays by using a commercial operator's core network and OSS. Provisioning portals may be provided to public safety so that users can be added or deleted or features changed without direct involvement by the commercial operator. Similarly, most commercial operators offer custom device management tools and even customized billing, eliminating the need for public safety to build and operate duplicative systems. The scale and scope of the commercial industry also ensures substantial cost savings for public safety in the purchase of handsets and other user devices.

3. THE LEVERAGED NETWORK APPROACH WILL PROMOTE NATIONWIDE INTEROPERABILITY WHILE ENSURING LOCAL CONTROL.

A localized RFP approach will promote nationwide interoperability, while simultaneously ensuring local control and input into the design and operation of the broadband

---

[38] The leveraged network model reduces the time necessary for actual network deployment, as the vast majority of sites would be collocated with commercial operations.

[39] *See* Letter from John T. Scott III, Verizon Wireless, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 06-229, Appx. 2 at 4 (filed Apr. 4, 2007), *available at* http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6519107918.

public safety networks. The RFP's technical requirements would be based on the conditions established by the Commission in its waiver grant (or other right to operate in the 700 MHz public safety spectrum) and would ensure that all build-out is accomplished using the same air interface and any other protocols and standards needed to ensure interoperability. Regional or local public safety entities would then tailor the RFPs to account for their unique needs and the characteristics of specific regions, such as hurricanes in the Southeast, blizzards in the North, and earthquakes in the West.[40] This approach will ensure that development, deployment, and training are conducted in cooperation with and in response to the specific needs of local public safety groups, while also ensuring nationwide interoperability.

IV. CONCLUSION

For the foregoing reasons, AT&T supports the pending Requests and any similar request filed in the future to construct an interoperable local or regional public safety broadband network on the public safety broadband spectrum and the D-Block spectrum. AT&T also advocates that the Commission adopt a leveraged network model to public safety broadband network deployment, including the requirement that all networks employ 3GPP LTE as the standard air interface. Together, the waiver grants and the leveraged network approach provide the most effective path towards a nationwide interoperable network that accounts for the unique needs of regional and local public safety entities.

[40] This approach also enables public safety agencies to tailor public safety networks based on whether they will be used in urban or rural areas. Urban areas, for example, typically use smaller cell sizes, whereas rural areas typically rely on high power tall cell sites.

Respectfully submitted,

AT&T INC.

By: */s/ Robert Vitanza*
Robert Vitanza
Gary L. Phillips
Paul K. Mancini

1120 20th Street, NW
Washington, DC 20036
(202) 457-2054

Its Attorneys

October 16, 2009