

**INTEROPERABLE EMERGENCY COMMUNICATIONS:
DOES THE NATIONAL BROADBAND PLAN MEET
THE NEEDS OF FIRST RESPONDERS?**

HEARING

BEFORE THE

**SUBCOMMITTEE ON EMERGENCY
COMMUNICATIONS,
PREPAREDNESS, AND RESPONSE
OF THE**

**COMMITTEE ON HOMELAND SECURITY
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INTEROPERABLE EMERGENCY COMMUNICATIONS: DOES THE NATIONAL BROADBAND PLAN MEET THE NEEDS OF FIRST RESPONDERS?

Tuesday, July 27, 2010

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON EMERGENCY COMMUNICATIONS,
PREPAREDNESS, AND RESPONSE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:03 a.m., in Room 311, Cannon House Office Building, Hon. Laura Richardson [Chairwoman of the subcommittee] presiding.

Present: Representatives Richardson, Cleaver, and Rogers.

Ms. RICHARDSON [presiding]. Well, good morning to everyone. Thank you for being here. The Subcommittee on the Emergency Communications Preparedness and Response will come to order. The subcommittee meeting today is to receive testimony on the "Interoperable and Emergency Communications: Does the National Broadband Plan Meet the Needs of First Responders?"

I will now recognize myself for an opening statement. Good morning to all of you. I would like to welcome our witnesses here today, and for those of you who serve this country we are very grateful for the service that you provide.

Today we will be discussing the broadband's plan and recommendation for building a Nation-wide, interoperable, public safety communications network.

Now, for the record I will disclose, as I said to the gentlemen who serve this Nation, I served as a police cadet while I was going through school, and I have family, ex-family who is very involved from a public safety perspective. So this issue is very important.

It is important to ensure when we talk about safety we are actually talking about their lives, not only for the public but actually for the men and women who serve us. So in that sense to me this is a very strong priority.

This broadband network would be able to one, support and exchange large amounts of data, including photos and video. It would allow first responders to easily communicate across agencies and jurisdictions. Ultimately, it would usher in a new generation of emergency response.

The need for a Nation-wide broadband network was first really brought to, I think, an alarming point when we had the experience

after 9/11 and also with our now soon-to-be 5-year anniversary of Hurricane Katrina.

In both disasters, response operations were severely hampered because public safety was unable to communicate effectively with one other. But today, nearly 10 years later, after the worst terrorist attack on U.S. soil, we are still waiting. I must say as Chairwoman of this committee it is very disappointing.

The FCC's National Broadband Plan provides for a strategy for reaching this goal by auctioning the 10 megahertz of spectrum known as D Block to commercial interests as establishing a public-private partnership for its use.

The administration has also weighed in by their memorandum dated on June 28, establishing a 10-year process to add 500 megahertz to the commercial sector, and thereby hopefully providing enough funding to establish an interoperable wireless broadband network for public safety.

While we know much time and effort has gone into this plan, we still have questions about whether it is the best solution for homeland security. The plan contends that the public safety would be able to leverage commercial innovation, economies of scale, and additional spectrum via priority access and roaming agreements on commercial networks.

These are promising attributes, but the subcommittee needs more assurances, and I would say that the public safety community does as well, needs more assurances that these features will provide adequate resources and capacity for public safety to meet its mission critical needs.

The reality on the ground for first responders requires that they have a dependable communications system that will work under the worst circumstances every single time.

We look forward to hearing from all of our witnesses whether you believe the National Broadband Plan would provide that dependable communications network.

Additionally, there are several involvements that absolutely must occur. No. 1, fully engage the Department of Homeland Security and No. 2, full involvement by our public safety community.

Further, we want to know how the FCC analyzed public safety's spectrum use and they overall needs, because they have certainly made it known that they require more spectrum.

With the large number of public safety organizations opposed to the D Block auction, we are also interested in the efforts taken by the FCC to work with the public safety during the development of the proposed auction plan.

Clearly, there has been a disconnect, and public safety in some respects seems to be out on the outside where normally we need them with us on the inside. This is not a role that should be ignored or avoided in any circumstance.

I believe DHS with its close interactions with the public safety community could definitely help to bridge the gap. I look forward to hearing how the Assistant Secretary Schaffer's office will take steps to engage first responders and to make sure that the emergency communications is a larger priority at the department.

We expect that the Office of Emergency Communications at DHS and its Emergency Communications Preparedness Center to play a more prominent role in developing interoperable communications.

In addition to the administration, we also wanted to make sure that we heard directly from the public safety community itself. We are grateful to have several representatives with us on the second panel and we appreciate your on-going service.

We want to gain a better understanding of your proposal to re-allocate the D Block to public safety and how you intend to fund the build-out and the sustainment of this needed network.

Whether the D Block is auctioned or directly allocated to public safety, there must be a plan in place to pay for the system, as well as the new hardware that must be purchased by cash-strapped localities.

Oftentimes, rural communities have the most trouble finding resources to roll out these initiatives, so we appreciate Mr. Graham from the Rural Cellular Association being here to provide his perspective.

Ultimately, when we talk about pursuing a Nation-wide interoperable public safety network, no side can do it alone. There must be a collaborative approach that leverages the expertise and the resources of all involved, public safety, commercial providers, and the government.

I look forward to hearing from all of our witnesses on how we can finally achieve this requirement that was required of us 10 years ago.

The Chairwoman now recognizes the Ranking Member from the subcommittee, the gentleman from Alabama, Mr. Rogers, for an opening statement.

Mr. ROGERS. I would like to thank the Chairwoman, and I want to thank the witnesses, both on our first panel and the second panel for being here and for the time it took to prepare for this hearing. It is a great help to us, and I really appreciate your efforts and with that I will get started.

Let me first start by applauding the efforts of the FCC in crafting a very detailed and comprehensive National Broadband Plan. This plan is the blueprint for the future development of our Nation's high-speed internet, improved communications tools for first responders, upgraded E911 public safety answering points and a next generation alert and warning systems.

With that being said, I believe that more can be done in the plan to support our Nation's first responders. For example, in Chapter 16 of the plan, the FCC is called upon to "quickly license the D Block for commercial use." I believe that this is the wrong decision and instead the D Block spectrum should be reallocated to public safety.

I am an original co-sponsor of the bipartisan bill H.R. 5081, the Broadband First Responders Act of 2010, which was introduced by the Ranking Member of the full committee, Mr. King. This legislation would reallocate the D Block currently set aside for auction to public safety. This bill has over 60 co-sponsors here in the House and that number continues to grow.

Last week Senators Lieberman and McCain introduced a Senate companion bill. Their efforts should be applauded and supported so

that we might enact this vital legislation and in turn continue to provide public safety with the resources they require.

Finally, I would like to hear from today's witnesses about any updates to the National Emergency Communications Plan. The NECP provides recommendations and milestones for emergency responders, relevant Government officials and Congress to approve emergency communication capabilities. The first NECP was released in July 2008, and I understand that the Department is now working on a 2.0 version.

I would like to hear from our witnesses on where we stand on this updated version of the NECP and whether the FCC and DHS cooperated with one another so that the objectives of the National Broadband Plan match the goals of DHS NECP which is required to set National goals and priorities for addressing deficiencies in the National emergency communications posture.

With that, I would once again want to thank the witnesses for being here, and I yield the balance of my time.

Ms. RICHARDSON. Other Members of the subcommittee are reminded that under the committee rules opening statements may be submitted for the record. Thank you, Mr. Cleaver, for joining us this morning.

I welcome our first panel of witnesses. Our first witness, Rear Admiral, Retired James Arden Barnett, Jr., is the chief of Public Safety and Homeland Security Bureau at the Federal Communications Commission.

He is responsible for overseeing the FCC's activities pertaining to public safety, homeland security, emergency management and disaster preparedness, and represents the commission on these issues before the Federal, State, and industry organizations. Admiral Barnett served 32 years in the United States Navy and the Navy Reserve, retiring in 2008.

Our second witness, Mr. Greg Schaffer, was appointed assistant secretary for Cyber Security and Communications on June 1, 2009 by Secretary Napolitano. In this position, Mr. Schaffer is responsible for enhancing the security, the resiliency, and the reliability of the Nation's fiber and communications infrastructure.

Prior to joining the Department of Homeland Security, Mr. Schaffer served as senior vice president and chief risk officer for Alltel Communications. We are pleased to have you both present and greatly appreciate your testimony today.

Without objection, the witnesses' full statements will be inserted into the record, and I now ask each witness to summarize his statement for 5 minutes, beginning with Admiral Barnett.

STATEMENT OF REAR ADMIRAL JAMES ARDEN BARNETT, JR. (RET.), CHIEF, PUBLIC SAFETY AND HOMELAND SECURITY BUREAU, FEDERAL COMMUNICATIONS COMMISSION

Admiral BARNETT. Good morning, Chairwoman Richardson, Ranking Member Rogers and Members of the subcommittee. Thank you for the opportunity to speak to you today about the implementation of the National Broadband Plans' recommendations can provide a state-of-the-art, affordable, interoperable, wireless broadband network for our Nation's first responders.

Such an interoperable network is not inevitable. To achieve interoperability we must have a comprehensive, well-researched, and affordable plan. Though there has been progress, every disaster since 9/11 reminds us of the interoperability problems with the current public safety voice networks, which are hamstrung by outdated, by proprietary technologies.

However, today we have a technological clean slate for a very brief period of time to ensure public safety has the Nation-wide interoperable broadband network it requires. That technological clean slate is the impending construction of the commercial 4G broadband networks. We can afford it if we act now.

We can reach 99 percent of the population from densely populated cities to the most rural counties. After months of expert analysis, research, and public safety input, the National Broadband Plan recommends an innovative approach to solve the 9/11 interoperability problem, an approach applauded by the former chair and vice chair of the 9/11 Commission.

The core of the network is the 10 megahertz that Congress has already dedicated to public safety, and it is the one that is located immediately adjacent to the D Block. As a result of incredible advances in cellular architecture and LTE technology, 10 megahertz can perform like 160 megahertz would on the current public safety voice networks.

We have outlined these developments in a recently released white paper which demonstrates that this will provide enough capacity for day-to-day public safety operations in most emergencies. But we must plan for the worst emergencies, the next 9/11. In that situation, even an additional 10 megahertz, like the D Block, will likely not be enough.

The FCC plan calls for public safety to have the ability to have priority access and roaming to commercial networks, so first-in-line privileges on up to 60 or 70 additional megahertz.

This feature has an additional advantage that reallocating the D Block alone does not. It can provide immediate resiliency and redundancy if the public safety network goes down, such as happened in the District of Columbia in March of this year.

We created an in-depth cost model which shows the way to afford 99 percent coverage, population coverage to the network, and to ensure technical interoperability we have already established the Emergency Response Interoperability Center, or ERIC, with public safety, the Department of Homeland Security, Department of Justice and other Federal partners to ensure that interoperability is truly effective.

The FCC plan draws greatly on the input that we received from public safety and on much of the plan we agree with public safety. We agree on LTE technology, on the priority access and roaming, on the interoperability center, on the need for public funding, on parting the network, on coverage in rural areas and the need for consumer priced ruggedized devices.

The one major area of disagreement is whether the D Block should be reallocated. Reallocation is an option that the FCC examined thoroughly. Our research, however, raised several concerns if the D Block is simply reallocated D Block. Our data suggests that reallocation of the D Block could greatly increase the cost of con-

struction of the network, perhaps by as much as \$9 billion over a 10-year period.

Postponing a decision on D Block is not a good option either, since missing the deployment of the commercial 4G network will greatly increase the construction cost also. Simply reallocation of the D Block is likely to increase the cost of operating, maintaining, and upgrading the network.

Reallocation would prohibit economies of scale, making the devices and equipment more expensive for public safety, just as it is now with its voice networks. Without sufficient funding, reallocation could impact the ability of rural areas and underfunded cities and counties to afford to build and operate the network. If the network is not Nation-wide it is not interoperable.

Clearly, the ultimate decision of how we proceed is in your hands. The commission remains committed to working closely with all stakeholders, with public safety, industry, and Members of Congress to achieve our shared goal of a Nation-wide interoperable network.

Our aim is to provide you with the FCC's insight and expertise and to present what we view as the greatest challenges to realizing this essential network. We must not miss this crucial moment to solve the 9/11 interoperability problem and provide public safety broadband coverage to the entire Nation. Thank you.

[The statement of Admiral Barnett follows:]

PREPARED STATEMENT OF JAMES ARDEN BARNETT, JR.

JULY 27, 2010

Good morning Chairwoman Richardson, Ranking Member Rogers, and Members of the subcommittee. I appreciate this opportunity to appear before you today on this issue of National importance.

Over the past decade, this Nation has endured man-made and natural disasters that have tested our mettle, our resiliency, and our resolve. The attacks of September 11, 2001, were some of the most horrific events in our Nation's history. Hurricanes Katrina and Rita, the Midwest floods, the Kentucky ice storms, the California wildfires and countless other natural disasters have taxed our resources, our disaster planning and response, and our public safety personnel. The communications failures that occurred during and after these events cost the lives and livelihoods of our citizens, and of many brave men and women in uniform.

In the wake of these events, we became smarter about why these communications failures occurred, and what can be done to better prepare our physical communications networks and governance protocols to work more effectively during a crisis. The Department of Homeland Security, the National Telecommunications and Information Administration, the Department of Justice, the FCC and others have worked hand-in-hand with the public safety community to examine our legacy public safety networks, and to put in place the legal, regulatory, governance, and technical rules that will facilitate interoperability and survivability.

The fact that we can look back on these events and show some progress speaks to the dedication of our Nation's emergency personnel, and of the agencies that work to solve these problems. But make no mistake; this progress has been very slow, and those on the front lines of America's emergency response continue to lack access to basic communications tools that many commercial consumers take for granted. Our Nation's legacy narrowband voice public safety communications networks remain hamstrung by outdated, proprietary technologies that were not designed to work together, as well as a public safety network construction mindset that values control over coordination, and relies on local projects and local funding, which are often inconsistent or nonexistent.

But the communications landscape is undergoing a sea change—a shift to advanced 4G wireless broadband technologies like Long Term Evolution (LTE) that have the potential to revolutionize the way public safety communicates and executes its critical mission, from the big city cop on the beat to the small-town volunteer

fire fighter to the suburban emergency medical technician. If, however, public safety is going to ride the wave of this technological roll out, we have a limited opportunity to act.

If we act at the very inception of 4G technology, and employ an inclusive, well-reasoned, and achievable plan for deploying—and funding—a 4G public safety wireless broadband network, we can reach at least 99 percent of the population and catch the technological wave as commercial 4G networks are built. Otherwise, America runs the risk of not being able to afford a Nation-wide, interoperable public safety network and it will never be deployed.

As the images of 9/11 fade from our everyday consciousness, I am concerned that we may have lost the urgency to act. But as we approach the ninth anniversary of those events, I am here today to explain why we must regain that urgency, that drive to act, and why the FCC's National Broadband Plan recommendations are a comprehensive solution to the communications problems highlighted by all of this and other recent National tragedies.

THE NATIONAL BROADBAND PLAN'S COMPREHENSIVE APPROACH

The approach that the FCC recommended in the National Broadband Plan, which was developed with significant public input from all quarters, provides a realistic, achievable roadmap to successful deployment and operation of this system. Indeed, the vast majority of the plan enjoys broad support from across the public safety community, industry, and others. For example, there is broad general agreement on the need for:

- The adoption of new, common open-standard LTE technology;
- Priority access for public safety on commercial networks;
- The ability to roam onto commercial networks and other public safety networks;
- An emergency response interoperability center, to ensure interoperability across the network; and
- Consumer-priced device components that “see” the relevant bands, are “ruggedized” for public safety, and correspondingly priced network equipment.

We also all agree that the public safety network should not be an isolated technological island, so that it can continue to evolve, on a cost-effective basis, as commercial technology improvements are made. Members of the public safety community agree that there needs to be sufficient public funding for the network to ensure that it is built, that it is hardened, and that it extends to rural areas.

The one area where we have witnessed disagreement is the amount of spectrum that should be allocated to public safety to make the network fully functional. There are many in the public safety community that would like the 10 MHz of the D Block added to the 24 MHz of spectrum already dedicated to public safety in the beachfront 700 MHz band. Others believe that auctioning the spectrum to commercial licensees is the better approach. During the preparation of the Plan, we examined both sides, and sought the best advice from engineers, economists, policy-makers, and a wide array of wireless providers and manufacturers seeking to partner with public safety to bring 4G technologies to all parts of the country.

From this input, we were able to develop a list of attributes that the public safety broadband network must include:

- (1) *Nation-wide.*—The network must provide coverage for public safety to everywhere, with the eventual goal of 99% coverage of the population.
- (2) *Interoperable.*—The network must interoperate across all geographies and public safety agencies.
- (3) *Capacity and Performance.*—The network must have the capacity and performance to reliably support public safety day-to-day and on an emergency basis, as well as provide contingencies for operations during the worst disasters, through hardening and opportunities for access to redundant networks.
- (4) *Cost-effective.*—The network and its devices must be affordable to deploy, operate, utilize, and upgrade.
- (5) *Technologically advanced.*—The network must utilize the latest technology and with cost-effective technological evolution built in. Public safety cannot be trapped in expensive, out-dated old technologies that cannot be upgraded without considerable expense and that threaten interoperability.

In the past, we have raised concerns about plans to simply reallocate the D Block for public safety use. Taken by itself, such reallocation will likely fail to:

- (1) Fund network build out and operations;
- (2) Make it affordable for public safety to use, maintain, and upgrade, allowing public safety to benefit from continued innovation;
- (3) Provide operability and coverage in all parts of the country;
- (4) Promote interoperability;

(5) Provide sufficient capacity for the worst emergencies; and

(6) Provide for build out in the near term.

Therefore, regardless of how much spectrum the public safety network employs, there are vital issues that need to be considered apart from the basic question of reallocation. I will address each of these considerations in turn.

FUNDING NETWORK BUILD OUT THROUGHOUT THE COUNTRY

The National Broadband Plan recognizes that without a comprehensive public funding mechanism for both capital and operating expenses, an interoperable broadband network will be unaffordable for significant portions of the country, and particularly for rural America. Our cost model demonstrates under an incentive-based partnership approach, which fully leverages commercial technologies and infrastructure and covers 99 percent of the U.S. population, capital expenses for a fully hardened network will cost approximately \$6.5 billion over 10 years. Operating expenses for this network will cost for the same 10-year period between \$6 and \$10 billion. With this funding in place and based on the FCC's roadmap, nearly all Americans, regardless of where they live, will be covered by a Nation-wide, interoperable public safety broadband network when an emergency strikes.

Conversely, simply reallocating the D Block to public safety will not provide funding for network deployment or operations. It has been suggested that public safety could "self fund" network build out, either through traditional local funding methods or by leasing excess spectrum capacity to others. With respect to the former, as we have seen, traditional local funding methods are unreliable, inconsistent, and subject to tremendous variation depending on the relative resources of the local community. This approach threatens to create a patchwork of "haves" and "have nots," with many small and rural communities left out. And when times get tough, as we have seen from the diversion of funds in the E-9-1-1 context, local monies slated for public safety can be diverted or eliminated in order to meet budgeting constraints. In an environment where local communities must lay off or furlough public safety personnel, the prospect of identifying local funding for broadband network construction is grim.

With respect to the prospect of public safety becoming a spectrum broker for secondary access, nothing in our record demonstrates that enough revenue could be generated to meet capital and operating expenses of the network. The likely result is that public safety would have no choice but to build fewer towers in rural areas to save money, or simply would not build at all. Moreover, when the FCC attempted to broker a mandatory partnership with significant public safety obligations on the designated commercial provider, there were no buyers. Thus, if the D Block were to be reallocated to public safety, we have no assurance that any potential buyers would be willing to pay sufficient leasing fees to fund a viable Nation-wide network. Sufficient public funding, with appropriate spending safeguards, is therefore imperative regardless of how much spectrum is involved.

THE NEED FOR NETWORK AFFORDABILITY AND KEEPING PACE WITH INNOVATION

The National Broadband Plan and supporting FCC White Papers demonstrate that capitalizing on the 4G deployment schedules of commercial carriers will be significantly less expensive than building a stand-alone public safety system. Under the FCC's plan public safety will have its own spectrum, its own network, and control over key operational components, but in most areas public safety can share infrastructure that already exists or is being supplemented by commercial service providers now. In this way, public safety will save approximately \$9 billion for network construction and save potentially tens of billions in operating costs.

Reallocating D Block will make it more difficult for public safety to enter into commercial partnerships that capture the economies of scale that commercial carriers enjoy by virtue of their larger customer bases. If public safety is unable to leverage the commercial marketplace, the cost of the public safety network could easily rise from approximately \$6.5 billion for construction costs and approximately \$8–10 billion in operating costs to an estimated combined total of \$35–\$48 billion over 10 years, a three to four times increase.¹

Reallocating the D Block therefore threatens to come at a price that may put the network out of reach for many communities. Moreover, if the D Block is reallocated, instead of taking 10 years it is more likely that Nation-wide network deployment

¹ Federal Communications Commission, A Broadband Network Cost Model: A Basis for Public Funding Essential to Bringing Nationwide Interoperable Communications to America's First Responders, OBI Technical Paper No. 2, at 4–6 (May 2010), available at <http://www.fcc.gov/pshs/docs/ps-bb-cost-model.pdf> (Cost Model).

will take 20 to 25 years, if it happens at all. Delaying deployment may also damage any ability to leverage commercial deployments now or in the future, and it will be more likely that Nation-wide interoperability will not be achieved in any reasonable amount of time. Further, the D Block and the public safety broadband spectrum make up what is called “Band 14” in the 700 MHz band. Without a commercial carrier in Band 14, the pool of potential users in Band 14 is reduced dramatically, providing less incentive for equipment manufacturers to develop or upgrade products. Without the ability to capitalize on commercial research and development, and choose from a broad array of commercial equipment manufacturers, public safety users will be saddled with disproportionately high costs for communications equipment and handsets that are rapidly outdated and not readily replaceable. Once again, public safety will be left behind and simply providing more spectrum alone does not solve this concern.

GUARANTEEING COVERAGE IN URBAN, SUBURBAN, AND RURAL AREAS

Under the National Broadband Plan, the FCC proposes a comprehensive cost and leveraged deployment strategy that will economically and expeditiously reach 99 percent of the population.

If the D Block is reallocated, the increased expense of the network and user devices will make it more difficult to achieve Nation-wide coverage, and could leave portions of the country without access to these critical public safety communications services. In essence, these areas will be left behind with the vestiges of legacy, narrowband fragmented networks which encumber our Nation today. And it is most likely the rural and economically challenged areas of the country that will be stuck on the sidelines.

GUARANTEEING INTEROPERABILITY

Another critical requirement for this network is to ensure that it is interoperable. This means that no matter the jurisdiction or the uniform, when a first responder picks up a radio he should be able to communicate with the right people and have the right information instantaneously.

In April of this year the FCC took a dramatic step forward to ensure interoperability when we established the Emergency Response Interoperability Center or ERIC. ERIC’s mission, with the help of experts from the Department of Homeland Security and our other Federal partners, is to develop technical requirements to ensure that the 700 MHz public safety broadband wireless network will be fully operable and interoperable on a Nation-wide basis, both day-to-day and during times of emergency. The impact of ERIC is already being seen. This May, the FCC conditionally granted 21 waiver petitions for early deployment of regional, State, and local public safety broadband networks.² In these initial grants, the FCC adopted baseline requirements as a first step towards to ensure Day 1 interoperability for the network. In June, we appointed twenty experienced, public safety practitioners to be members of ERIC’s Technical Advisory Committee, and we are in the process of developing an additional advisory body with broader participation. Together with input from the public safety community and our Federal partners, the experience we gain with these initial deployments will be instrumental as the FCC adopts its final technical rules. As our recent actions demonstrate, the FCC is committed to ensuring that as deployment begins on this network, interoperability is fully achieved.

And this work must continue, regardless of the amount of spectrum the public safety network uses. However, reallocating the D Block to public safety may make this work even more complex for several reasons. First, if the network is not Nation-wide, significant portions of the country would not be able to interoperate with each other. Second, without the ability to capitalize on a robust commercial equipment market using open standards, the potential for proprietary solutions and applications may also endanger interoperability. The use of proprietary equipment and standard are part of the reason interoperability has been elusive with our current

²These include the City of Boston; the City and County of San Francisco, City of Oakland, City of San Jose, CA; State of New Jersey; City of New York; City of San Antonio, TX on behalf of the San Antonio Urban Area Security Initiative Region; City of Chesapeake, VA; State of New Mexico; City of Charlotte, NC; State of New York; District of Columbia; County of Maui, County of Hawaii, County of Kauai, City and County of Honolulu, and the State of Hawaii; City of Seattle, WA; Adams County, CO Communications Center; City of Pembroke Pines, FL; Los Angeles Regional Interoperable Communications System; Iowa Statewide Interop. Comms. System Bd.; Calumet, Outagamie and Winnebago Counties, WI; Mississippi Wireless Communications Commission; City of Mesa, AZ and the TOPAZ Regional Wireless Cooperative; State of Oregon; and State of Alabama.

narrowband public safety systems. So, regardless of how much spectrum is allocated to public safety, it is imperative that the FCC, with its Federal partners, continue our work through ERIC to ensure the public safety network does not begin on a flawed foundation.

ENSURING SUFFICIENT CAPACITY ON THE WORST DAYS

FCC engineers, experts, and technical staff have spent hundreds of hours performing engineering analysis to determine whether the 10 MHz of dedicated spectrum allocated to public safety will provide more than adequate capacity and performance for day-to-day and emergency communications. We have shown that a public safety network built on the 10 MHz of dedicated spectrum supports these critical communications requirements.

Network capacity and performance are affected by spectrum, but other important factors include the type of architecture employed, the number of cell sites in operation, the number of sectors per cell, sound network and spectrum management, and the specific technology that the network utilizes.³ By deploying advanced, 4G wireless technologies and cellular network architectures, public safety can achieve much greater capacity than they have achieved in the past. Indeed, moving from today's Land Mobile Radio (LMR) technology to LTE or even pre-LTE technologies could increase capacity per megahertz by a factor of 16.⁴ In fact, 10 megahertz of capacity on a cellular network would be the equivalent of 160 megahertz on an LMR-type network.⁵

But we must also plan for the major disasters and emergencies that may challenge the public safety spectrum. To that end, the Plan recommended considering requiring commercial operators across the 700 MHz band, and possibly other bands, to provide public safety with roaming and priority access on their networks at reasonable rates in times of critical need. In this respect, advanced 4G technologies like LTE employ more than a dozen levels of priority, which will allow public safety "packets" to bypass other packets of information. Like an ambulance with its sirens on, priority access will allow public safety to speed ahead of everyone else, who must slow down and pull to the side to provide public safety with the right of way. And under the FCC's proposal public safety would have access to nearly 70 MHz of additional spectrum in the 700 MHz band—far more than 10 MHz or 20 MHz, either of which would be inadequate in the worst emergencies. Moreover, as technology evolves to allow priority roaming in other commercial bands, public safety could potentially have access to hundreds of megahertz—orders of magnitude greater than the alternative that has been proposed.

Further, roaming and priority access will provide public safety with access to redundant networks in case their network is unavailable. If the FCC concept is employed, if necessary police, fire, and emergency medical communications could simply roam over onto public safety's choice of one or more commercial networks, with priority, and still continue their public safety work. This level of resiliency and redundancy has important benefits for public safety and for homeland security. Simply reallocating spectrum does not provide this level of redundancy; roaming and priority access are vital no matter what.

There are additional pieces to ensure adequate capacity and performance recommended by the Plan. Our cost model recognizes and captures the need for deployable caches of communications equipments, such as cell towers on wheels, to supplement the network during the worst emergencies. We have also recommended that States and localities should include in their building codes requirements for the installation of in-building transmitters. This will ensure that communications is extended to deep within buildings.

In our expert opinion, many these elements could be at risk if the D Block is simply reallocated to public safety. Ten megahertz of additional spectrum cannot provide public safety with the capacity it may require in the worst emergencies, or the redundancy and dependability of roaming and priority access on multiple commercial networks. Accordingly, pursuing roaming and priority access remain vital considerations for disaster planning irrespective of whether the core public safety network employs 10 or 20 megahertz.

³The Public Safety Nationwide Interoperable Broadband Network: A New Model for Capacity, Performance and Cost, at 5 (June 15, 2010), available at http://fjallfoss.fcc.gov/edocs_public/attachmatch/DOC-298799A1.pdf (Capacity White Paper).

⁴Id. at 8.

⁵J.M. Peha, "How America's Fragmented Approach to Public Safety Wastes Money and Spectrum," *Telecommunications Policy*, Vol. 31, No. 10–11, 2007, p. 605–618.

PROVIDING OPPORTUNITIES FOR IMMEDIATE DEPLOYMENT

Finally, let me end where I began—urgency. Regardless of whether or not the D Block is reallocated, if we delay too long in taking action, we lose the chance to capitalize on commercial 4G deployments; we lose the chance to save the country tens of billions of dollars; we lose the chance to bring this network to rural parts of the country; and we lose the chance to make this network a reality in the near term. These opportunities are available to us now, if we can muster the courage and the urgency to act.

CONCLUSION

Our mission is to ensure that public safety agencies in all areas of the country have the can successfully access an advanced, wireless broadband network. We have a singular opportunity to ensure that public safety has a Nation-wide interoperable broadband network. Our Plan carefully balances the input of all stakeholders, and takes advantage of this opportunity by offering a sustainable, long-term, cost-efficient model that provides first responders with the state-of-the-art, affordable, and interoperable broadband communications networks they deserve. We have one chance to solve the 9/11 interoperability problem and we must seize the opportunity while we can.

Thank you for your time and attention. I am very happy to take any questions you may have.

Ms. RICHARDSON. Mr. Greg? I am sorry, Schaffer.

STATEMENT OF GREGORY SCHAFFER, ASSISTANT SECRETARY, OFFICE OF CYBER SECURITY AND COMMUNICATIONS, DEPARTMENT OF HOMELAND SECURITY

Mr. SCHAFFER. That is all right. Chairwoman Richardson, Ranking Member Rogers and distinguished Members of the subcommittee, it is a pleasure to appear before you. As the assistant secretary for Cyber Security and Communications at DHS, I would like to lay out how my office supports the interoperable emergency communications needs of the Nation, including our role to date in moving forward regarding the FCC's National Broadband Plan.

CS&C plays a central role in continuing the process of advancing emergency communications, including by actively participating and engaging with the FCC on issues surrounding the National public safety broadband network, and working with the Department of Justice as administration representatives to the Emergency Response Interoperability Center.

DHS' goal is to make certain that all emergency responders have the capabilities needed to perform their essential missions, whether using today's communications infrastructures or emerging broadband technologies.

Let me expand on that. Much of the debate that is going on right now revolves around the allocation of 10 megahertz of spectrum known as the D Block. However, the merits of building a National public safety broadband network are more complex than simply whether the D Block spectrum is allocated to public safety or auctioned to the private sector.

In fact, the vast majority of what needs to be done in order to ensure that public safety has what it needs moving forward must be done regardless of the outcome of the D Block debate.

We must begin to work on public safety standards for broadband networks, including known and anticipated data requirements. We must determine the technical and legal capabilities for priority access and roaming across the full range of the 700 megahertz spectrum. These efforts must be undertaken now, regardless of how the

D Block issue is resolved. They are fundamental elements to successfully building the network.

The Nation is at a critical juncture regarding the future of emergency communications. Broadband technologies have greatly expanded our expectations of what communications can deliver, with millions of Americans now routinely using text messaging, e-mail, location-based services and mobile video via smart phones and other devices, a trend that will only continue with the emerging technologies such as the 4G networks.

These new technologies can be used to augment the existing land mobile radio solutions that public safety currently relies on to perform its vital mission, supporting rural jurisdictions and urban areas alike. The administration strongly supports the building of a National public safety broadband network, capable of meeting the mission requirements of public safety.

Moreover, the administration is committed to helping fund this network through a dedicated funding stream. Of course, the FCC has been working on its plan for such a network for some time, and the administration is carefully evaluating their proposals. We are focused on a number of guiding principles as we go through that process.

First, interoperability must be built into any network architecture proposal from the outset. We must avoid developing systems that are unable to interoperate without substantial investment in expensive add-on components as has often been necessary with land mobile radios.

Second, coverage in both urban and rural areas and across the full range of the public safety mission space is essential. Firefighters, law enforcement officials, and EMTs must all benefit from broadband.

Third, the solution must leverage commercial technologies. If public safety and commercial providers can leverage common infrastructure, chipsets, and base station technologies which also meet public safety requirements, all will benefit.

Let me emphasize this point. The best solutions will leverage commercial technologies today and allow continued evolution of capabilities over time, ensuring access to cutting-edge solutions for the long term.

The arguments for and against reallocation of the D Block are extremely complex, and any proposal must meet the needs of public safety and these three guiding principles.

Before any decision on the FCC's proposal to auction the D Block and allow public safety priority access to roam on commercial networks in cases of emergency, several aspects need additional clarity.

First, both the technical and legal aspects of the framework for priority access and roaming must be evaluated to ensure that priority can actually be given to public safety communications in a time of emergency at a price tag that they can afford.

Second, the FCC's plan will necessitate sufficient funding to build out the infrastructure required for the network, and these costs must also be well-understood.

Third, while any use of wireless broadband technology as a replacement for existing public safety mission critical voice traffic

systems is years away, it is essential that significant efforts be taken now to solve critical technical challenges associated with public safety use of commercial networks.

We need to gain clarity quickly on these important matters. One step toward doing so is the establishment of a public safety interoperability task force, including representatives from DHS, DOJ, and other Federal agencies, set up to better understand and identify public safety requirements and test assumptions.

This is a once-in-a-generation opportunity to enhance public safety capabilities and save lives. We must get it right. I thank you for the opportunity to testify, and I would be happy to answer any questions you may have.

[The statement of Mr. Schaffer follows:]

PREPARED STATEMENT OF GREGORY SCHAFFER

JULY 27, 2010

INTRODUCTION

Chairwoman Richardson, Ranking Member Rogers, and distinguished Members of the subcommittee, it is a pleasure to appear before you today to discuss the Department of Homeland Security's (DHS) emergency communications mission. Today I will outline DHS's responsibilities in emergency communications. I will also discuss our position on the development and deployment of a Nation-wide public safety broadband network including the allocation of the Upper 700 MHz Band D Block radio spectrum. Finally, I will outline the steps that DHS, in coordination with the Federal Communications Commission (FCC) and other Federal departments and agencies, has taken and plans to take to ensure that our Nation's emergency responders have the ability to communicate as needed, on demand, and as authorized at all levels of Government and across all disciplines.

The Nation is at a critical juncture regarding the future of emergency communications. We have an opportunity to change the trajectory of how the United States responds to emergency events. Today, the needs of public safety users are being met by Land Mobile Radio (LMR) technologies, which are used across the Nation by Federal, State, local, and Tribal governments to provide the mission-critical voice capabilities used every day by firefighters, law enforcement officers, emergency medical technicians, and other first responders to protect and save lives. In a broadband world in which voice, video, and data are available to every smartphone user, voice communications—while essential—are no longer sufficient to meet the needs of emergency responders. Public Safety also needs the data capabilities and efficiencies that newer technologies can provide.

The planned deployment of new fourth generation, or 4G, mobile technologies by many commercial carriers over the next several years presents a historic window of opportunity to secure a range of high-speed, cutting-edge, inherently interoperable capabilities for our Nation's public safety and emergency response community. These new technologies can be leveraged to augment the existing LMR solutions that the public safety community currently uses to perform its vital mission: Delivering a robust, operable, and interoperable Nation-wide public safety network. This improved network would support rural jurisdictions and urban areas alike, ensuring that all emergency responders have access to the new capabilities. If employed effectively, it will facilitate the development of new technologies tailored to public safety which could mean faster response times for ambulances and fire engines, as traffic-aware mapping systems guide responders around obstructions and along obscure roads and side streets, avoiding congested areas. Real-time video analysis could improve situational awareness and reduce risks to civilians. High-speed imaging transmissions could enhance the effectiveness of emergency medical treatment in remote locations, saving more lives. The possibilities, not unlike the demand for and use of applications on smartphones, for new life-saving solutions and inventions are unlimited.

We support the vision of a National public safety broadband network, which leverages commercial technologies and applications, to meet public safety and emergency response requirements. Among the capabilities public safety needs are:

- (1) An infrastructure built to handle natural hazards;
- (2) Nation-wide interoperable coverage for all public safety agencies;

- (3) Public safety-grade voice capability;
- (4) Robust data services;
- (5) Public Switched Telephone Network access;
- (6) Satellite services.

These services raise complex issues, but we are committed to ensuring strong capabilities for vital public safety communications.

OVERVIEW OF DHS EMERGENCY COMMUNICATIONS RESPONSIBILITIES

Within the Office of Cybersecurity and Communications, I manage two organizations that focus on different but converging areas of telecommunications: The Office of Emergency Communications (OEC) and the National Communications System (NCS). OEC was established as part of the Congressional response to the communications challenges faced during the September 11, 2001 terrorist attacks and Hurricane Katrina in 2005. Created by Congress in 2006, OEC coordinates policy and assists in the development and implementation of interoperable and operable emergency communications capabilities for emergency responders at all levels of government—Federal, State, local, Tribal, and territorial. OEC provides more than 100 technical assistance visits to State and local partners each year and coordinates Federal interagency emergency communications activities across 14 partner agencies through the Emergency Communications Preparedness Center, and across all levels of government through the SAFECOM Executive Committee and Emergency Response Council. OEC also led the development of the National Emergency Communications Plan (NECP).

The NCS, transferred from the Department of Defense to DHS in 2003, was created by Executive Order to support the telecommunications functions of the Executive Office of the President and all Federal departments and agencies for Continuity of Government, Enduring Constitutional Government, and Continuity of Operations. The NCS is an interagency system comprised of the telecommunications assets of 24 Federal departments and agencies, each with significant operational, policy, regulatory, and enforcement responsibilities. The NCS coordinates telecommunications preparedness, response, and restoration activities across its 24 member agencies through the NCS Committee of Principals, which consists of senior Government officials from each of the 24 member agencies, ensuring a diverse representation across the NCS that includes the full range of Federal telecommunications assets. The NCS developed, manages, and administers priority communications services that take advantage of existing capabilities provided by the privately owned public switched network (PSN), yielding a cost-effective emergency communications solution for Government and critical infrastructure emergency responders.

If the PSN is damaged, degraded, or congested during times of emergency, crisis, or war, the NCS priority services allow senior Federal officials and first responders to complete their calls. These priority services are maintained in a constant state of readiness through the NCS's unique public/private partnership with the PSN providers. The NCS also administers an FCC mandate that prioritizes restoration of critical National security and emergency preparedness circuits if they are damaged or destroyed during disasters or emergencies. Under the National Response Framework, the NCS is the lead agency responsible for executing Emergency Support Function No. 2 Communications. To ensure that effective and reliable communications exist to provide Continuity of Government, Enduring Constitutional Government, and Continuity of Operations, the NCS identified the minimum continuity communications requirements for all Federal departments and agencies, and tests the operational readiness of those capabilities every month.

Both the OEC and the NCS are critical to shaping National policy, improving technological capabilities, and securing Federal Government support for a Nationwide public safety broadband network. They work across DHS, Federal departments and agencies, multiple levels of government, and private industry to improve communications capabilities and achieve their mission requirements.

In July 2008, OEC—working closely with our partners from all levels of government and the private sector—published the first National Emergency Communications Plan (NECP). The NECP established a clear operational vision for our Nation's emergency communications efforts—that emergency responders can communicate as needed, on demand, and as authorized, at all levels of government and across all disciplines. This vision is not technology-specific but encompasses all the wide range of different means and methods that emergency responders use to communicate. The NECP established three measurable goals, the first of which we are currently in the process of evaluating:

- *Goal 1.*—By 2010, 90 percent of all high-risk urban areas designated within the Urban Areas Security Initiative (UASI) are able to demonstrate response-level

emergency communications within 1 hour for routine events involving multiple jurisdictions and agencies.

- *Goal 2.*—By 2011, 75 percent of non-UASI jurisdictions are able to demonstrate response-level emergency communications within 1 hour for routine events involving multiple jurisdictions and agencies.
- *Goal 3.*—By 2013, 75 percent of all jurisdictions are able to demonstrate response-level emergency communications within 3 hours, in the event of a significant incident as outlined in National planning scenarios.

This month we held 10 evaluations of Goal 1 progress. By the end of October of this year, we will have evaluated the communications capabilities of the Nation's largest urban areas. Next year, we will expand upon this effort and evaluate Goal 2, coordinating with States to collect information at the county level and providing DHS with detailed performance and capability data from more than 3,000 local jurisdictions.

Through OEC, DHS has placed heavy emphasis on communications capacity building at the State and local level. At the center of this effort has been support for the development of extensive governance structures—including strategic plans, governance bodies, and the identification of State-wide leadership—in order to strategically guide emergency communications investments in States and localities. Interoperability is not just about enabling technologies—it is as much about the people and processes necessary to use technology in an interoperable way.

The investments we have made over the past several years in governance can be fully leveraged as new broadband technologies are integrated into the suite of solutions that will be used by the public safety community in the future. Today each of the Nation's 56 States and territories has Statewide Communications Interoperability Plans and Statewide Interoperability Governing Bodies to guide their efforts to improve emergency communications capabilities across their States. In addition, 44 States have hired full-time Statewide Interoperability Coordinators to lead the effort to build interoperable emergency communications networks. These planning structures, people, and processes, are the crucial building blocks necessary to successfully integrate broadband communications networks into the overarching emergency communications enterprise. In many ways, the emergency response community is poised to take this next step.

These organizational efforts are complemented by the priority services programs managed by the NCS. The Nation's telecommunications providers are transitioning from the current circuit switched technology to next generation network (NGN) Internet protocol (IP) packet-switched technology. The NCS is working closely with private industry, National, and international standards bodies to ensure that current priority service capabilities continue. The NCS' NGN program is intended to ensure that all National security and emergency preparedness users continue to have priority service capabilities in the next-generation network environment. These capabilities, and NCS's expertise, provide vital support to public safety communications as the Nation migrates towards an IP-based communications environment.

DUAL PATH MODEL

As broadband communications capabilities are layered into the emergency communications enterprise, it is essential that we leverage the strategies, policy, governance structures, and coordination groups that support current emergency communications capabilities to address the challenges and opportunities of the broadband world. We are not starting from scratch, and we cannot forget the importance of continuing to support and improve current day-to-day mission critical communications capabilities. Based on everything we know today about both the state of the technology and the resources of the community, we believe that it is unlikely that public safety would transition away from LMR in fewer than 10 years. As the first broadband systems are built, they will primarily come in the form of broadband wireless cards for laptops, not ruggedized public safety handsets that handle both data and voice transmissions. While a single unified broadband solution for both data transmission and mission critical voice should ultimately be possible, only with future refinement of standards, significant research and development, and rigorous testing and evaluation will we be able to begin moving forward with the transition from mission-critical voice communications to broadband networks.

As we concentrate and unify our efforts on building broadband communications capabilities, we will continue to partner with public safety to ensure continued, robust interoperability alongside full broadband implementation. Our goal is to make certain that all emergency responders have the capabilities needed to perform their essential missions, with respect to both today's communications infrastructure and emerging broadband technologies.

BROADBAND NETWORK POLICY REQUIREMENTS

As DHS evaluates any potential plan to develop and deploy a Nation-wide public safety broadband network, we are focused on a number of guiding principles. First and foremost, interoperability must be built into any network architecture proposal from the outset. We must use lessons learned from the creation of the LMR environment and avoid developing systems that are unable to interoperate with each other without substantial investment in expensive add-on components.

Second, coverage in both urban and rural areas is mission-essential. Emergency responders across the entire range of response official—from metropolitan police departments to rural county volunteer fire departments—must benefit from broadband communications capabilities to meet their mission requirements. This network must be able to address earthquakes in San Francisco as well as wild fires in Montana. It needs to provide coverage for potential terrorist events in New York City and hurricanes in rural Louisiana. This effort is about connecting everyone, no matter where in the United States they live.

Third, the solution must allow public safety devices to heavily leverage commercial technology. Within the current LMR environment, public safety handset costs can range from hundreds to several thousands of dollars per unit, largely because they are not able to leverage the economies of scale from which commercial customers benefit. The same generally holds true for infrastructure components—towers, base stations, switching equipment, antennae, and backhaul facilities. If public safety and commercial providers can leverage common infrastructure, chipsets, and base station technologies which also meet public safety requirements, both sides will benefit.

Finally, any solution must provide a path for the network to evolve and grow, progressively adding greater capability and providing better mission support.

The release of the FCC's National Broadband Plan (NBP) has focused much-needed attention on developing a Nation-wide public safety broadband network. While reactions have been strong both for and against elements of the plan, DHS believes that the increased attention to this challenge, and ensuring transparency in meeting it, will result in stronger solutions. The NBP's key public safety recommendations are far-reaching and the administration is currently examining the NBP as part of the National Science and Technology Council's subcommittee on broadband. DHS is working closely with the administration on the Public Safety portions of the plan.

The administration strongly supports building a National public safety broadband network capable of meeting the mission requirements of public safety. Moreover, the administration is committed to a dedicated funding stream to help fund the network using revenues derived from spectrum initiatives.

The administration recently provided the opportunity for funding a portion of the Nation-wide public safety broadband network when the Department of Commerce reopened the second round of the Broadband Technology Opportunities Program (BTOP) to allow 21 jurisdictions to compete with other applications for Federal grant funding. If a public safety applicant is successful, they may use those funds to begin building out systems that make use of public safety broadband spectrum. We support the FCC's decision to grant waivers to these 21 jurisdictions for conditional use of currently allocated spectrum to promote the development of technological solutions, processes, and procedures that can inform the deployment of other jurisdictions throughout the United States. We are hopeful that these applicants will submit competitive, well-thought-out applications. Successful public safety applicants could help lead the way and accelerate the development and deployment of broadband communications capabilities across the United States. At the same time, we note that it is critically important that these jurisdictions build to a single consistent standard so that the resulting system of systems is both operable and interoperable.

The Department of Commerce is also sponsoring a significant initiative—the Public Safety Broadband Demonstration Network—at its Boulder, Colorado labs, where Federal agencies, public safety, and industry will come together to promote public safety broadband technologies and evaluate equipment. This initiative will help ensure that objective data can be provided to public safety on the capabilities and limitations of broadband devices as they become available. Earlier this month I visited the Boulder labs as part of DHS's on-going efforts to ensure that public safety's technical questions and needs are being addressed. Among other efforts, DHS is facilitating direct public safety community participation in the evaluation process and looks forward to continuing to partner with the Department of Commerce to ensure that emergency responders can participate in these efforts.

THE D BLOCK

At the Department, our efforts are focused on ensuring that public safety has the capabilities to communicate as needed, on demand, and as authorized at all levels of government and across all disciplines. The arguments for and against reallocation of the D Block are extremely complex, and we believe that any proposal must meet the needs of public safety and adhere to the guiding principles I laid out earlier. Under the FCC's proposal, public safety communications would transition into a commercial environment characterized by increased infrastructure to maximize spectrum reuse and the utilization of commercial chipsets and base station technology to achieve significant cost and capability advantages for public safety users and the Nation. We believe that the FCC's proposal has merit, with a number of significant caveats.

First, the FCC's proposal relies on development of a new generation of technical capabilities and additional legal authorities, which are intended to allow public safety to roam onto commercial spectrum with priority access in emergency events. Both the technical and legal frameworks for this type of plan must be evaluated, and capacity and capability outcomes understood, before any decision can be made regarding the spectrum requirements for public safety.

Second, the FCC's plan will necessitate sufficient funding to build out the infrastructure required for the network. Effective network operations require that sufficient cell sites and base stations be built out and that the network be hardened as appropriate. One significant advantage of the FCC's plan is that network costs are expected to be significantly less than other alternatives, and costs are of course an important factor for public safety.

Third, the FCC expects that commercial networks can ultimately be enabled to handle not only mission-enhancing public safety data communications traffic but eventually, mission-critical public safety voice traffic as well. While the use of Long Term Evolution wireless broadband technology as a replacement for existing public safety voice-traffic systems is years away, it is essential that significant efforts be undertaken now to solve the following critical technical challenges associated with public safety use of commercial networks:

- (1) The networks and associated equipment must be able to operate in a one-to-many mode, as LMR systems do today, in addition to the one-to-one mode of typical commercial cellular phone systems.
- (2) The networks and associated equipment must be able to operate peer-to-peer (or handset-to-handset) in the event of network outages;
- (3) The networks must be able to provide clear understandable voice communications in high-noise environments like burning buildings, and with minimal voice delay; and
- (4) The networks must be able to penetrate to and from the interior of large buildings without significant degradation of capability.

THE PATH FORWARD

To move forward, working in close partnership with the public safety and emergency response community, and with support from the FCC, the administration, through the Department of Homeland Security and the Department of Justice is establishing a joint task force on public safety interoperability to better understand and identify public safety requirements, test assumptions and approaches associated with meeting those requirements, recommend technical, policy, process, and governance solutions, and coordinate with the FCC. This task force will allow personnel from several of the departments and agencies with major interoperability competencies to work in partnership with the public safety community.

The administration also plans to convene a forum this fall to discuss funding, spectrum requirements, technology issues, and governance models necessary to support the development of a next generation network for public safety communications.

DHS SUPPORT

DHS is committed to supporting public safety and pursuing a dual path strategy that steadily improves mission-critical voice communications capabilities while investing in the deployment of a Nation-wide public safety broadband network. We will continue to provide technical assistance and governance support, share best practices and lessons learned, and provide venues for coordination for our Nation's emergency responders as they maintain and improve their day-to-day mission-critical communications networks, procedures, and protocols.

We will support the 21 waiver jurisdictions as they begin their efforts to deploy the Nation's first public safety broadband systems in 700 MHz public safety spectrum. We will work with these jurisdictions to ensure that their efforts create an interoperable system of systems that allows users from all jurisdictions to converge and operate seamlessly in the event of an incident of National significance. We will leverage the best practices and lessons learned from these efforts to encourage their integration into broadband communications capabilities.

Within the next year, we will release a revised version of the NECP, which will lay out the policy and strategic direction for integration of public safety communications across all technology platforms and more explicitly integrate the dual path model. We will also apply our IP packet prioritization and standards expertise to the challenges facing the public safety community.

We look forward to working with other Federal departments and agencies and Congress to explore additional opportunities for Federal partnerships with a new Nation-wide public safety broadband network.

CONCLUSION

We must seize the opportunity to build a Nation-wide public safety broadband network that will provide cutting-edge capabilities to our first responders. We will aggressively work to support public safety agencies as they integrate broadband data capabilities into their emergency communications systems, protocols, and governance structures. This is a once-in-a-generation opportunity, and we must get it right.

Thank you for this opportunity to testify, and I would be happy to answer your questions.

Ms. RICHARDSON. I thank all the witnesses for your testimony. I will remind each Member that he or she will have 5 minutes to question the panel, and I will recognize myself first for questions.

You know, I am going to do something that staff will always tremor when a Member does, and I am going to divert a little bit from my questions and ask you one that I have for myself.

In many industries, whether it is alcohol and tobacco, whether it is oil companies or even networks, in those industries there is a small fee that oftentimes the various providers will pay that will contribute to an overall good that an agency would provide.

Has there been any discussions about why the networks themselves, the companies that benefit from the megahertz, why we wouldn't just have a small fee based upon X amount to be able to pay for a public safety network that benefits them as well as the entire public?

Admiral BARNETT. Congresswoman, we looked at some 27 different permutations of ways to be able to make the network work. If what you are talking about is the actual public safety spectrum that is public safety's.

They can only exist in that and so actually they would be contracting, they can even build it themselves under our plan or they can contract with a carrier or somebody else. But it is their spectrum so—

Ms. RICHARDSON. No, sir, what I am asking is, and let me give you an example. When I worked in the State legislature I was on government operations, which included alcohol, tobacco, and gaming.

The alcohol and tobacco companies paid a certain amount of fees, some might call it a tax, whatever you might call it, they paid a general fee for per bottle or per whatever it was, and that went into, for example, the education of, you know, Alcoholics Anonymous and so on.

My question is, why wouldn't we be talking to AT&T, Qualcomm, Verizon, and many of these other providers and say, okay, by having them participating in the 700 megahertz band, that you would pay X amount of fee and that those funds would be utilized to build our public safety network?

Admiral BARNETT. Now I understand what you are asking, Chairwoman.

Ms. RICHARDSON. Yes.

Admiral BARNETT. Actually, so one of the things we looked at, and while we leave to Congress the general concepts of funding the network, one of the things we wanted to put forward is operation of the network.

That we looked at, in essence, the FCC being able to, as one suggestion, to levy some type of, you know, fee I guess you could say against the various carriers that would go into a fund that would help the various public safety agencies operate their network, maintain their network, and this is very important, upgrade their network.

Because we want, as Assistant Secretary Schaffer said, we want to make sure that public safety keeps up with its commercial technologies it develops rather than locked in to 20 years as we had in the past.

Ms. RICHARDSON. Admiral, with all due respect, I am sorry. I have only got 2 minutes left. So my question is, I heard everything that the Secretary said and, in fact, I read all of your testimony last night at about midnight. So I get that. My question is has there been a discussion about assessing a fee, and if there was what were the thoughts of that discussion?

Admiral BARNETT. Yes, ma'am. There have been thoughts about that, and one of the recommendations in the plan is to assess a fee that would go into funding public safety's operation and maintenance of the network.

Ms. RICHARDSON. Okay. Could you supply that information to this committee?

Admiral BARNETT. Yes, ma'am. I will be glad to.

Ms. RICHARDSON. Thank you very much. Okay, also Admiral, as you know, a majority of the public safety organizations oppose the NBP's auction recommendation while a few groups support this auction. I would like to submit for the record a statement from the Fraternal Order of Police supporting the National Broadband Plan. Seeing no objection it is submitted into the record.

[The information follows:]



**NATIONAL
FRATERNAL ORDER OF POLICE®**

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CHUCK CANTERBURY
NATIONAL PRESIDENT

JAMES O. PASCO, JR.
EXECUTIVE DIRECTOR

17 June 2010

The Honorable Frederick C. Boucher
Chairman
Subcommittee on Communications,
Technology and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Clifford B. Stearns, Sr.
Ranking Member
Subcommittee on Communications,
Technology and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington D.C. 20515

Dear Mr. Chairman and Representative Stearns,

I am writing on behalf of the members of the Fraternal Order of Police to provide the Subcommittee on Communications, Technology and the Internet with our views on national efforts to establish a national public safety broadband network.

Reliable communication is an essential law enforcement tool—critical not only to the safety of the officer but the overall safety mission. The old adage that no one can outrun a radio is true. Law enforcement relies on communications from simple traffic enforcement to complex response operations to an incident covering multiple jurisdictions and public safety agencies. Without reliable and effective communications, the safety of the officer and the mission is jeopardized.

The FOP supports the National Broadband Plan recently rolled out by the Federal Communication Commission (FCC), and its strategic outline for the creation of a fully interoperable national network for public safety. We further support and appreciate the fine work being done by Chairman Julius Genachowski, and the FCC's chief of the Public Safety and Homeland Security Bureau, Rear Admiral James A. Barnett, Jr. We have enjoyed a constant and regular dialogue with these two men and other key staff at the FCC and sincerely appreciate their outreach and responsiveness on public safety communications issues.

Broadband technology is the most recent technological jump for the public sector. We share the FCC's belief that using this new technology will make communications networks more reliable and more interoperable. The FOP agrees with the most recent conclusions of the FCC's white paper, entitled, "The Public Safety Nationwide Interoperable Broadband Network, A New Model For Capacity, Performance and Cost," which shows that the current spectrum dedicated to the Public Safety Broadband Licensee (PSBL) will provide the capacity and performance necessary for day-to-day communications and serious emergency situations. The FCC's plan includes funding for capital and operating expenses, which are critical to ensuring that the network is both

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nationwide and interoperable. We are also heartened by the FCC's commitment to ensure that all public safety agencies, not just those in major metropolitan areas, but also those in rural, more isolated areas, will have their interoperability issues addressed.

There are organizations in the public safety community who believe that the only way to achieve this goal is to allocate the D Block, which is mandated by law to be sold at auction, to the PSBL. But do not mistake the loudest voices for unanimity. The two largest public safety organizations, the FOP and our colleagues at the International Association of Fire Fighters, which represent the rank-and-file—the men and women who are in the field and whose lives depend on reliable communications—do not believe that the FCC's vision or the overarching goal of establishing a national public safety broadband network depends on the D-Block being added to the PSBL.

For the rank-and-file, the issue is not just one of capacity, but cost and utility. Doubling the size of the spectrum dedicated to public safety will not mean very much if Federal funds are not made available to build out the network. Guaranteed Federal funding to establish and realize a national broadband network for public safety on the *existing* spectrum is priority one.

This existing spectrum, along with the FCC's plan to use of enhanced roaming on the commercial networks that we anticipate would be established on the D Block after its auction, would allow public safety agencies to operate across jurisdictional boundaries during emergencies in which greater capacities were needed. The FCC's white paper, released earlier this week, demonstrates how public safety agencies can maximize capacity, performance, reliability and resiliency of public safety broadband communications even in the most extraordinary emergencies when communications demands are at their peak. In addition to addressing capacity issues during a large-scale national response to a critical incident, it also provides public safety with dependability and back up support, which does not exist with a purely dedicated network. The FOP supports the conclusions of the FCC's white paper on this point.

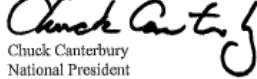
That having been said, if the Federal government will commit to guaranteed, mandated funding to build out the existing 10 MHz of dedicated public spectrum and the additional 10 MHz from the D Block, as well as shoulder some of the burden for purchasing the equipment needed to utilize all of this spectrum, then it is an idea worth exploring. Without guaranteed funding streams, however, public safety is better served by building a national and reliable network on the existing spectrum and leveraging the commercial spectrum during times of national emergencies.

Capacity is not the only issue—an honest assessment of the needs and the cost to use that capacity effectively are equally important. Having state-of-the-art body armor will not help the officer who does not put on the vest before he begins his shift. Having 20 MHz of spectrum without the funding to build and maintain the communications network or buy devices and equipment that can take advantage of that network does very little to help an officer requesting assistance from the field.

In closing I would like to thank both of you for your leadership and for your consideration of the views of the members of the Fraternal Order of Police on this matter. We are prepared to continue to work with Congress and the Administration to improve public safety

communications nationwide, so please feel free to contact me or Executive Director Jim Pasco in my Washington office if we can be of any further assistance.

Sincerely,


Chuck Canterbury
National President

Ms. RICHARDSON. In general, most of the public safety community has said that the FCC has not been willing to work in a collaborative way with them in the development of the rollout of the NBP's planned D Block recommendation.

Please describe in detail what efforts have been taken to work with public safety to discuss their concerns prior to the D Block recommendation being made. Specifically, how many stakeholder meetings have occurred to hear their concerns?

Admiral BARNETT. Chairwoman, I actually went back and looked at this. We have had literally hundreds of meetings, telephone calls, conference calls, workshops, forums, technical forums where we bring people in. I think the witnesses that you will have on your second panel will be able to tell you I have never refused a meeting with anyone who requests it. Often I will call to request it.

So we took a great deal of input and the National Broadband Plan benefitted greatly by it. I would have loved to have been able to agree with them on the D Block. It is just that the data did not show that, and we feel like we had a responsibility to Congress to tell you exactly what we found.

Ms. RICHARDSON. Would you supply that list to this committee?

Admiral BARNETT. I would be glad to. Yes, ma'am.

Ms. RICHARDSON. Then my last question before I defer to the Ranking Member, did public safety actually participate in assisting with the drafting of the recommendation?

Admiral BARNETT. No, ma'am. At that point the actual recommendations after we took all the input we analyzed it and put it into the broadband plan as the FCC does with its other decisions and even in its rulemakings.

Ms. RICHARDSON. Are you opposed to working with them to discuss your current recommendations and to maybe consider a compromise?

Admiral BARNETT. I am always open to working with and talking to public safety.

Ms. RICHARDSON. Thank you.

With that I will defer to our Ranking Member from Alabama, Mr. Rogers, for 5 minutes.

Mr. ROGERS. Thank you. First let me say it is pleasant to hear somebody with an accent like mine in this town.

[Laughter.]

Admiral BARNETT. We don't have accents.

Mr. ROGERS. We don't, but all these Yankees do.

[Laughter.]

Mr. ROGERS. Admiral, in your opening statement you made the point that we have an outdated equipment in our communications. Why is it—and I have been on this committee 7 years—we have spent a fortune trying to make sure that our public safety folks can communicate with one another. But yet we still have these inter-operable problems?

I would like for you to tell me why you think that is and I would like for Mr. Schaffer to tell me his thoughts on that.

Admiral BARNETT. You know, in a very brief statement I think the reason is because it is so expensive. The public safety agencies have to invest in, in essence, amortize it over 20 and 30 years. So as technological advances occur for interoperability it is very hard to get everybody on the same page at the same time.

That is why this technological clean slate is so important. It is not going to last long. We really have to act quickly on it, but that is one of the reasons and one of the major reasons, I think, that we cannot—we spent \$8 billion of Federal money alone in the last 5 years.

Mr. ROGERS. I know.

Mr. Schaffer.

Mr. SCHAFFER. Congressman, I think one of the key issues that we have discovered over the last couple of years in particular, is that it is not just about the technology. It is about the governance structures, the training, the opportunities to have standard-based solutions.

What we have done in the last 2 years since the National Emergency Communications Plan was first published, is put in place a National structure that has cascaded into State structures and local structures. We have State interoperability plans at this point.

We have individuals at the State level who have responsibility for managing interoperability for all of the local and State resources. That was something that started 2 years ago when the National plan was published and, as mentioned, the plan will be updated to focus on some of the interoperability issues around the broadband solutions as well as we go forward.

But having those structures in place is critically important to make sure that the technology that we are using is able to deliver the kind of interoperability that is needed.

So it is good that we have a clean slate with technology and there is tremendous opportunity on broadband for the data solutions there in the mission critical voice areas the use of systems that are used today by public safety to do their day-to-day job.

We need to continue doing what we have been doing as well. So both are equally important I believe.

Mr. ROGERS. Do you require in that plan that local governments or State governments have to buy equipment or use equipment that will network in exchange for the Federal funds to pay for it?

Mr. SCHAFFER. There is grant guidance in a variety of different ways. One of the things that is happening now is that there is a move to make all of the various grants, whether it is the Department of Justice grants, the Department of Homeland Security

grants and other places through the ECPC we are working to have all the grant guidance aligned.

So the Emergency Communication Preparedness Center—that is one of the work streams that they are engaged in to try to get grant guidance all aligned in a way that will lead to greater interoperability.

There have been a number of moves within the plan to drive interoperability and to have all of those pieces line up in a way that will now need to coordinate what the broadband pieces as well.

Mr. ROGERS. Great. Admiral—oh, wait, I am sorry, Mr. Schaffer. In your testimony you discussed the creation of a task force that includes FCC, NTIA, and the Department of Justice on the issue of public safety broadband initiative.

However, Congress also established the Emergency Communications Preparedness Center in 2006. Now, the ECPC was specifically established to avoid duplication, hindrances, and counteractive efforts among the participating Federal agencies. Could you please explain the purpose of this task force and how would you respond to the accusation that this is simply another layer of bureaucracy?

Mr. SCHAFER. Yes, Congressman. The ECPC has a very broad mandate. It is focused across the Federal enterprise. Right now membership with 14 departments and agencies that are most heavily involved in emergency communications, to address communications issues across that Federal enterprise to try to coordinate, create better leverage, do things like focus on the grant guidance, find ways to leverage across the Federal departments and agencies.

They are focused on things well beyond the broadband plan and the very specific issues around the deployment of a single network within the 700 megahertz space and the issues that that brings up.

The administration has created this task force to focus on that very narrow issue with respect to the broadband plan and its implementation and whether or not the current proposals are the ones that are best suited to bring things forward.

So it is a task force designed to focus on what the FCC has done and bring some additional analysis, ensure that public safety's concerns, questions, and issues are being looked at by the administration as well as the FCC.

The FCC has spent a year preparing their plan and focusing on it. The administration is trying to put some focus on it as well, and that is what the task force is really about.

Mr. ROGERS. Good. Thank you, Mr. Schaffer. My time has expired.

Ms. RICHARDSON. You asked my third question.

Mr. ROGERS. Okay. Glad to help.

Ms. RICHARDSON. The National Broadband Plan will provide safety with additional capacity by requiring commercial carriers to support roaming and priority access on commercial networks as you testified, Mr. Schaffer.

As I understand it, priority access merely means putting public safety at the head of the line, but does not guarantee that they can get on a system that is already clogged with consumer traffic, a situation that routinely occurs at the scene of an emergency.

What happens if commercial carriers are unable to provide the priority access because their own systems are already overloaded? Who is liable if the system is not available when the public safety needs it most? Finally, how would commercial providers prioritize spectrum use among fire and police in one or multiple jurisdictions or among State and Federal officials?

Mr. Schaffer.

Mr. SCHAFFER. Chairwoman, there are key in our approach from DHS perspective is making sure that our public safety resources have what they need in order to execute in their mission space. So we are very interested in how the priority and roaming access will actually operate.

The good news is that the technology that has been selected by the FCC has been endorsed by the public safety resources has a lot of capability with respect to priority that did not exist in prior iterations of the technology.

There are questions, however, in terms of both how that technology will work in practice as opposed to in the standards and what the legal regimes will need to be in order to ensure that that roaming and priority access is instantiated and capable to move forward in a way that actually works.

So until some of those questions are resolved, it is very hard to know exactly how that will work and how you will prioritize, for example, as you asked, between police and fire and other resources.

But those are the kinds of questions that we are looking at with respect to the task force and trying to work with the FCC to understand what their plan is in terms of how to execute in those spaces.

Ms. RICHARDSON. Well, let me put it this way, Mr. Schaffer, just like real Americans. Okay, if I am on a plane and I have priority access, let us say, to upgrade. I have half a million miles, and I have priority access to be able to upgrade to first class.

But if there are no seats, I don't get upgraded. So in my opinion, priority access means nothing in terms of emergencies because if there is an emergency, we don't need priority. We need to be in.

So, my question would be how is it that the FCC could propose a plan that the administration and you would be supporting when we don't even have the answer to that question? Because priority access is not adequate, as you said, we don't even have the answer to the question yet, if in the event an emergency occurs.

Mr. SCHAFFER. Ma'am, I want to be very clear that we are analyzing and raising questions with respect to exactly how that roaming and priority access would work in just the way that you are.

We don't have the details yet of exactly how that function will work. There are various ratings and methodologies with which one could implement priority access, preemptive access. There are various ways that this could be done. Of course—

Ms. RICHARDSON. How could you support an auction going on if you don't have the answer to that question?

Mr. SCHAFFER. Again, we at this point are saying that we believe that a decision on an auction needs to await some of these technical answers being worked out.

Ms. RICHARDSON. So is it your testimony that the administration and your department is not supporting the continuation of the auction until these questions are answered?

Mr. SCHAFFER. We are indeed at this point analyzing these questions and looking to resolve some of the issues before an auction final decision is made, yes.

Ms. RICHARDSON. Okay. We already—Mr. Rogers brought up the question about the duplication of effort and lack of coordination. I guess I didn't clearly understand though in a clear answer why is it that the current centers still can't do it? Why is it the insistence on another commission? I mean, I work 18 hours a day.

[Laughter.]

Mr. SCHAFFER. I believe we are all putting our time in. As a practical matter, I think it is a question of focus. ECPC is made up of resources that primarily handle emergency communications for the Federal departments and agencies.

The questions at issue here are 700 megahertz spectrum questions which is public safety, State, local, Tribal government spectrum being used, and so it is a slight disconnect there. There is a desire to have some aggressive focus on the FCC's proposal and reaching some conclusions on the kinds of questions that you have been asking this morning.

So, I think the goal here has just been to make sure that we have got focused resources looking into those questions, and the ECPC is moving forward with several issues at the Federal level for Federal spectrum use, reuse, coordination, leverage, et cetera, so just an effort to move as quickly as we can.

Ms. RICHARDSON. Mr. Rogers, did you have any follow-up questions?

Mr. ROGERS. Thank you.

Ms. RICHARDSON. Okay.

Mr. ROGERS. Chief Barnett, could you go into some detail about ERIC which was established as a result of the National Broadband Plan?

Admiral BARNETT. Yes, sir. The Emergency Response and Interoperability Center was conceived to make sure that we have interoperability from the very beginning and on an on-going basis. So this is a technological center.

Basically the engineers and technicians working closely with public safety and we are moving forward on basically a—I am sorry, a factor committee for public safety to advise us on that.

It is basically to ensure that we are adopting the right standards, that encryption, that authentication, that all the technical aspects of interoperability are begun and continued as we move forward.

Mr. ROGERS. Great. Mr. Schaffer, the goals of the Office of Emergency Communications and Emergency Response and Interoperability Center at the FCC seem to be in conflict with one another. Have OEC and FCC discussed potential conflict, and is there a plan in place to ensure the role of ERIC does not encroach on OEC?

Mr. SCHAFFER. Yes, sir. I believe that there is actually complementary opportunity with respect to what OEC is trying to do and what the ERIC is trying to do. As the Admiral notes, ERIC is focused on some of the technology-specific issues around the new network.

OEC has as its mission coordination of interoperability goals across Federal, State, local, and Tribal governments. Their respon-

sibilities are mostly in the policy area, governance spaces, promotion of appropriate solutions across all of that space.

OEC has been and continues to work with the FCC, with ERIC, in order to ensure that we are coordinating between the National Emergency Communications Plan, the State-wide plans and the other pieces, and what the FCC has in mind for ERIC and the broadband capabilities.

Because as a practical matter, as we said in our testimony, it will be important that those be coordinated over the long term and that as we move from the narrow band solutions that we have today, as we continue to use those systems for mission critical voice and start to use the new systems for the data solutions and maybe think about, as the FCC has proposed, using some voice over those systems, that we are coordinated in the way we are trying to do interoperability between the two networks.

So there is a lot of opportunity to leverage what OEC has done historically into some of the new spaces and make sure that we have consistent interoperability over an extended period of time in both the land mobile radio space, which will be important for a long time, and the new broadband data networks which are just coming on.

Mr. ROGERS. Great. Thank you very much. That is all I have.

Ms. RICHARDSON. Thank you, Mr. Rogers. Admiral Barnett, in addition to concerns about the lack of involvement of public safety in this whole entire process and continuing with the recommendations, it is also our understanding that the Department of Homeland Security, at least visibly of what we know, has not been as largely visible or making a statement of their stand in support of what the public safety organizations are saying. To what degree has the Department of Homeland Security been involved?

Admiral BARNETT. Well, from our side, ma'am, we have consulted with DHS and Secretary Schaffer, with OEC from the very beginning. I came into the FCC in July. I think my first meeting with DHS was in August. So we have tried to keep them up as we developed.

Of course, that beginning part we developed were ideas, the 27 things we visited with them then. We visited with them on how it would be funded. So I think there is a pretty good level of interaction between DHS and FCC on this question.

Ms. RICHARDSON. So would you also supply that to this committee your involvement with DHS and—

Admiral BARNETT. I would be glad to, ma'am.

Ms. RICHARDSON [continuing]. How many and how often and what was in fact communicated?

Admiral BARNETT. I would be glad to.*

Ms. RICHARDSON. Thank you. Then for you, Mr. Schaffer, you know, you engage a very positive relationship with public safety in nature due to the committee's role. What do you think that you can do to assist in this impasse that currently does in fact exist?

Mr. SCHAFFER. Well, I think it is incumbent upon DHS and the administration to make sure that public safety's concerns are being heard and that they are being examined and explored in order to

*The information is included in Appendix I.

reach some ground truth about what can and can't be accomplished with the various solutions that are coming forward.

One of the challenges for everyone here is that the technology that is being recommended by the FCC, it is a great opportunity because it is brand new, but it is also a challenge because it is brand new.

This technology has not been deployed anywhere in the United States. Indeed, it has been deployed almost nowhere in the world yet, and so the standards, the solutions, the methodologies to bring that set of capabilities forward, it is not absolutely clear what it is capable of.

So NIST, for example, is setting up a network out in Colorado that will give an opportunity to test some of these solutions and proposals. We have been very heavily engaged with the Department of Commerce and that demonstration network for the last 2 weeks.

I have been out to Colorado to work with NIST and to make sure that we understand what is coming forward through that process and how we can help to examine what the real capabilities will be when the technology is available to be tested and deployed, so—

Ms. RICHARDSON. So are you committed to working with the public safety community and with the FCC to find a solution to this impasse?

Mr. SCHAFFER. We absolutely are, yes.

Ms. RICHARDSON. Okay. I had a follow-up question. You know, it seems to me, and unfortunately sometimes the way hearings are, it is like we hear from you and then you leave, and then our next panel will come up and say some things we would love to ask you. So that is why for the record, the committee will be able to ask subsequent questions to you and ask you to provide them in writing.

But my question is, you know, I heard both of you in your initial testimony and you talked about, you know, one of the concerns of just allocating the D Block to public safety would be a concern of, you know, archaic system and it not working together and all of that.

You know, it does not behoove the public safety community to have a system that would not connect and wouldn't be able to be interchangeable. So in what I have read of their testimony, I don't understand or I don't get that the objection is that they want to create some separate, completely different system.

It is that they want to be involved in the design of it. They want to make sure that the system, in fact, meets the demands of what public safety has, which is very different from a commercial system. What is the big objection to figuring that out?

Admiral BARNETT. We would agree that this should be a public safety system, that they should design it. They should say what operates on it. That is why, in examining all the various options, we rejected a purely commercial system.

We said that 10 megahertz should be public safety's and they should decide how they are going to deploy it. It is only when it roams that we suggested that it is able to roam over to the commercial networks. So we really do believe that it should be a dedicated public safety system.

Ms. RICHARDSON. So what is the roaming issue?

Admiral BARNETT. The roaming issue is simply—and I don't think that they disagree that they want to have it. It is a question of whether it roams over on from 10 or 20 megahertz. But the roaming issue—and if I could mention also the priority access that goes right with it, you mentioned an airplane with first class and the economy class.

Actually with the new technologies, if you are first in line, you actually get to go to first class and somebody else moves back to economy class. So as soon as your—that are playing video games, all of a sudden their performance shuts down or at least slows down a good bit.

But the public safety, the police officer or the firefighter, they go to the first of the line, and that is the new technology. That is why we can't rely on thinking about the old wireless priority system or old way.

As soon as they punch the button, packets start flowing because an internet protocol system and LTE. It is a vastly different system. We need to design it with that in mind.

Ms. RICHARDSON. Well, with all due respect, sir, I have been in Congress now, it will be just under 3 years, and unfortunately what I have experienced in some of the disasters and emergencies that have occurred is sometimes what we think will work in a system doesn't always work, especially in an emergency.

So, I would be of the mind, and I look forward as this discussion continues, but I don't think we need public safety to push a button and then they get in line. If we have an emergency, we may not have time for them to push the button. They have already got to be first in line. So we have got to figure out how to get a solution to get us there.

Mr. Rogers, did you have any further questions? Okay, so to wrap up the things that you are going to provide to this committee, No. 1 is a list of the meetings and the attendees for both the meetings that included public safety as well as the Department of Homeland Security.

No. 2, the FCC you are going to provide us information on the discussions that took place about levying a fee within the industry to be able to assist in the payment of a public safety system.

No. 4, Mr. Schaffer, you are going to give us more of a further understanding prior to an auction going forward of how we are going to ensure that priority access does in fact include not priority access but immediate access to public safety.

Okay, any further things, Mr. Rogers? All right. So I thank the witnesses for being here for your valuable testimony and at this time we ask the clerk to prepare the room for the next panel.

Thank you very much.

Our first witness that we have is Chief Jeff Johnson. He is the president and chairman of the Board for the International Association of Fire Chiefs.

That organization represents the leadership of over 1.2 million firefighters and emergency responders. Chief Johnson also serves as fire chief and administrator of the Tualatin Valley Fire and Rescue in Oregon, which is a beautiful area.

Our second witness, Deputy Chief Charles Dowd, is the commanding officer for the Communications Division of the New York City Police Department. In this capacity, Chief Dowd is responsible for the world's busiest 911 system, receiving over 11 million calls per year.

The New York Police Department's radio operations, dispatching 4.9 million radio runs annually. Chief Dowd is a 30-year veteran of the New York Police Department and is a much respected guest of our Ranking Member, Mr. King.

Our third witness, Mr. Robert A. LeGrande, II, is the founder of the Digital Decision, formerly known as LeGrande Technical and Social Services.

Previously, Mr. LeGrande was the chief technology officer for the District of Columbia, where he provided leadership for the city's wireless network operations, human services modernization program and the National Capitals Region Interoperable Communications program.

Our fourth witness, Mr. Eric Graham, serves as the vice president for the Strategic and Government Relations for Cellular South, which provides wireless services in all of Mississippi as well as portions of Tennessee. Here we have another accent of Alabama and Florida.

Mr. Graham directs the Cellular South policy agenda and is responsible for the company's overall advocacy and efforts with specific focus on Federal issues. Mr. Graham is testifying on behalf of the Rural Cellular Association today.

Without objection, the witnesses' full statements will be inserted into the record, and I now ask that Chief Johnson summarize his statement for 5 minutes.

**STATEMENT OF CHIEF JEFFREY D. JOHNSON, PRESIDENT
AND CHAIRMAN OF THE BOARD, INTERNATIONAL ASSOCIATION
OF FIRE CHIEFS**

Chief JOHNSON. Thank you, Chairwoman Richardson and Ranking Member Rogers. I am Jeff Johnson, president of the International Association of Fire Chiefs and fire chief in Tualatin Valley, Oregon. I thank you for the opportunity to discuss H.R. 5081, which allocates the D Block of spectrum directly to public safety. This is a top priority for America's fire service leadership.

On behalf of the IFC and the partners of the Public Safety Alliance, I thank Representatives Peter King and Yvette Clarke as well as over 50 co-sponsors, who clearly understand public safety's need for this unique slice of spectrum.

As you are aware, the U.S. Senate has also introduced legislation which will accomplish this goal. We are grateful for this response from Congress for what is public safety's most important issue.

Over the past 50 years, the Federal Communications Commission has allocated thin slices of spectrum to public safety as the need for more communications capability arose. Currently 55,000 public safety agencies operate mission critical radio systems, each with their own FCC license, over six or more different bands.

Our goal of interoperability is difficult and it is expensive. This is no criticism of the FCC. This is just the way it has always been done. After the events of 9/11, Katrina, and other major disasters,

it is clear that a new model is necessary, a National architecture for public safety wireless communications.

To achieve a Nation-wide public safety wireless, interoperable broadband network, a single licensee and a single technology is required, operating on a network with sufficient capacity to handle to day-to-day operations, as well as the capability to manage major incidents. This network needs to be mission-critical from the outset.

In the beginning, this system will handle only data and video and at some future time, years away, we envision a possible transition to mission-critical voice, namely radio over internet protocol.

We all need to take a long-term view to start out with sufficient spectrum so that we have the ability to migrate to mission-critical voice if the technology is developed and public safety gains confidence in it.

The following elements of mission-critical are key to a successful public safety network. The network must be hardened to public safety standards, which means that the towers must withstand elements that might otherwise disable a lesser system.

Two, public safety must have control over it. We cannot have commercial providers deciding what is or is not an emergency, at the end of the day, public safety must have their hand on the joystick.

Third, the public safety mission-critical voice network must have the ability to broadcast and receive one-to-one and one-to-many without changes to the network. This so-called talkaround capability is also known as simplex and from a commander's perspective, this is an imperative in a system design.

Fourth, the network must have backup capabilities in the event of network loss. There are many critical needs that can be met with broadband data and video in the fire service, building diagrams available to commanders, hazmat inventories, wild land fire situation awareness, video feeds from trauma patients directly into the emergency room, and the list is endless. Law enforcement also has a list of needs.

The point is in order to achieve a Nation-wide public safety broadband network we need the 10 megahertz of the D Block spectrum. Currently it is slated for FCC auction to be added to our current 10 megahertz of spectrum known as the public safety broadband, which is currently allocated to public safety.

As you can see from the spectrum chart, this spectrum, the D Block, is perfect for public safety. This is yours and our one-time opportunity to get this right. The public safety community urges a prompt and timely passage of H.R. 5081.

Madam Chairwoman and Ranking Member Rogers, we want to assure you and your colleague that we are working tirelessly with Members of Congress, the FCC, and the Department of Homeland Security and anyone else in the administration that will hear our issue to achieve this important public safety goal.

Thank you for the opportunity to be here, and I look forward to answering your questions.

[The statement of Chief Johnson follows:]

PREPARED STATEMENT OF JEFFREY D. JOHNSON

MAY 27, 2010

Mr. Chairman: I am Jeffrey Johnson, president of the International Association of Fire Chiefs (IAFC) and chief of the Tualatin Valley Fire Department in Beaverton, Oregon. I thank you for the opportunity to discuss H.R. 5081 which allocates the D Block of spectrum directly to public safety. This is a top priority for America's fire service leadership and the only one for the Public Safety Alliance. (PSA membership list attached)

On behalf of the IAFC and the partners of the Public Safety Alliance, I thank Representatives Peter King and Yvette Clark as well as over 50 cosponsors—and the number is growing—who clearly understand public safety's need for this unique slice of spectrum. As you are aware, the U.S. Senate has also introduced legislation which will accomplish this goal. We are grateful for this response from Congress for what is public safety's most important issue.

Over the past 50 years, the Federal Communications Commission (FCC) has allocated thin slices of spectrum to public safety as the need for more communications capability arose. Currently, 55,000 public safety agencies operate mission-critical radio systems—each with their own FCC license—over 6 or more different bands. Our goal of interoperability is difficult; it is expensive. This is no criticism of the FCC; this is just the way it has always been done. After the events of 9/11, Katrina and other major disasters, it is clear that a new model is necessary: That is a National architecture for public safety wireless communications.

To achieve a Nation-wide, public safety, wireless, interoperable, broadband network, a single licensee and a single technology is required operating on a network with sufficient capacity to handle day-to-day operations as well as the capability to manage major incidents. This network needs to be mission-critical at the outset. In the beginning, this system will handle only data and video. At some future time—years away—we envision a possible transition to mission-critical voice, namely Radio over IP. We all need to take a long-term view—to start out with sufficient spectrum so that we will have the ability to migrate to mission-critical voice if technology eventually supports it. This will happen when the technology is developed and public safety has confidence in it.

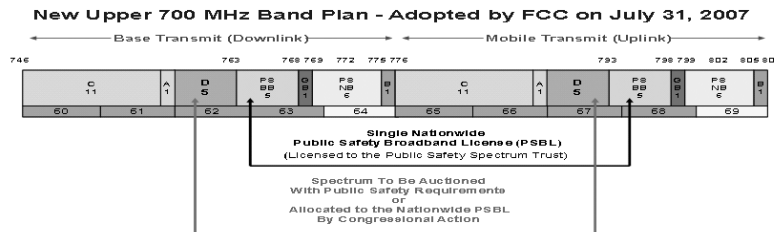
The following elements of mission-critical are key to a successful public safety network:

- *The network must be hardened to public safety standards.*—This means towers must be able to withstand the elements that might disable them. Towers in hurricane-prone areas and tornado alleys must be designed accordingly. Back up electrical power must be available 24/7.
- *Public safety must have control over it.*—We cannot have commercial providers deciding what is or is not an emergency and what is the priority. Public safety transmissions have to go through at the moment—without delay. The lives of fire fighters, the lives of medics, the lives of law enforcement officers depend on this. This is our responsibility.
- *The public safety mission critical voice network must have the ability to broadcast and receive one-to-one and one-to-many and the ability to broadcast and receive without the network infrastructure being operative.*—This is called “talk around” capability—also known as simplex. This is a command-and-control imperative. You know that we operate under extremely hazardous conditions. If the network, for any reason, cannot provide connectivity, then we need the capability to communicate without the network. This means communicating in the simplex mode. And, that is the heart of public safety communications.
- *The network must have back-up capabilities in the event of network loss.*—We envision satellite capability for the network to be available when a tower is disabled. Satellite can also cover remote areas that don't have towers. Our mission is geography-oriented whereas commercial carriers are concerned with population.

Here are some of the critical needs that can be met with broadband data and video in the fire service: Building diagrams, hydrant locations, haz-mat inventories, traffic controls that clear the response routes, real-time video to improve situational awareness, wildland fire thermal and weather imaging, video feed of trauma patients directly to the ER, freeway traffic cameras streamed to responders so that the precise location and severity of an incident can be accurately determined. The list is endless. And I can tell you that law enforcement has its own long list.

The point is, in order to achieve a Nation-wide public safety broadband network to provide connectivity coast to coast, border to border, we need the 10 MHz of D Block of spectrum, currently slated for FCC auction, to be added to the current 10

MHz of spectrum licensed to the Public Safety Broadband Licensee to build out a 20 MHz network. You can see on the spectrum chart, below, that this is the ideal spectrum. The public safety block abuts the D Block. This is perfect for public safety.



Only with this particular spectrum configuration, and none other, can public safety be assured that it will have the ability to build the network it needs now and into the future. This is yours and our one-time opportunity to get this right.

We urge prompt and timely passage of HR 5081.

Mr. Chairman, we want to assure you and your colleagues that we are working tirelessly with Members of Congress, the FCC, Department of Homeland Security and others in the administration to achieve this public safety communications landmark.

Thank you for the opportunity to be here this morning. Now I am available to respond to any questions you may have.

ATTACHMENT.—THE PUBLIC SAFETY ALLIANCE

The Public Safety Alliance is a partnership with the Nation's leading public safety associations, which includes International Association of Chiefs of Police, International Association of Fire Chiefs, National Sheriffs Association, Major Cities Chiefs Association, Major County Sheriffs Association, Metropolitan Fire Chiefs Association, International, National Emergency Management Association, and APCO. The partnership is operated as a program of the Association of Public-Safety Communications Officials (APCO) International.

The purpose of the Public Safety Alliance's is to ensure law enforcement, fire, and EMS agencies are able to use the most technologically advanced communications capability that meets the difficult, life-threatening challenges they face every day as they protect America.

The goal of the Public Safety Alliance is to raise awareness in Congress and the White House about what our Nation's law enforcement, fire, and emergency medical services need to build out a Nation-wide, interoperable, 4G, wireless communications network to protect America.

International Association of Chiefs of Police; International Association of Fire Chiefs; National Sheriffs Association; Major Cities Chiefs Association; Major County Sheriffs Association; Metropolitan Fire Chiefs Association; Association of Public-Safety Communications Officials International; National Emergency Management Association.

Ms. RICHARDSON. Thank you for your testimony.

I now recognize Chief Dowd to summarize to his statement for 5 minutes.

STATEMENT OF DEPUTY CHIEF CHARLES F. DOWD, COMMUNICATIONS DIVISION, NEW YORK CITY POLICE DEPARTMENT

Chief DOWD. Good morning, Madam Chairwoman Richardson, Ranking Member Rogers. I am Deputy Chief Charles Dowd, commanding officer of the New York City Police Department's Communication Division.

On behalf of Police Commissioner Ray Kelly, I want to thank you for the opportunity to discuss with you today the critical need for

Congress to act to ensure that public safety agencies will be able to communicate effectively now and in the future.

I speak today not only for the NYPD and the City of New York but also on behalf of my colleagues in law enforcement who are part of the Public Safety Alliance, whose member organizations include the International Association of Chiefs of Police, the National Sheriffs Association, the Major Cities Police Chiefs, The Major County Sheriffs' Association, the Association of Public Safety Communications Officials, and the National Emergency Management Association.

We are also gratified by the continued support of the Big Seven and a host of organizations too numerous to mention.

We are greatly encouraged by the widening support in the House for the bipartisan bill introduced in April by Representatives Peter King and Yvette Clarke.

This legislation, H.R. 5081, Broadband for First Responders Act of 2010 currently co-sponsored by—I had 55, I think we are up to 57 now, Members of the House—calls for the reallocation of the D Block directly to public safety.

We would like to take this opportunity to applaud Senator Joseph Lieberman, Senator John McCain, and Senator John D. Rockefeller for their recent commitment to support allocation of the 10 megahertz of spectrum known as the D Block to public safety for the creation of a Nation-wide public safety interoperable broadband mobile network which will assist public safety to continue to protect the communities Nation-wide.

Senator Lieberman and Senator McCain announced last week the introduction of the First Responders Protection Act of 2010 in the U.S. Senate. This bill would not only allocate the D Block to the public safety community, but would ensure that funding is available for a Nation-wide public safety interoperable mobile broadband network.

We are also pleased by the recent announcement by Senator Rockefeller that he intends to introduce the Public Safety Spectrum and Wireless Innovation Act. This legislation would allocate the D Block to public safety and provide the funding to create and implement a public safety interoperable broadband network.

The President's recently-issued executive memorandum directing a study to identify 500 megahertz of additional spectrum for commercial broadband services over the next 10 years is very encouraging.

The plan calls for the initial proceeds from the sale of this spectrum to be allocated to the build-out of the Nation-wide public safety broadband network. Since the D Block accounts for less than 2 percent of the total spectrum to be identified, we see this action as an action that could potentially solve both problems of funding and spectrum.

Sales of some of the other 500 megahertz of spectrum would support public safety build out while still allowing for the reallocation of the D Block. Many of us in public safety have previously stated that broadband technology would create a paradigm shift in public safety communications.

The recent event in Times Square confirms the need for information sharing capabilities that will allow first responders to be effec-

tive in preventing such an attack. The ability to share information in real time on a local, State, and Federal level is critical to that goal.

We have heard recently that allocation of the D Block to public safety has been referred to as a gift. This is an inaccurate characterization. It is an investment in our National security that is desperately needed.

In 1932, the NYPD took an historic step that changed forever how the department responded to emergencies. It invested in its first radio communications network. This created a paradigm shift in policing.

Its importance was such that the NYPD changed the name patrol car to RMP or radio motor patrol car, a term still used some 78 years later. That technology has remained virtually unchanged for 80 years.

Broadband is the technology that will create the next paradigm shift for public safety communications and ultimately solve the problem of interruptibility that was so tragically apparent on 9/11.

Allocating the D Block to public safety will provide first responders with the bandwidth required for the eventual migration of mission-critical voice to 700 LTE as envisioned in the National Broadband Plan.

The Public Safety Alliance shares this vision and looks forward to a day in the not-too-distant future when public safety users can share a Nation-wide network that supports voice, video, data on an integrated wireless network and abandon the web of disparate legacy networks that impede interoperability today.

The recent FCC white paper on broadband spectrum requirements for the public safety is unfortunately not based in fact. The main source cited in that paper, NPSTC, has already filed notice with the FCC indicating that its data was not properly applied and has urged the FCC to use the actual data supplied from the only existing public safety broadband system, New York City's NYCWIN, which we contend proves the need for more spectrum.

Some have suggested that public safety's objectives are to exclusively hold the D Block for our own use. This is simply not the case. We have always supported the idea of a public-private partnership for the use of the D Block.

Our position is that the best way to accomplish this is through competitive, negotiated contracts or more commonly referred to as RFPs. This process of using RFPs has been endorsed in many of the wireless carriers.

We feel that such an approach is completely consistent with the FCC's broadband plan. We believe that the RFPs should be developed in concert with the FCC to ensure consistency and competitiveness.

Like Congress and the FCC, public safety wants to maximize and efficiently use its spectrum, but we must be able to manage and control the networks so our data traffic has absolute priority.

Our experience with commercial network failures tells us we need network control to ensure guaranteed access and security. The RFP process will allow carriers, private wireless, data providers, new businesses to access this spectrum for common good.

The benefits of this process is that it doesn't exclude anyone, allows for competition, provides access for new companies seeking to provide wireless commercial broadband data service. It also allows for mechanisms not only to share development and deployment costs, but it can also provide an on-going funding stream to local government for the use of the shared spectrum.

Most importantly, it would provide public safety a highly efficient LTE network that public safety controls would control and manage, ensuring access for our first responders.

In closing, the organizations that comprise the Public Safety Alliance are unified in the goal of establishing for the first time a Nation-wide interoperable mission critical voice and data public safety broadband network.

They are not motivated by profit or politics. Our sole motivation is the desire to serve the public we are sworn to protect. I thank you for your attention to this important issue and I will be happy to answer any questions from the subcommittee.

[The statement of Chief Dowd follows:]

PREPARED STATEMENT OF DEPUTY CHIEF CHARLES F. DOWD

JULY 27, 2010

Good morning Chairwoman Richardson, Ranking Member Rogers, and Members of the subcommittee. I am Deputy Chief Charles Dowd, Commanding Officer of the New York City Police Department's Communications Division. On behalf of Police Commissioner Raymond Kelly, I want to thank you for the opportunity to discuss with you today the critical need for Congress to act to ensure that public safety agencies will be able to communicate effectively, now and in the future.

I speak today not only for the NYPD and the city of New York, but also on behalf of my colleagues in law enforcement who are part of the Public Safety Alliance, whose member organizations include the International Association of Chiefs of Police, the National Sheriffs' Association, the Major Cities Police Chiefs, the Major County Sheriffs' Association, the Association of Public Safety Communications Officials, and the National Emergency Management Association. We are also gratified by the continued support of the Big Seven, and a host of other organizations too numerous to mention.

We are greatly encouraged by the widening support in the House for the bi-partisan bill introduced in April by Representatives Peter King and Yvette Clarke. This legislation, H.R. 5081, Broadband for First Responders Act of 2010, currently co-sponsored by fifty-five Members of the House, calls for the re-allocation of the D Block directly to public safety.

We would like to take this opportunity to applaud Senator Joseph Lieberman, Senator John McCain, and Senator John D. Rockefeller for their recent commitment to support allocation of the 10MHz of spectrum, known as the D Block, to public safety for the creation of a Nation-wide public safety interoperable mobile broadband network, which will assist public safety to continue to protect their communities Nation-wide.

Senator Lieberman and Senator McCain announced last week the introduction of the First Responders Protection Act of 2010 in the U.S. Senate. This bill, would not only allocate the D Block to the public safety community, but would ensure that funding is available for a Nation-wide public safety interoperable mobile broadband network.

We are also pleased by the recent announcement by Senator Rockefeller that he intends to introduce the Public Safety Spectrum and Wireless Innovation Act. This legislation would allocate the D Block to public safety and provide the funding to create and implement a public safety interoperable broadband network.

The President's recently-issued Executive Memorandum directing a study to identify 500 MHz of additional spectrum for broadband services over the next 10 years is very encouraging. The plan calls for the initial proceeds from the sale of this spectrum to be allocated to the build-out of the Nation-wide public safety broadband network. Since the D Block accounts for less than 2 percent of the total spectrum to be identified we see this as an action that could potentially solve the problems of

funding and spectrum. Sale of some of the other 500 MHz of spectrum would support a public safety build while re-allocating the D Block.

Many of us in public safety have previously stated that broadband technology will create a paradigm shift in public safety communications. The recent event in Times Square confirms the need for information-sharing capabilities that will allow first responders to be effective in preventing such an attack. The ability to share information in real time on a local, State, and Federal level is critical to that goal.

We have heard recently the allocation of the D Block to public safety referred to as a “gift”. This is an inaccurate characterization. It is an investment in our National security that is desperately needed. In 1932 the NYPD took an historic step that changed forever how the Department responded to emergencies. It invested in its first radio communications network. This created a paradigm shift in policing. Its importance was such that the NYPD changed the name Patrol Car to RMP, or Radio Motor Patrol car, a term still in use some 78 years later. That technology has remained virtually unchanged for 80 years. Broadband is the technology that will create the next paradigm shift for public safety communications, and ultimately solve the problem of interoperability that was so tragically apparent on September 11, 2001.

Allocating the D Block to public safety will provide first responders with the bandwidth required for the eventual migration of mission-critical voice to 700 LTE as envisioned in the National Broadband Plan. The Public Safety Alliance shares this vision and looks forward to a day in the not-too-distant future when public safety users can share a Nation-wide network that supports voice, video, and data on an integrated wireless network, and abandon the web of disparate legacy networks that impedes interoperability today. The recent FCC white paper on broadband spectrum requirements for public safety is unfortunately not based on fact. The main source cited in that paper, NPSTC, has already filed with the FCC indicating that its data was not properly applied, and has urged the FCC to use the actual data supplied to it from the only existing public safety broadband system, New York City’s NYCWIN, which we contend proves the need for more spectrum.

Some have suggested that Public Safety’s objectives are to exclusively hold the D Block for our own use. This is simply not the case. We have always supported the idea of a public-private partnership for the use of the D Block. Our position is that the best way to accomplish this is through competitive negotiated contracts or what is more commonly referred to as a Request For Proposal or RFP. This process of using RFP’s has been endorsed by many of the wireless carriers. We feel that such an approach is completely consistent with the FCC’s broadband plan.

We believe that these RFP’s should be developed in concert with the FCC to ensure consistency and competitiveness. Like Congress and the FCC, public safety wants to maximize the efficient use of spectrum but we must be able to manage and control the network so that our data traffic has absolute priority. Our experience with commercial network failures tells us we need network control to ensure guaranteed access and security. The RFP process will allow all carriers, private wireless data providers, and new businesses to access this spectrum for the common good. The benefit to this process is that it doesn’t exclude anyone, allows for competition, and provides access for new companies seeking to provide wireless commercial broadband data service. It also allows for a mechanism to not only share development and deployment cost, but it also can provide an on-going funding stream to local government for the use of the shared spectrum. Most importantly, it would provide public safety a highly efficient LTE network that public safety controls and manages, ensuring access for our first responders.

The organizations that comprise the Public Safety Alliance are unified in the goal of establishing for the first time a Nation-wide interoperable mission critical voice and data public safety broadband network. They are not motivated by profit or politics. Our sole motivation is a desire to serve the public we are sworn to protect. I thank you for your attention to this important issue, and I will be happy to answer any questions from the subcommittee.

Ms. RICHARDSON. Thank you for your testimony.

I now recognize Mr. LeGrande for his statement for 5 minutes.

**STATEMENT OF ROBERT A. LEGRANDE, II, FOUNDER, THE
DIGITAL DECISION, LLC**

Mr. LEGRANDE. Well, good morning, Ms. Chairwoman, and the Members of the subcommittee. My name is Robert LeGrande, and I am a former chief technology officer with the District of Columbia

government and former program executive for the National Capital Region's Interoperability Program.

I led the district's land mobile radio network upgrade, and I also led the development of the Nation's first 700 megahertz wireless broadband network for first responders. This pilot network is considered as a model for the Nation and in recent years has served as a test bed on how broadband applications can be shared securely among public safety agencies.

First, please allow me to acknowledge the outstanding efforts of this committee, APCO, the Public Safety Alliance and all its member organizations, as well as the FCC. In short, we are closer to providing next generation communications to our first responders than we have ever been.

I appreciate the committee's on-going efforts to address this critical issue and thank you for the opportunity to present my views on the "Interoperable Emergency Communications, Does the National Broadband Plan Meet the Needs of the First Responders?"

Now, given the complexity issue, I will keep my comments brief and focused on three key areas. Where the National Broadband Plan meets first responders' needs, where the National Broadband Plan does not meet the first responders' needs and why, and what I recommend we do about it.

Please reference Figure 1. As the slide indicates, the FCC's National Broadband Plan meets the public safety needs in far more areas than it does not.

The FCC has made substantial progress in moving this from a fractured and disjointed approach to a National interoperable wireless broadband network design that is flexible, interoperable, and with some changes referenced later in my testimony, it is capable of meeting all of first responders' needs today, tomorrow, and into the future.

The plan successfully addresses the need for technical and operational standards, National interoperability, funding, public safety devices and most importantly, it gives the day-to-day control of the network to the people who need it most—our first responders.

The plan has successfully influenced commercial carrier's National broadband strategies resulting in both AT&T and Verizon committing to share network infrastructure with public safety.

This portion of the plan combined with public safety and the FCC's committed to long-term evolution technology, sets the stage for a highly competitive, low-cost, efficient network deployment, while achieving private and commercial network redundancies, which is essential to ensuring Nation-wide coverage.

Now, while a National Broadband Plan makes great strides towards public safety National interoperable broadband communication, it has one key deficiency—sufficient spectrum to get the job done. Now, historically, public safety has been allocated spectrum in non-contiguous chunks, which has contributed to the land mobile radio interoperability problems we have today.

The FCC has repeatedly stated that public safety has 20 to 25 times more spectrum per user than commercial providers. However, 50 megahertz of this calculation is from the 4.9 gigahertz spectrum which is unusable for wide area broadband network use.

All but the current 10 megahertz of broadband spectrum can be used for broadband network deployment.

The FCC has itself acknowledged that public safety will need additional spectrum in the future and suggested the best approach would be to begin with the 10 megahertz of spectrum already allocated to public safety use then allocate additional spectrum later.

Now, this sounds familiar and based on past results, that is not a good thing. Further, when will we allocate the spectrum and how will it be allocated? Will this new spectrum cause technical problems and force the commercial industry to establish a special separate standard for public safety?

This is a worst-case scenario in the making as we will be repeating the past LMR approach and this will result in monopolistic innovation and pricing.

Public safety needs the D Block spectrum as it will stabilize public safety's technological path and will result in efficient spectrum uses. We would be able to plan a smooth transition from comprehensive voice to comprehensive voice, video, and data communication.

Now, the good news is, is once public safety has transitioned all communications to the new network, public safety's holdings can be evaluated and determined if unused spectrum can be returned for commercial use.

In the FCC's recently released white paper, "The Public Safety Nationwide Interoperable Broadband Network, A New Model for Capacity and Performance and Cost"—I didn't come up with the title—the commission concludes that public safety has sufficient spectrum based on three emergency incidents.

Now, given the number of users and uses identified in the document, the author is correct. However, based on my experience deploying the Nation's first and only public safety 700 megahertz wireless broadband network here in Washington, DC, the scenarios referenced in the document don't accurately represent the anticipated number of users or uses.

Government users will be super-users because they will need to consistently optimize government operations to lower costs while being driven to improve service delivery to citizens. Private wireless broadband networks provide a low-cost alternative for this.

Our next generation networks must have sufficient spectrum and be designed to support comprehensive government communications for the entire State and local government enterprise as well as Federal public safety users.

The National Broadband Plan seeks to offset the spectrum needs by leveraging commercial roaming. Now everyone, everyone, supports public safety have interoperability with the commercial carriers.

However, we should never rely on commercial carriers but for a last resort. We should not depend on commercial carriers. An example with the difficulty we will face can be seen today with the recent release of the iPhone 4, network outages due to capacity shortages and some technical glitches that caused lapses in communications.

If public safety communications fail people could die. More recently, the FCC has been suggesting that auctioning the D Block

in 2011 with an anticipated deployment date starting in 2012, will speed network deployments and lower costs.

This means that public safety should wait for an eventual D Block winner to start network deployments in 2 years from now. Now, this actually delays the opportunities of network deployment starting today and creates a worst case dependency on a single D Block commercial carrier. Commercial carriers are deploying LTE networks today.

So this highly competitive network window of opportunity will close before the D Block winner can be leveraged. Now, this portion in the National Broadband Plan will be great for a D Block winner but very bad for public safety.

So in summary, the FCC has done an outstanding job with the public safety portion of the National Broadband Plan. Additionally, the commission's recent waiver approvals and coordination with NTIA to help fund network deployment starting today are great first steps towards getting the ball rolling.

However, in order to fully meet first responders' communications needs the National Broadband Plan needs to do these four things. It needs to reallocate the D Block spectrum to public safety. It needs a comprehensive long-term spectrum plan for public safety.

It needs a National broadband network deployment plan and schedule. Probably as important as the D Block, it needs a public safety land mobile radio to broadband migration plan. So our first responders they are certainly our last line of defense and they deserve the best available tools and resources to protect us all.

Ms. RICHARDSON. Please summarize.

Mr. LEGRANDE. Yes, ma'am. I sincerely appreciate the opportunity to share my recommendations and the committee's continued work on addressing this issue. I am happy to answer any of your questions.

[The statement of Mr. LeGrande follows:]

PREPARED STATEMENT OF ROBERT A. LEGRANDE, II

JULY 27, 2010

Good afternoon Ms. Chairwoman and Members of the subcommittee. My name is Robert LeGrande and I am the former Chief Technology Officer of the District of Columbia Government and former Program Executive for the National Capitol Region's Interoperability Program. In this role, I led the District's Land Mobile Radio (LMR) network upgrade and I also led the development of the Nation's first city-wide 700 MHz broadband wireless network for First Responders. This pilot network is considered a model for the Nation (http://www.ntia.doc.gov/ntiahome/press/2007/WARN_060807.html) and in recent years served as a test bed for how broadband applications can be shared securely among Public Safety Agencies.

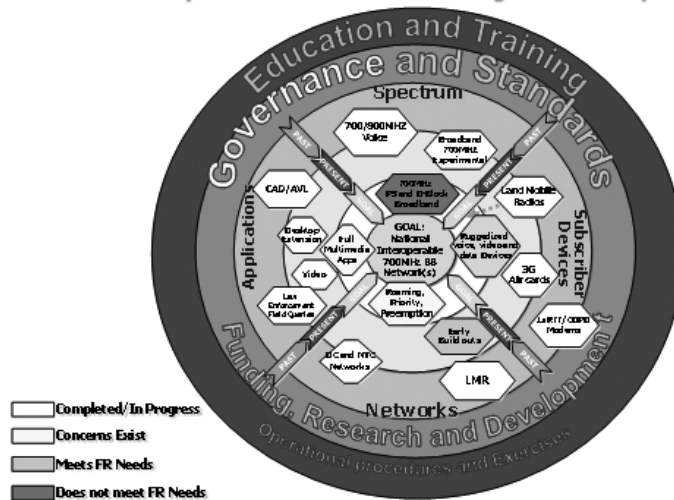
I resigned from the District of Columbia in 2007 and formed LeGrande Technical and Social Services, LLC, which has been recently renamed to "The Digital Decision". My firm leverages lessons learned in the District's successful LMR and 700MHz wireless broadband network deployments to help other State and local governments prepare for and deploy Public Safety communications networks.

First, please allow me to acknowledge the outstanding efforts of this committee, APCO, the Public Safety Alliance (PSA) and all member organizations, as well as FCC. In short, we are closer to providing next generation communications to our First Responders than we have ever been.

I appreciate the committee's on-going efforts to address this critical issue and thank you for the opportunity to present my views on "Interoperable Emergency Communications: Does the National Broadband Plan meet the needs of First Responders?" Given the complexity of this issue and time allotted, I will keep my comments brief and focused on three key areas: Where the National Broadband Plan

(NBP) meets First Responder's needs; Where the NBP does not meet First Responder's needs and why; and, What I recommend we do about it. Please reference Figure I below:

Figure I
Public Safety Communications Vision:
 The National Broadband Plan meets the needs of First Responders (FR) in many cases but there are a few Significant Exceptions



Where the National Broadband Plan (NBP) meets First Responder's Needs

As the slide indicates the FCC's National Broadband plan meets Public Safety's needs in far more areas than it does not. The FCC has made substantial progress in moving us from a fractured and disjointed approach to a National interoperable wireless broadband network design that is flexible, interoperable, and with some changes suggested later in my testimony, is capable of meeting all First Responder needs today, tomorrow, and well into the future.

The plan successfully addresses the need for technical and operational standards, National interoperability, funding, Public Safety broadband devices and most importantly, it gives day-to-day control of the network to the people who need it most; our First Responders. The plan has successfully influenced commercial carrier National broadband strategies resulting in both AT&T and Verizon wireless committing to share network infrastructure with Public Safety. This portion of the plan combined with PS' and the FCC's commitment to Long Term Evolution (LTE) 4G technology sets the stage for a highly competitive, low cost, efficient network deployments; while achieving private and commercial network redundancy which is essential to ensuring Nation-wide coverage.

Where the NBP Does Not Meet First Responder's Needs and Why

While the NBP makes great strides towards PS Nation-wide interoperable broadband communications, it has one key deficiency . . . sufficient spectrum to get the job done. Historically PS has been allocated spectrum in non-contiguous chunks which has contributed to the Land Mobile Radio (LMR) interoperability problems we have today. The FCC has repeatedly stated that PS has 20 to 25 times more spectrum per user than commercial providers.

However, 50MHz of this calculation is from 4.9G spectrum which is unusable for wide-area broadband network use and all but the current 10MHz of broadband spectrum can be used for broadband network deployment.

The FCC has acknowledged that PS will need additional spectrum in the future and suggests that the best approach would be to begin with 10MHz of spectrum already allocated for PS broadband use, then allocate additional spectrum later. This sounds familiar and based on past results would just exacerbate the interoperability problems we already have . . . Further, what spectrum would we allocate and when? Will this new spectrum cause technical problems and force the commercial

industry to establish a special separate standard for PS? This is a worst case scenario in the making as we will be repeating our past LMR approach and this will result in monopolistic innovation and pricing.

PS needs the 700MHz D Block spectrum as it will stabilize PS' technological path and will result in efficient spectrum use as we will be able to plan a smooth transition to comprehensive voice, video, and data communications. The good news is that once PS has transitioned all communications to our new network of networks, PS' spectrum holdings can be evaluated to determine if un-used spectrum can be returned for commercial use.

In the FCC's recently released white paper; "The Public Safety Nationwide Interoperable Broadband Network: A New Model for Capacity, Performance, and Cost" the Commission concludes that PS has sufficient spectrum based on three emergency incidents. Given the number of users and uses identified in the document, the author is correct. However, based on my experience deploying the Nation's first and only PS 700MHz wireless broadband network here in Washington, DC, the scenarios referenced in the document do not accurately represent the anticipated number of network users or uses. Government users will be "super-users" because they need to consistently optimize Government operations to lower costs while being driven to improve service delivery to citizens. Private wireless broadband networks provide a low-cost alternative to achieve this result. Our next generation networks must have sufficient spectrum and be designed to support comprehensive Government communications for the entire State and Local Government Enterprise, as well as Federal PS users.

The NBP seeks to offset PS spectrum needs by leveraging commercial roaming. Everyone supports PS having interoperability with commercial carriers; however PS should rely on commercial carriers as a last resort and not have to depend on them for everyday mission-critical communications. An example of the difficulty we will face can be seen today with the recent release of the IPHONE 4.

Network outages due to capacity shortages and some technical glitches have been causing lapses in communications. If PS communications fail, people could die. More recently the FCC has been suggesting that auctioning the D Block in 2011 with an anticipated deployment date starting in 2012 will speed network deployments and lower costs. This means that PS should wait for an eventual D Block winner to start network deployments 2 years from now. This actually delays the opportunities to deploy networks starting today and creates a "worst case" dependency on a single D Block commercial carrier. Commercial carriers are deploying LTE networks now. This highly-competitive network deployment window of opportunity will close before a D Block winner can be fully leveraged. This portion of the NBP would be great for the D Block winner but very bad for PS.

What I Recommend We Do About It

In summary, the FCC has done an outstanding job developing the PS portion of the NBP. Additionally, the Commission's recent waiver approvals and coordination with NTIA to help fund network deployments starting today are great first steps that will get the ball rolling. However, in order to fully meet First Responder's communications needs, the NBP needs:

- (1) To re-allocate the D Block to PS;
- (2) A Comprehensive, long-term spectrum plan for PS;
- (3) A National network deployment plan and schedule; and,
- (4) A PS LMR to BB communications migration plan.

Our First Responders are also our last line of defense and they deserve to have the best available tools and resources to protect us. Please support Congressman King's, Congresswoman Clarke's and many others efforts we get this done right once and for all.

I sincerely appreciate the opportunity to share my recommendations and the committee's continued work on addressing this issue. I'm happy to answer any questions you may have. Thank you.

Ms. RICHARDSON. Thank you for your testimony.

I now recognize Mr. Graham to summarize his statement for 5 minutes.

STATEMENT OF ERIC GRAHAM, RURAL CELLULAR ASSOCIATION, VICE PRESIDENT FOR STRATEGIC AND GOVERNMENT RELATIONS, CELLULAR SOUTH, INC.

Mr. GRAHAM. Chairwoman Richardson, Ranking Member Rogers, thank you for the opportunity to be here today on behalf of Cellular South, the Nation's largest privately held wireless carrier and as a member of the Rural Cellular Association, whose nearly 90 carrier members provide wireless service in rural, remote, and hard-to-reach areas.

Cellular South and RCA believe the FCC's National Broadband Plan accurately identified three critical elements to successful deployment and operation of a wireless network, spectrum, funding, and interoperable equipment.

First, a service provider needs appropriate spectrum. Seven hundred megahertz is ideal for rural areas needing vast geographic coverage with fewer cell sites and, therefore, a lower cost of construction.

Next, a service provider must have sufficient funding for a network with ample coverage and capacity. The clearest path to funding a public safety network is by utilizing the proceeds from the commercial auction of the 700 megahertz D Block.

The CBO estimates that a D Block auction would raise between \$2 billion and \$3 billion but the actual proceeds could be much higher. The last 700 megahertz auction nearly doubled its Congressional estimate.

Given the scarcity of available low band spectrum for commercial providers, it is entirely possible, if not likely, that a D Block auction would exceed current Congressional estimates. However, the most critical element for a successful wireless network is interoperability.

This is absolutely necessary because a service provider must have access to interoperable equipment and devices that allow users to access other networks operating on the same technology.

Devices for the cellular, AWS, and PCS spectrum bands were built to be interoperable across all frequencies within those bands. This allows seamless roaming on other networks that utilize the same technology.

When the FCC awarded the first cellular licenses in the 850 megahertz band, the commission included a requirement that all 850 megahertz devices must work on all 850 megahertz networks.

The commission was concerned that incumbents would use their market power to demand equipment that would work on their spectrum but not the spectrum of their competitor.

Fast forward to 2010, and the harm that the FCC sought to avoid almost 30 years ago is now becoming a reality. Today, without a rule requiring interoperability, the largest two carriers are using their market power to demand 700 megahertz equipment that works only on their spectrum and not on the spectrum of their competitors.

It is imperative that Congress or the FCC requires interoperability before the end of this year to prevent non-interoperable devices from getting into the hands of consumers and therefore never being interoperable.

For commercial carriers, this means customers will not be able to roam on what should be compatible networks. That is wrong. But for public safety, the ramifications could be catastrophic.

If a public safety 700 megahertz facility is knocked off the air but a commercial 700 megahertz in the same area remains operational, public safety devices will not work on the commercial 700 megahertz network. Requiring interoperability is the only way to ensure a redundant Nation-wide network for public safety.

Furthermore, interoperability will drive down the cost of devices for public safety. Volunteer fire fighters and sheriffs' departments in rural areas have historically been at an equipment disadvantage as compared to emergency responders in metropolitan areas.

This does not have to be the case with next generation public safety networks if Congress or the FCC requires interoperability across the 700 megahertz spectrum.

Let me be clear. Cellular South is a strong supporter of public safety and emergency responders, the most prominent example being our efforts during and after Hurricane Katrina. During Hurricane Katrina, our network along the Gulf Coast continued to operate even at the height of the storm.

Though some portions of our network temporarily lost service and a total of four towers were lost, it was 60 percent restored the day after the hurricane.

FEMA noted 5 days after the storm that Cellular South was the only operational cellular network on the Mississippi Gulf Coast. Most importantly, the emergency communications director for one of the coastal counties relied on his Cellular South phone as the only means of communication to coordinate the repair of his county's 800 megahertz wireless system used by his county's first responders.

Our experience during Hurricane Katrina is a testament to the role that rural and regional carriers can play in disaster response and recovery.

In conclusion, Cellular South and RCA strongly support Congressional and FCC action to ensure the deployment of an interoperable, Nation-wide wireless broadband network for public safety users.

Requiring interoperability across the 700 megahertz networks is the only way to ensure network access and to significantly decrease the cost of devices, both for public safety as well as consumers.

Finally, RCA members continue to support an auction of the D Block as the surest way to provide public safety users with the lowest-cost, widest coverage, highest quality network possible.

Thank you, again, for the opportunity to participate in today's hearing, and I look forward to answering your questions.

[The statement of Mr. Graham follows:]

PREPARED STATEMENT OF ERIC GRAHAM

JULY 27, 2010

Chairman Thompson, Chairwoman Richardson, Ranking Member King, Ranking Member Rogers and Members of the subcommittee, thank you for the opportunity to be here today. My name is Eric Graham, and I am Vice President for Strategic and Government Relations for Cellular South, Inc. Cellular South is the Nation's largest privately-held wireless carrier by number of subscribers, providing service in all of Mississippi as well as portions of Tennessee, Alabama, and Florida.

I testify today as a member of the Rural Cellular Association (RCA). RCA's nearly 90 carrier members provide wireless service in regional, remote, and hard-to-reach areas, with collective FCC licenses covering over 80 percent of the Nation's geography. RCA members are community-oriented, community-based, and supportive of those that protect our communities.

Cellular South is a typical RCA member in that the area we serve is overwhelmingly rural. Our participation in the Federal universal service program has enabled us to build out high-quality mobile wireless services to most of the area where we are licensed to serve. Additionally, we have deployed high-speed data services to large portions of our service area. In many of these areas, National carriers have not constructed networks of comparable reach and quality.

In addition to building out a commercial mobile wireless network, our company is a strong supporter of public safety and emergency responders. For example, we received a special commendation from the Mississippi State legislature for our outstanding work in restoring service to the Gulf Coast following Hurricane Katrina. Even at the height of the storm, our network never completely went down and our entire network was fully restored within 11 days after the storm made landfall. Furthermore, the State of Mississippi has awarded Cellular South the State contract for wireless services, which is additional proof of our coverage and service quality.

Other RCA members support public safety in similar ways. Some offer discounted service, discounted and donated equipment such as handsets and air cards, and free technical support, enabling rural public safety officers to reap the benefits of mobile high-speed data services today and to serve our communities.

I appreciate the opportunity to be here today, and to offer testimony addressing the realities of network operation and build out, the unique benefits of partnering with regional and rural commercial providers, and the need for interoperability across the entire 700 MHz band to maximize public safety's communications capabilities. Cellular South and the RCA share the goal of ensuring that public safety enjoys the benefits of new technologies and choice, while driving their costs down to commercial rates. As currently contemplated, the partnership between public safety and commercial carriers will mean better services, greater spectrum efficiency, and interoperability across multiple networks which will allow public safety to focus its resources on saving lives.

In considering mobile high-speed data networks, there are three critical elements to successful deployment and operation. First, a service provider needs spectrum with the appropriate characteristics and capacity, such as 700 MHz spectrum. Next a service provider must have sufficient funding to construct a network with ample coverage and capacity to make it useful for users. Finally, and most important, a service provider must have access to interoperable equipment, and devices must be available so that users can access other networks that use the same technology. We believe that the FCC's National Broadband Plan accurately identified these three critical elements, and the RCA supports its Public Safety recommendations.

SPECTRUM AVAILABILITY

Radio waves in the 700 MHz spectrum band travel long distances and are able to pass through forests, walls, buildings, and other obstructions with greater ease than higher-frequency airwaves, such as spectrum above 1 GHz (i.e. 1,000 MHz). These characteristics make the band well-suited for vast geographic coverage with fewer cell sites, and therefore, at a lower cost.

Because the D Block and the existing 700 MHz public safety spectrum are adjacent to other 700 MHz spectrum being used by commercial carriers, they share the same propagation characteristics as the commercial 700 MHz spectrum. Therefore, it is technically feasible for carriers and public safety to use common towers and share other network facilities because the network designs for public safety and commercial networks can be the same. Network sharing on adjacent frequencies not only enhances public safety, but it also greatly improves efficiencies that will lower the cost of building and maintaining public safety networks.

INTEROPERABILITY

The most critical factor to ensure the viability and success of a Nation-wide public safety network is interoperability. Unfortunately, without FCC or Congressional action, interoperability throughout the 700 MHz spectrum is unlikely to be achieved.

There are currently three major spectrum bands available for mobile high-speed data services (Cellular, AWS, and PCS) and a fourth (700 MHz) which will be available as early as the end of this year. As wireless technologies have rapidly evolved, devices in each of the Cellular, AWS, and PCS bands were built with the capability

to operate on all frequencies within each band. This allows seamless roaming across the frequency bands on other networks that utilize the same technology.

In fact, when the FCC awarded the first cellular licenses in the 850 MHz band, the Commission included a requirement that all devices must work on all 850 MHz cellular networks. This was necessary because one block of spectrum was set aside for incumbent carriers in each market, and there was a concern that incumbents might have sufficient market power to demand equipment that would work on its licensed spectrum but not on the spectrum of its competitor.

Fast forward to 2010. Today, the largest carriers are developing devices that only work on certain portions of the 700 MHz band. This limits consumers' ability to seamlessly roam on otherwise compatible networks, and their ability to change providers. This also prohibits public safety users from taking advantage of these economies of scale to acquire reasonably-priced devices for their networks. The harm that the FCC sought to avoid almost 30 years ago is becoming a reality today.

While there are currently three different technologies used for wireless communications, CDMA, GSM, and iDEN, the emerging consensus from both public safety and commercial carriers is that 4G technologies deployed in the 700 MHz band will use Long Term Evolution (LTE) technology. The FCC in the National Broadband Plan recommended designating LTE as the standard for the public safety network, a recommendation supported by both Cellular South and RCA.

As we move into a 4G world, both public safety users and commercial users would greatly benefit from having access to an interoperable, technologically-compatible LTE network. First responders would have universal access to their own LTE network whenever and wherever an emergency may occur and, where the networks overlap, public safety users would have the ability to roam on commercial 700 MHz networks to provide additional capacity. In areas without a public safety network, emergency responders' devices would work in any place where any commercial carrier is providing coverage on 700 MHz spectrum.

Unless things change, interoperability on 700 MHz LTE networks will not be possible because the current 700 MHz Band Classes fragment the 700 MHz spectrum.¹ Additionally, the developing LTE device and equipment ecosystem is being designed to prevent interoperability and seamless roaming across all frequency blocks.

The plan currently being used for building out the 700 MHz consists of four bands:

- Band Class 12, which includes the lower A, B, and C Blocks only;
- Band Class 13, which includes the upper C Block only;
- Band Class 14, which includes the D Block and the public safety broadband spectrum only;
- Band Class 17, which includes the lower B and C Blocks only.

When the band classes are compared to the winners of the various blocks of spectrum in the 700 MHz band, the interoperability problems become clearer. With a Nation-wide license of the upper C Block (less Alaska), Verizon Wireless is the sole carrier operating within Band Class 13. AT&T holds the majority of licenses for the lower B and C Blocks, therefore possessing the vast majority of Band Class 17. These carriers plan LTE deployments in the 700 MHz band as early as this fall, but the devices being developed for their networks do not include public safety's Band Class 14. As a result, public safety will not have the ability to be interoperable with these carriers' LTE networks.

For commercial carriers operating in Band Class 12, this means customers will not be able to roam on otherwise compatible networks when they are outside of built-out coverage of their specific spectrum block. That is wrong, and it is a disservice to all wireless consumers. But for public safety, this situation could be catastrophic.

For example, if a public safety 700 MHz facility is knocked off the air by a natural or man-made disaster, but a commercial 700 MHz network remains operational, public safety devices will not work on those commercial networks because of the balkanization of 700 MHz spectrum. Since LTE devices will bring unprecedented capabilities to first responders, this means they could lose their most effective communications tools in the very situations where they are needed the most. The inability for public safety users to access commercial 700 MHz networks is a preventable problem that can be solved by simply requiring all 700 MHz devices to work on technologically-compatible 700 MHz networks.

¹ The 700 MHz Band Classes should not be confused with the 700 MHz Band Plan. The Band Classes are groupings of spectrum which are approved by an international standards body—in this case, the 3rd Generation Partnership Project (3GPP)—to facilitate development of network equipment and end-user devices.

In addition, without required interoperability throughout all paired 700 MHz spectrum, neither public safety nor rural commercial carriers will be able to leverage the economies of scale necessary to secure equipment at competitive prices. If 700 MHz devices were required to be built to work across all paired spectrum, public safety users would have the opportunity to acquire devices something much closer to, if not equaling, consumer prices.

As referenced in the FCC's technical paper on developing the public safety network, "This lack of scope is compounded if the public safety entity is operating on an LTE network that utilizes spectrum in a band class assigned exclusively for the public safety community. This would be the case if the D Block was reallocated to public safety. In this situation, there would be no commercial service provider in LTE Band Class 14 in the 700 MHz band. While technically such a system could be deployed and supported, the costs of the network equipment, most notably the devices, would increase substantially."²

Requiring interoperability across all paired bands of 700 MHz spectrum is the only way to ensure a Nation-wide network for public safety. To build a public safety network, simply partnering with AT&T or Verizon will not provide public safety with the necessary coverage throughout the country, and rural communities will suffer. Even if public safety partnered with AT&T or Verizon, chipsets must be developed for the public safety network operating in Band Class 14. These chipsets must then be put in equipment that also has chipsets for either Band Class 13 or Band Class 17. Additionally, the public safety network will be limited to the speed and areas of deployment for the National carrier. And as many consumers with iconic devices have learned, National carriers do not always build their networks with sufficient capacity, let alone reliability.

If the LTE ecosystem is allowed to progress in a manner that prevents a partnership between the public safety network and rural carriers, the first responders in rural areas likely will not be able to utilize the Nation-wide broadband public safety network until the largest carriers deploy 4G LTE service in their areas and certainly will not be able to take advantage of rural carriers' excess capacity in times of emergency. Recent statements by National carriers support the broad consensus that these carriers will begin their 4G deployments by overlaying their current 3G service areas, and likely not deploy services in rural America until long in the future. Conversely, Cellular South, like other winners of 700 MHz lower A Block spectrum, intends to deploy 4G LTE services in rural America as quickly as possible.

Indeed, Upper 700 MHz licensees have an incentive to focus on densely-populated areas at the expense of rural areas. When the various blocks of 700 MHz were auctioned, different build-out requirements were implemented with the different blocks. For example, the upper C Block spectrum requires build-out within a specific time frame of certain population percentages, while the lower A Block requires certain geographic percentages of build-out. Logically, a carrier needing to reach a higher percentage of the population will deploy services first in the most densely-populated urban areas. It is virtually guaranteed that population-based build-out requirements will be satisfied long before the largest carriers' network deployment reaches the rural areas of the country. Lower A Block licensees do not have this luxury, and beyond already catering more specifically to rural America, they are required to cover larger percentages of geography including remote and sparsely populated areas.

The recent mining tragedy in West Virginia made it clear that our Nation's first responders require the ability to access cutting edge communications even in our Nation's remote rural areas. Volunteer firefighters and sheriffs' departments in rural areas are typically at an equipment disadvantage when compared to their counterparts in metropolitan areas. This does not have to be the case with next-generation public safety networks. If Congress or the FCC requires interoperability across the 700 MHz spectrum, the public safety network can have a build-out that is concurrent with commercial build-outs throughout the Nation and all first responders will have access to a robust network with sufficient overflow capacity to cover any need.

FUNDING

The best way to fund a public safety network is a commercial auction of the D Block. An auction, which the FCC can conduct quickly and efficiently, is the only proven means of maximizing the revenues needed to build a high-quality public

²Federal Communications Commission. "A Broadband Network Cost Model: A Basis for Public Funding Essential to Bringing Nationwide Interoperable Communications to America's First Responders," *OBI Technical Paper No. 2*. May 2010, 5.

safety network. The Congressional Budget Office (CBO) estimates that a D Block auction would raise between \$2 billion and \$3 billion if auctioned to commercial carriers. The actual auction proceeds could be much higher. In the last 700 MHz auction (Auction 73) congressional estimates expected the auction to bring revenues of \$10.182 billion, but the net winning bids actually totaled \$18.96 billion.

Given the scarcity of available low-band spectrum (e.g., 700 MHz) for competitors of the “Big Two” it is entirely possible—if not likely—that current CBO estimates would be exceeded. A near-term auction would provide immediate capital to be used as a timely down payment on the deployment of the public safety network. As FCC Public Safety and Homeland Security Bureau Chief Admiral James Barnett, Jr. has previously testified, allocating the D Block to public safety would not only “nearly destroy the commercial market for equipment and devices for public safety[,] isolating public safety on a technological island the way they are today” but would also “vastly increase the cost of building the network for public safety by billions of dollars.”³

In order to leverage the Nation-wide commercial build out of LTE at 700 MHz, public safety must be prepared to build-out the network at the same time as commercial carriers deploy service. Cellular South and RCA welcome the FCC’s commitment to make an additional 500 MHz of spectrum available for mobile high-speed data services, and recognize that the auction of this additional spectrum may also be a significant source of funding for the public safety network. Despite the revenue generated from future auctions, if funding is not available for the public safety network at the time of commercial build out (which includes planned LTE coverage for 95 percent of the United States population by 2015)⁴ we will lose a clear path to delivering a network for our Nation’s first responders. The FCC estimates that building a separate public safety network, including the 44,800 sites necessary for adequate coverage, would cost an additional \$9.4 billion compared to leveraging an incentive-based partnership. Time is of the essence if the public safety network is to leverage a parallel commercial build out.

While the funding that would be provided from a commercial D Block auction is needed immediately, the additional capacity of reallocating the D Block to public safety is not only excessive today but unnecessary going forward. The claims that it is necessary to reallocate the D Block to public safety in order to meet capacity needs are based on the outdated deployment practices of first and second generation technologies that are impractical for use with 4G technologies.

As the Coalition for 4G in America has pointed out, deploying a LTE public safety network using a low-site, cellular-like approach with the existing 2x5 MHz currently allocated to public safety would provide greater system capacity with half the amount of spectrum as compared to utilizing outdated high-site deployments on a potential 2x10 MHz of spectrum where the D Block is reallocated to public safety.⁵ Beyond being more spectrally efficient, the cellular-like deployment will provide more robust signal coverage and network redundancy while avoiding potential problems with issues such as interference. RCA believes the current allocation provides more than adequate capacity Nation-wide—and certainly in rural America.

CONCLUSION

Cellular South and RCA members strongly support both Congressional and FCC action to ensure the timely deployment of a robust Nation-wide interoperable wireless broadband public safety network. To leverage the advancements and deployments of commercial wireless carriers in 4G LTE technologies, the success of the public safety network depends on requiring interoperability throughout all paired 700 MHz spectrum. Congress and the FCC must take action to ensure interoperability in order to facilitate seamless roaming on 700 MHz networks and to significantly decrease the cost of public safety devices. RCA members continue to support an auction of the D Block and dedication of the auction proceeds to building the public safety network.

³Barnett, Jr., Admiral James Arden. Quote from: U.S. Congress. House Energy and Commerce Subcommittee on Communications, Technology and the Internet. “Legislative Hearing on a Discussion Draft to Provide Funding for the Construction and Maintenance of a Nationwide, Interoperable Public Safety Broadband Network and for Other Purposes and on H.R. 4829, the Next Generation 911 Preservation Act of 2010.” (6/17/10), available at <http://energycommerce.house.gov/documents/20100617/transcript.06.17.2010.cti.pdf>, 47.

⁴OBI Technical Paper No. 2, 2.

⁵Doug Hyslop & Chris Helzer, *Wireless Strategy 700 MHz Upper Band Analysis* (July 19, 2010), available in Coalition for 4G in America, Written Ex Parte Presentation, WT Docket No. 06-150; PS Docket No. 06-229; GN Docket No. 09-51 (July 19, 2010), available at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020549812>.

Thank you again for the opportunity to participate in today's hearing, and I welcome any questions.

700 MHz Lower Band Spectrum & Band Classes

Band Class 12 (Uplink)					Band Class 12 (Downlink)		
A	B	C	D	E	A	B	C
Ch. 52	Ch. 53	Ch. 54	Ch. 55	Ch. 56	Ch. 57	Ch. 58	Ch. 59
Band Class 17 (Uplink)					Band Class 17 (Downlink)		

700 MHz Upper Band Spectrum & Band Classes

Band Class 13 (Downlink)		Band Class 14 (Downlink)			Band Class 13 (Uplink)		Band Class 14 (Uplink)		
C	A	D	Public Safety	B	C	A	D	Public Safety	B
Ch. 60	Ch. 61	Ch. 62	Ch. 63	Ch. 64	Ch. 65	Ch. 66	Ch. 67	Ch. 68	Ch. 69

Rural Cellular Association 2010

Ms. RICHARDSON. I thank all the witnesses for their testimony. I will remind each Member that he or she will have 5 minutes to question the panel. I will now recognize myself for questions. First of all, Mr. Graham, did I understand you then to say that you don't support the direct allocation to public safety, only the auction option?

Mr. GRAHAM. That is correct.

Ms. RICHARDSON. Okay.

Mr. GRAHAM. We do not support a direct allocation of the D Block to public safety.

Ms. RICHARDSON. Also, Mr. Graham, did I understand correctly? I looked back in your testimony the remarks that we had. Did—I thought I heard you say that you would expect that the auction would exceed the initial estimate. Did you mean that in terms of price?

Mr. GRAHAM. Yes. I believe the total receipts from a D Block auction would exceed the Congressional estimates.

Ms. RICHARDSON. So why do you think it didn't the first time it was initially attempted?

Mr. GRAHAM. I think there were two main problems with the D Block in Auction 73, one being uncertainty of public safety's requirements for the eventual D Block winner, the greatest being the large size of the D Block license.

It was a Nation-wide license. With a Nation-wide license the reality is there are only one, two, maybe three potential bidders for a license of that size. If recollection serves, the reserve price was approximately \$1.3 billion just for the license. That was before any build-out. Other individual bidders who had been interested in re-

gional areas were effectively locked out because they could not bid on a National license.

Ms. RICHARDSON. Okay.

Let us see, Chief Dowd, I believe, in your testimony on the last page, you referenced that the RFP process would allow carriers, private wireless data providers, et cetera, to participate and you laid out some of the benefits. What I didn't follow was how you viewed that to be able to assist in an on-going funding stream?

Chief DOWD. Well, our position on it is simply this, is that if you had public-private partnerships, you would be allowing for secondary use of commercial services on the public safety network but still be in complete control of the network. So that would allow you to—so for example, I will give you one quick example.

Public utilities have already expressed interest in the potential of utilizing on a public safety, a hardened public safety network and to pay for that service to, you know, a State government or local government that builds that network.

That does a couple things for you. It allows them to stay up and running, you know, in emergencies and to not have to compete on commercial networks which they typically do now like we all do.

So, you know, it is a very attractive model from the perspective of, you know, there are already many entities out there that are looking at this, you know, carriers, potential users, that would create or generate a funding stream for that municipality on that spectrum. In other words, you are leveraging enterprising the value of that spectrum on a second, third, or fourth tier priority that would allow for that dynamic use of the spectrum.

Ms. RICHARDSON. I am concerned—

Chief DOWD. The other thing it could do if I could really quick is that, you know, for smaller carriers that are concerned about access to spectrum, this is a way of getting access to that spectrum without having to bid and pay expensive, as Eric pointed out, very high rates to access or to buy that spectrum. You would—

Ms. RICHARDSON. What concerns—excuse me, I am sorry.

Chief DOWD. Sure. It is all right.

Ms. RICHARDSON. I have only got 1 minute and 40 seconds. What concerns would you have with the risk and the vulnerability of having all of the local governments, you know, the whole municipality dependent upon the system?

Chief DOWD. Well, again, the uniqueness of LTE technology is that if you are in control of the network, you know, or, you know, you have got the joystick as Jeff Johnson mentioned earlier is that you are in control and set the priorities.

So first responders would always have a preemptive priority on the network, and you would allow for secondary use on lower priority levels. So you would actually you know push them back or slow them down on their throughput and still allow for the first responders to get immediate access to the spectrum.

Ms. RICHARDSON. But what were to happen if the network were to be compromised is my question? So for example, what if all of a sudden, you know, public safety is blocked out, public works is blocked out. That could be very detrimental to municipal government. I served on the city council for—

Chief DOWD. Oh, I apologize. Are we talking about commercial networks or public safety networks?

Ms. RICHARDSON. I am talking about if there were a public safety network and if all of public safety was on it as well as local governments, municipalities, public works, et cetera as you are suggesting—

Chief DOWD. Yes.

Ms. RICHARDSON [continuing]. My question is what do you think, in terms of the cyber security implications or if the system were to go down, that your whole—everyone would be dependent on that?

Chief DOWD. Well again, and why we think the original auction failed is we would build this with redundancy in it and survivability in it that would keep that system up and running.

Our contention is that the way we build public safety networks is, is that if our network went down, then everybody else's network is already down. So, you know, we would be the last network to go down.

Ms. RICHARDSON. Well, as I think I have said initially in my comments, you know, I am a very big supporter, and you have a fan here so that is not the issue.

But I would caution that we probably need to go back and delve into that further because what I have found, as I said in my time of being here, is that if something can happen it in fact will happen.

I think although we would want to build a system that we would think would have complete redundancy and no issues, to say that no issues would happen I don't think is probably realistic in light of some of the things that have already occurred.

So the question should still probably be considered of being very careful when you have everything tied up into one system. I am not saying—I am not opposed. I am just saying that is an important thing to explore.

Mr. Rogers for 5 minutes.

Mr. ROGERS. Thank you, ma'am. Mr. Graham, I didn't agree with much you said, but I liked the way you said it.

[Laughter.]

Mr. ROGERS. We Southerners have to stick together. I do want to ask you though do you believe that the reallocation of D Block to public safety would harm market competition for devices or increase the costs?

Mr. GRAHAM. Yes, I do believe that.

Mr. ROGERS. Okay. If so, would you support research and development program for these devices to overcome that?

Mr. GRAHAM. I would support that if it would lower the cost. But unfortunately even that won't lower the cost as much as the scale of mass-produced consumer devices.

Mr. ROGERS. I want to ask—I represent a large rural Congressional district and the county sheriffs in my district support this reallocation of D Block. Why should I not heed their opinions aside from the fact they vote?

Mr. GRAHAM. Well, I have spent a little bit of time in your district at Pop's Charburgers in Heflin—

Mr. ROGERS. Yes.

Mr. GRAHAM [continuing]. And popping golf balls at The Meadows in Sylacauga. But I think they viewed the reallocation of the D Block as making a bad situation better. But I am not sure that they are fully aware of all the capabilities that could be available if the D Block went to commercial users. I don't know what they are paying for their devices right now.

But I can tell you that we have commercial devices in our stores today that we sell, at least one that is a military spec device with push-to-talk one-to-one or one-to-many that comes in at consumer pricing. Contractors buy this because it is hard to damage this phone. That phone comes in at consumer prices. It is not at \$1,000, \$2,000 like they typically pay.

I think if they were fully aware of the capabilities they would have under a system where the D Block went to a commercial user, particularly a local provider and, to be honest, Cellular South would bid for the spectrum in your area. That is where we are moving. They would have greater capabilities much sooner than by reallocating this D Block to public safety.

I would venture to say, and I don't think it is much of a stretch, that in most of the areas of your district, volunteer fire fighters and sheriff's departments could be up sooner on a commercial D Block sharing the commercial D Block than they would ever be if the D Block was reallocated to public safety and public safety had to build out those rural areas.

Mr. ROGERS. Chief Johnson, can you tell me why D Block is so important to public safety and why other spectrums that might become available in the future won't work?

Chief JOHNSON. Yes, Congressman. Yes, Congressman. The D Block's important because it is a spectrum that is contiguous to 10 megahertz of spectrum already licensed to the public safety community.

What that will allow is it will allow adequate throughput for things like video, for mobile wireless license plate readers, and all the various things from controlling robots that disarm bombs to all the other needs that we have, the efficiency that happens at the local level when, for example, I can see traffic cameras from my command vehicle.

I can send one unit instead of three to a freeway accident, and we can evaluate the accident remotely. These things all save us money.

I think one of the other big things that happen, we just don't talk about it enough, is what happens when you identify an adequate swath of spectrum, it will actually bring the market, as Mr. Graham said. I actually agree with him, when you get everybody using one technology, then you are going to bring down the cost of the devices.

By giving us enough spectrum, not only today but for the future, it will draw the users to that space and it will draw the manufacturers to the space. When we get everybody in one chunk of spectrum that has predictability and adequacy, then what we are going to do is we are going to quit spending money tying these diverse slices of spectrum together all over the map.

Interoperability, I think this panel is very wise to see the problem. Interoperability has yet to be achieved and will never be

achieved because it requires that systems overlap each other in order to have a gateway allow the access to the system, which means you can't still overrun your system by much. We won't solve interoperability until we have one adequate chunk of spectrum.

To get to the last part of your question about another slice of spectrum, all the different spectrums have different characteristics in terms of propagation. So for example, some spectrums penetrate buildings and some do not.

When we say the public safety's going to be on the 700 for data and 700 for voice, which it is, then we can rely on that for certain voice penetration capabilities and certain data capabilities. When you put another part of the data spectrum or voice spectrum in another frequency band, it may not penetrate buildings. When you create unpredictably in our communications tools, people quit using them.

Mr. ROGERS. Thank you very much. My time is up.

Ms. RICHARDSON. Thank you, Mr. Rogers.

Chief Johnson and Chief Dowd, Admiral Barnett stated that there has been great involvement by public safety in this process. Do you agree and if not why?

Chief JOHNSON. I will start that, Madam Chairwoman. I think we have had numerous communications with the FCC, and I think Admiral Barnett fairly characterizes his openness and the openness of the FCC to talk with us.

But there is a difference between feeling heard and having a dialogue. Public safety, we do not feel that they feel our urgency and feel the severity of our opinion as the users of this system. I also think that there has been some disconnect in terms of the timing.

The National Broadband Plan came out before we had an in-depth discussion about the merits of that broadband plan, and the discussion about what capacity the system has and what our needs are. That was subsequently dealt with in a paper by the FCC dealing with what kind of capacity 10 megahertz of spectrum would carry.

So I think it is fair to say that they have been talking with us and dialoguing with us. We greatly appreciate that, but we do have dysfunction in terms of them seeing our perspective and us being brought to a place where we see the wisdom of their decision.

Ms. RICHARDSON. Have you provided that feedback to Mr. Schaffer and also to Admiral Barnett?

Chief JOHNSON. Yes, we have.

Ms. RICHARDSON. Okay. What was their response?

Chief JOHNSON. Well, I think, you know, on the timing issues I think they acknowledge that it was unfortunate that there were other factors that drove essentially the release of the National Broadband Plan. They were quick to circle back with the public safety community and have a dialogue about it. But I think they essentially believe it was unfortunate.

Ms. RICHARDSON. So regarding your specific recommendations or things you would like to see, you said other than being heard you haven't really seen them being incorporated as of yet?

Chief JOHNSON. Not as of yet, but they have been very open. We continue a dialogue with the FCC, DHS, and the administration on

what a solution eventually could be. I mean, I don't want to oversimplify this.

But if you look back in history at what public safety was willing to do, Madam Chairwoman, public safety was willing to take the D Block, allow a cellular provider to use it and actually carry cellular traffic on it, but it would be licensed to public safety, which meant we controlled the network. So when we needed it we got the upgrade.

It is a small shift in terms of the thinking, but if you take the same spectrum and you don't auction it but you give it to public safety, we create a public-private partnership with the cellular industry or whoever.

They pay us for access to that network. We use the money to build out the network and to operate the network, but we know because we have the license we control the joystick. When we need it we get it.

It is a good parallel is the freeway system today. I don't own the freeway system. It is commonly used by commercial carriers and private motorists. But when my fire apparatus pulls onto that freeway and turns on its red lights and siren, people pull to the right and stop. In radio parlance that is what we are talking about.

We are talking about everybody can use it if you have an agreement to get on it and it creates revenue to build out the system. But when public safety keys the mike everyone pulls to the right and stops.

Ms. RICHARDSON. Okay. Other than—I already mentioned that I had served on a city council for 6 years—other than Federal grants how would you anticipate any available funding in your budgets? I am speaking to the two chiefs, to be able to fund an interoperable system?

Chief DOWD. Well, again, you know, I think we have to work from the presumption that, you know, these communications networks are absolutely necessary in order for us to do our job.

You know, so we look at it from the perspective of, again, if you look at the President's memorandum that he recently issued about identifying 500 megahertz spectrum, Larry Summers, his economic adviser in comments the day that that was published, said that the first place that they would want to go with the proceeds from the sale of any portion of that 500 megahertz of spectrum would be to build out public safety's network Nation-wide.

So our argument is that 10 megahertz that we are asking for is less than 2 percent of the total 500 that the President says needs to be identified for broadband services, yet it would double our spectrum.

Our argument is well, then if they are going to sell that why don't we take the best of both worlds? Why don't we leverage the sale of that spectrum for the broadband, you know, for the broadband build-out for public safety but still reallocate the D Block to public safety?

Ms. RICHARDSON. Right. But my question is do you foresee any money in your budget aside from Federal grants that you currently receive for this, do you foresee having any money in your budget to be able to assist in this process?

Chief DOWD. Well, sure. Yes. The city is prepared to commit those funds because they understand the value of broadband services. That is why we have already built a broadband system in New York City. The mayor directed that 5 years ago.

It operates on different spectrum that doesn't give the kind of public safety quality coverage in building coverage that we need, but the monies are there.

The other issue is, and we—something that is kind of related to this—is there is an unfunded mandate on the part of the FCC for everybody below 512 in the spectrum range to narrow band their radio systems, which would fall upon us, too.

We have already estimated that to cost between \$100 million and \$300 million for the city of New York to do that for the police radio system. Rather than applying monies to that old technology, we would prefer to see the FCC make a change in that mandate and allow us to explore, again, the broadband technology for mission critical voice capability and ultimately put all of our communications capabilities, voice and data, on a mission critical level into the broadband services.

So again, you know, there are some different ways of approaching this. You know, in not having to spend monies on unfunded mandates that the FCC doesn't seem concerned about funding.

At the same time, if you look at the efficiencies of broadband and how we are already using it, the idea of not wanting to build it or not trying to push public safety into that technology for the future just doesn't make a whole lot of sense.

Ms. RICHARDSON. Okay.

Mr. Rogers, did you have any further questions?

Mr. ROGERS. Yes, ma'am.

Chief Dowd, Chief Johnson gave a great example of using the public highways and the priority that public safety gets in that venue. It is my understanding that public safety has priority access to commercial networks. My questions to you are can you rely on that access? Can you tell me examples of where it has not been a priority?

Chief DOWD. The simple answer to that is we cannot rely on it. You know, you listen to what was said here and it is kind of a cart before the horse scenario. Jeff kind of alluded to it already. You look at the broadband plan. It came out before the FCC's white paper talking about spectrum requirements, you know.

When you look at it and say, you know, commercial networks, can you use commercial networks to rely on in emergencies? The answer is every experience that we have ever had tells us that commercial networks will not be there when we need them in an emergency.

I will give you a couple of quick examples. No. 1, you remember Cory Lidle, the New York Yankee who crashed his light plane into a building in Manhattan. You know, all of our command staff, and we had, I think, close to 650 first responders at the scene of that. I got screamed at the next day because they say my cell phone, my data, I couldn't—nothing worked. I couldn't get any information.

Again, it is because, you know, the only priority it had is what they call next in queue priority or as the Admiral referred to it ear-

lier, first in line priority. That simply will not work for public safety.

So that priority is not a legitimate priority. They haven't figured it out yet. They have determined that that is the solution even though they haven't figured it out. I think it was the Chairwoman that pointed that out. You know, they have figured out a solution, you know, without knowing whether it can work or not. Our experience says that it will not work.

Another example is if you look at the Times Square bomb incident, and had a conversation recently with the commanding officer of the bomb squad. That bomb was a mechanical device. It was, you know, a switch trip device, but, you know, we know from experience in watching what happened in Madrid that sometimes these devices are tripped by cellular phone calls. The device is set off that way.

So the scenario there was—and I said to him, “Well, if you had that scenario and you believed the device you were looking at was going to be tripped potentially by a cellular device, what would be your first action?” He said, “We would shut down or request the immediate shutdown of the commercial networks in the area.”

Now, if the commercial networks are there to back us up in an incident like that when we have to, you know, we have a large concentration of first responders and now we have maxed out on our 10 megahertz of spectrum, where do we go? We have just shut those systems down. So it is just not a workable model.

Mr. GRAHAM. Congressman, could I respond?

Mr. ROGERS. Yes, go ahead.

Mr. GRAHAM. Because that, while that is—every bit of that is true for everything up until today and when we launch LTE technologies, none of that is true, virtually none of that is true for LTE and beyond. What LTE will let us do, and LTE, make no mistake, is the technology going into the 700 megahertz space, LTE will allow carriers to manage users on an individual basis.

LTE will allow the commercial providers to prioritize emergency responders in such a way that not only does traffic move to the side of the road, traffic moves completely off the highway well before that fire engine, that police car starts going down the highway. We will have that capability. We will be able to limit all but public safety and first responders' traffic on that network.

Mr. ROGERS. What about the situation where he said a plane flew into a building in New York and he had people screaming at him the next day? By the way, the problems are here in New York. If you came to Alabama, we don't scream at police chiefs.

[Laughter.]

Mr. ROGERS. Mr. Graham.

Mr. GRAHAM. Sure. There are two ways to do that. One is at the first notice that public safety needs the spectrum we can pull the plug on the commercial users for that LTE network, the LTE portion of the network. The second way would be to pre-prioritize those public safety users so that when they cued up their mics or they fired up their devices, it would clear everybody off.

It wouldn't be first in line, to the example in the first panel. It wouldn't be I am ready to travel first class but there are no seats.

It would be I am public safety. I pull somebody off the plane and now I get that seat.

Mr. ROGERS. Great, thanks.

Mr. LeGrande, the FCC chairman suggests that "Auctioning D Block will create an environment of interoperability." Do you agree?

Mr. LEGRANDE. No, I don't. I think the FCC's National Broadband Plan already creates a plan for interoperability. I mean, really, we are not talking about making things more interoperable. It is already designed. We have stabilized by saying we are going to be on the LTE technology.

We are doing operational standards. We are doing roaming standards between private networks. We are doing roaming standards between the commercial networks and the private networks that we are talking about.

In fact, you know, the suggestion that, you know, that there is only going to be a private network if you give public safety the D Block is simply not true because we are already building these networks, even with them having the 10 megahertz of spectrum, to be interoperable with the commercial industry.

So the suggestion that public safety will not have them as a partner, they will have them as a partner. Further, the suggestion that, you know, we can just move everyone off is, you know, that is pretty accurate but you can always on the commercial environment move folks off.

But the question is is the commercial carrier on the case of having the D Block will have the authority to move when they think it is best to move versus public safety having the authority to move people when it is best to move?

That scenario is best for our country, having public safety, the control and the capacity to manage their network resources, not the commercial carriers.

Mr. ROGERS. Great, thank you.

Ms. RICHARDSON. Thank you, Mr. Rogers.

I just have two last remaining questions. For both chiefs, as you noticed I mentioned to the Assistant Secretary Mr. Schaffer about being more engaged in this process and how DHS has not been as vocal in terms of some of the concerns that your agencies have expressed. What would you like to see DHS do differently?

Chief JOHNSON. Madam Chairwoman, I think a healthy dialogue about what interoperability is, why it isn't working, and how our money is being spent and what the outcomes are would be a healthy place to start because I think the outflow of that would be clarity about why the D Block belongs in public safety's hands and why we need that much contiguous spectrum.

I talked to the Secretary before he left and as the chair of a State-wide interoperability network I have learned a few things about interoperability and how we spend our money.

First, interoperability is connecting together disparate pieces of spectrum on existing systems. You take the State of Oregon, for example, there are 49 independently owned, operated, and maintained radio networks.

What we are doing today in Oregon is building a single State-wide radio umbrella and people can choose to abandon their own,

choose to abandon their own and become subscribers. What will eventually happen, based on States like Alabama and Michigan and Wyoming, is that there will be a mass migration to a single system.

Given adequate spectrum that ends interoperability once and for all, that allows you to make investment in redundancy and layers and to integrate these local systems. I think DHS engaging us in those kinds of discussions will move us toward a place where we stop spending money in the name of interoperability and start spending money on a common picture moving forward.

That will by its very nature, as was mentioned, by its very nature will be interoperability. I think that is the most important thing they can do.

Ms. RICHARDSON. Thank you.

Chief Dowd, did you have anything you wanted to add?

Chief DOWD. Well, again, what we want to see happen is there be a collaboration between DHS, FCC, and first responders. You know, Secretary Schaffer talked about forming a task force and, you know, what was a little bit troubling about it is he only mentioned Federal entities.

You know, first response is a local event. First responders need to be heavily involved in any process that determines how we do our business.

Just quickly, in response to the response to my comments before, every experience any police or fire chief I have ever spoken to when they have talked about the use of commercial networks for mission critical work or for your 911 system, said, when you need them they are not there. They will fail.

They will fail before our networks do. It is just not a workable model. Also, in order to get that priority access you have to get on something called the access channel. If you can't get in on the access channel, the system does not recognize you as prioritized. So again, if the spectrum is on our network that recognition is automatic and instantaneous.

Ms. RICHARDSON. Thank you.

Mr. LeGrande, have you been involved at all with the discussions about this issue from the FCC or DHS perspective?

Mr. LEGRANDE. Yes, Madam. I have over the years, back when I was with the district and until now, I think it has been 6 years since we launched—

Ms. RICHARDSON. But I mean, currently the discussions that are being had right now, have you been invited to participate?

Mr. LEGRANDE. No, I haven't been invited.

Ms. RICHARDSON. Okay, would you please submit your interest if you do have an interest to Assistant Secretary Schaffer and also to Admiral Barnett and do a copy to this committee?

Mr. LEGRANDE. Yes, ma'am.

Ms. RICHARDSON. Okay. Thank you.

All right, my last question then would also be to the two chiefs. Would you provide to us, preferably by the end of the week—I know that is asking a lot in Government, but if you could do your best—if you could provide to this committee in writing specifically what you would like to see DHS do further?

It is answering the question that I just asked you as well as the FCC. Then that way I will forward it from this committee to them, asking them to work with you to address those issues. So I am asking you to help me to help you, and I would be happy to do it.

Feel free in the letter to say that it is under my direction. That way you don't have to look like the bad guys. I do.

Chief JOHNSON. Thank you.

[The information follows:]



Public Safety Alliance

Dedicated to First Responders...First

Public Safety Alliance
A project of APCO International
1426 Prince Street
Alexandria, VA 22314
info@psafirst.org

August 3, 2010

The Honorable Laura Richardson
Chairwoman, Subcommittee on Emergency
Communications, Preparedness and Response
Committee on Homeland Security
U. S. House of Representatives
Washington, DC 20515

The Honorable Mike Rogers
Ranking Member, Subcommittee on Emergency
Communications, Preparedness and Response
Committee on Homeland Security
U. S. House of Representatives
Washington, DC 20515

Dear Madame Chairwoman Richardson and Ranking Member Rogers:

Thank you again for the opportunity to come before your subcommittee and provide testimony regarding public safety's top legislative priority for the 111th Congress, to secure sufficient spectrum (D block) and the commitment of federal funding necessary to finally realize a nationwide interoperable public safety broadband network. As you know, Congress would fulfill an unmet recommendation of the 9/11 Commission by acting upon this top priority matter this year.

At your July 27th hearing, you requested that we submit our thoughts on how the U.S. Department of Homeland Security (DHS) and the Federal Communications Commission (FCC) could be more responsive to public safety regarding the planning and build-out of this nationwide broadband network, and in order to ensure that it meets the mission critical needs of public safety. The single best thing that can be done at this juncture is for the FCC, DHS and the Administration to join with Attorney General Eric Holder and the United States Department of Justice (DOJ) in declaring support for Congress to allocate the D block to public safety. Additionally, DHS, FCC and the Administration should support the analyses and policy recommendations of America's public safety community, as expressed by the Public Safety Alliance and its 40-plus partners that make-up a large, diverse and ever expanding coalition of associations and private sector providers, including the Big 7, who have repeatedly stated the need for this particular spectrum, the D block, that is contiguous to 10 MHz of spectrum already assigned to public safety for broadband. This spectrum is ideally located and has unique propagations that allow for in-building penetration of communications much greater than other areas of spectrum. These facts, and many others, are well established and are not in dispute.

We are gravely concerned by DHS Assistant Secretary Gregory Schaffer's announcement that the Administration, through DHS and the DOJ, is establishing a joint task force on public safety interoperability. At this late date, we are specifically concerned with the timing of the establishment of this task force with the intent to examine the technical aspects of the FCC's National Broadband Plan regarding priority access, roaming and other unanswered questions, as brought to light at your hearing, before any policy recommendation is announced by the

Page 2 of 2

Administration regarding disposition of the D-Block spectrum. With all due respect, Congress cannot afford to wait any longer on this long overdue decision. Therefore, we do not believe another task force is necessary.

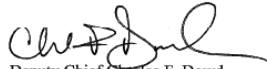
As you know, public safety and state and local government stands united in urging Congress to pass the necessary legislation to allocate the 700 MHz D-Block to public safety. This additional 10 MHz of spectrum is critical to ensuring public safety has enough capacity for all mission critical applications today and well into the future. The Public Safety Alliance strongly supports H.R. 5081 - Broadband for First Responders Act and S. 3625 - The First Responders Protection Act. These bills are critical first steps to passing legislation that will once and for all allocate the D Block to public safety and provide sufficient federal funding to build out and maintain a nationwide interoperable public safety broadband network. We are equally encouraged by Senator John "Jay" Rockefeller's announcement, as Chairman of the Senate Commerce, Science, and Transportation Committee, that he intends to introduce a bill shortly to allocate the D Block spectrum to public safety and provide funding for the build out and maintenance of a broadband network.

Madame Chairwoman and Ranking Member, we remain very appreciative of your support and interest in our efforts, and are pleased to respond to any further requests you may have.

Sincerely,



Chief Jeffery D. Johnson, EFO, CFO, MIFireE
President and Chairman of the Board



Deputy Chief Charles F. Dowd
Commanding Officer, Communications Division
New York City Police Department



International Association of Chiefs of Police | International Association of Fire Chiefs
National Sheriffs' Association | Major Cities Chiefs Association
Major County Sheriffs' Association | Metropolitan Fire Chiefs Association
Association of Public-Safety Communications Officials International
National Emergency Management Association | National Association of State EMS Officials

www.psafirst.org

Chief DOWD. Thank you, Madam Chairwoman. Madam Chairwoman, if I could real quickly, respectfully, I would like to request that two documents be entered in the record, the New York City white paper on public safety spectrum requirement that was done by the City of New York and the Public Safety's Alliance review of the FCC's white paper on spectrum requirements.

Ms. RICHARDSON. Without objection.*

Chief DOWD. Thank you.

Ms. RICHARDSON. Mr. Rogers, any further questions?

Mr. ROGERS. No, ma'am.

*The information was retained in committee files.

Ms. RICHARDSON. Okay. I thank all the witnesses for your valuable testimony and the Members for their questions. The Members of the subcommittee may have additional questions for the witnesses, and we will ask you to respond in an expeditious way in writing, preferably within 2 weeks unless I otherwise specified.

Hearing no further business, the hearing is adjourned. Thank you very much.

[Whereupon, at 11:53 a.m., the subcommittee was adjourned.]

APPENDIX I



Federal Communications Commission
Washington, D.C. 20554

August 30, 2010

The Honorable Laura Richardson
United States House of Representatives
1725 Longworth House Office
Washington, DC 20515

Dear Chairwoman Richardson:

Thank you for the opportunity to testify before the Subcommittee on Emergency Communications, Preparedness and Response at your hearing on July 27, 2010 on "Does the National Broadband Plan Meet the Needs of First Responders?" At the hearing, you requested that I provide additional information on the meetings and contacts with public safety leaders and groups in preparation of the public safety chapter of the Plan, including those persons in attendance. You also requested information on what meetings and contacts we had with the Department of Homeland Security as we developed the public safety chapter of the National Broadband Plan.

The FCC relied heavily on public safety community input and information in developing the public safety chapter of the National Broadband Plan as shown by the extensive list of meetings and contacts attached. I also have enclosed the agenda for two workshops we held that focused on the nationwide public safety broadband network and included panelists, speakers and participants from across the public safety community, Department of Homeland Security (DHS), other government partners, and industry. The FCC reviewed and studied thousands of pages of input and information from public safety leaders and groups which were entered into the record and were duly considered in preparation of the National Broadband Plan. I have enclosed a listing of the comments and *ex parte* filings by public safety in this proceeding. This was part of our due diligence, and a large amount of public safety input and information is reflected in the recommendations of the public safety chapter of the National Broadband Plan.

We have consulted significantly and often with DHS on the public safety broadband network, and especially the office of the Assistant Secretary of Homeland Security for Cybersecurity and Communications and personnel from the Office of Emergency Communications, as shown in the attached list of meetings and communications with DHS.

The Honorable Laura Richardson
August 30, 2010
Page 2

The public safety broadband network and interoperability are too important to proceed without seeking, considering and evaluating all relevant information, data, analysis and input. That is what we did. We will continue to work with public safety leaders and our federal partners to ensure a public safety broadband network that is truly nationwide and interoperable.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "James Arden Barnett, Jr.", with a stylized flourish at the end.

James Arden Barnett, Jr.
Rear Admiral, USNR (Ret.)
Chief, Public Safety and Homeland Security Bureau

Enclosures

**Public Safety Broadband
Comments and Ex Parte Filings
NBP PS BB and 700 MHz Proceeding**

Ex Parte Filings - Docket 09-51 (1/1/09 - Present)

Organization	Date Received	Comments
Association of Public-Safety Communications Officials (APCO)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
Association of Public-Safety Communications Officials (APCO)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
Association of Public-Safety Communications Officials (APCO)	3/15/2010	
International Association of Fire Chiefs (IAFC)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
National Emergency Number Association (NENA)	10/29/2009	
National Emergency Number Association (NENA)	1/14/2009	
National Emergency Number Association (NENA)	1/14/2009	
National Emergency Number Association (NENA)	11/20/2009	
National Emergency Number Association (NENA)	12/16/2009	
National Emergency Number Association (NENA)	1/13/2010	
National Emergency Number Association (NENA)	1/20/2010	
National Emergency Number Association (NENA)	1/21/2010	
National Emergency Number Association (NENA)	2/1/2010	
National Emergency Number Association (NENA)	3/11/2010	
National Emergency Number Association (NENA)	3/22/2010	
National Emergency Number Association (NENA)	3/22/2010	
The Public Safety Spectrum Trust (PSST)	9/6/2009	
The Public Safety Spectrum Trust (PSST)	12/3/2009	
The Public Safety Spectrum Trust (PSST)	3/3/2010	
The Public Safety Spectrum Trust (PSST)	3/18/2010	

Comments - Docket 09-51 (1/1/09 - Present)

Association of Public-Safety Communications Officials (APCO)	6/8/2009	
Association of Public-Safety Communications Officials (APCO)	11/12/2009	
Association of Public-Safety Communications Officials (APCO)	12/1/2009	
Association of Public-Safety Communications Officials (APCO)	12/22/2009	
Association of Public-Safety Communications Officials (APCO)	1/27/2010	
City of Phoenix	11/12/2009	
International Association of Fire Chiefs (IAFC)	12/4/2009	
National Association of State Chief Information Officers (NASCIO)	6/8/2009	
National Emergency Number Association (NENA)	6/8/2009	
National Emergency Number Association (NENA)	11/12/2009	
National Emergency Number Association (NENA)	12/1/2009	
National Emergency Number Association (NENA)	12/22/2009	

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**Public Safety Broadband
Comments and Ex Parte Filings
NBP PS BB and 700 MHz Proceeding**

National Public Safety Telecommunications Council (NPSTC)	7/21/2009	
National Public Safety Telecommunications Council (NPSTC)	12/22/2009	
NYC Department of Information Technology and Telecommunications	7/21/2009	
NYC Department of Information Technology and Telecommunications	11/6/2009	
NYC Department of Information Technology and Telecommunications	11/17/2009	
Stephen T. Devine	2/22/2010	
The Public Safety Spectrum Trust (PSST)	7/21/2009	
The Public Safety Spectrum Trust (PSST)	11/12/2009	
The Public Safety Spectrum Trust (PSST)	12/1/2009	
The Public Safety Spectrum Trust (PSST)	12/4/2009	
Waukesha County Department of Emergency Preparedness	11/22/2009	

Ex Partes - Docket 06-229 (2/17/09 - 3/17/10)

Association of Public-Safety Communications Officials (APCO)	9/23/2009	
Association of Public-Safety Communications Officials (APCO)	10/1/2009	
Association of Public-Safety Communications Officials (APCO)	10/2/2009	
Association of Public-Safety Communications Officials (APCO)	10/5/2009	
Association of Public-Safety Communications Officials (APCO)	11/12/2009	
Association of Public-Safety Communications Officials (APCO)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
Association of Public-Safety Communications Officials (APCO)	1/13/2010	et al
Association of Public-Safety Communications Officials (APCO)	3/15/2010	
International Association of Fire Chiefs (IAFC)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
National Emergency Number Association (NENA)	7/21/2009	
National Emergency Number Association (NENA)	8/14/2009	
National Emergency Number Association (NENA)	8/31/2009	
National Emergency Number Association (NENA)	8/31/2009	
National Emergency Number Association (NENA)	9/15/2009	
National Emergency Number Association (NENA)	9/15/2009	
National Emergency Number Association (NENA)	9/29/2009	
National Emergency Number Association (NENA)	10/6/2009	
National Emergency Number Association (NENA)	1/13/2010	w/APCO, IACP, IAFC, MCC, MCSA, Metro Chiefs, NEMA, NENA, NSA
National Emergency Number Association (NENA)	3/11/2010	
The Public Safety Spectrum Trust (PSST)	5/7/2009	
The Public Safety Spectrum Trust (PSST)	6/1/2009	

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**Public Safety Broadband
Comments and Ex Parte Filings
NBP PS BB and 700 MHz Proceeding**

The Public Safety Spectrum Trust (PSST)	6/4/2009	
The Public Safety Spectrum Trust (PSST)	6/18/2009	
The Public Safety Spectrum Trust (PSST)	6/29/2009	
The Public Safety Spectrum Trust (PSST)	11/4/2009	
The Public Safety Spectrum Trust (PSST)	11/18/2009	
The Public Safety Spectrum Trust (PSST)	12/9/2009	
The Public Safety Spectrum Trust (PSST)	12/15/2009	
The Public Safety Spectrum Trust (PSST)	3/3/2010	
Comments - Docket 06.229 (2/17/09 - 3/17/10)		
Association of Public Safety Communications Officials	9/22/2009	
Association of Public Safety Communications Officials	11/16/2009	
Bay Area Cities	10/19/2009	
City of New York	10/16/2009	
City of New York	11/17/2009	
Int'l Assoc. of Chiefs of Police	10/13/2009	
King County, WA	11/16/2009	
Major Cities Chiefs Association	10/16/2009	
National Emergency Number Association	10/16/2009	
National Public Safety Telecommunications Council	10/16/2009	
Public Safety Spectrum Trust	10/16/2009	
State of New Mexico	10/16/2009	
Virginia Counties	10/16/2009	

FCC and PSHSB have proactively reached out to the Public Safety Community on the Public Safety Broadband Network for Input and Recommendations

A continuing, open dialogue on promoting public safety broadband communications including speaking engagements across the country

- Thousands of pages of comments and dozens of ex parte presentations from public safety groups on the National Broadband Plan (GN Docket No. 09-51) and on the development of a nationwide interoperable public safety broadband network (PS Docket No. 06-229).
- Hundreds and hundreds of email exchanges, conference calls and telephone calls
 - Charles Werner of SAFECOM: 110 email exchanges, at least 14 calls or meetings
 - Dick Mirgon, President of APCO: 83 email exchanges, more than 22 meetings or calls
 - Harlin McEwen, CEO of PSST: 21 email exchanges, 22 meetings or calls
 - Brian Fontes and others at NENA: 30 email exchanges, 30 meetings or calls
 - Chuck Dowd of NYC and Chris Moore of San Jose: 5 meetings and 10 calls
- Scores of private meetings with individual leaders and groups, upon request both in Washington, D.C. and around the country.
- National Broadband Plan workshops on public safety and homeland security (Aug. 25, 2009) and cybersecurity (Sept. 30, 2009), and a field hearing at Georgetown University Medical Center (Nov. 12, 2009) on public safety communications and emergency response.
- A forum on creation of the Emergency Response Interoperability Center (Mar. 2, 2010)
- A symposium on the public safety and homeland security aspects of the National Broadband Plan (Mar. 31, 2010)
- Meetings in Las Vegas (Mar. 9, 2010) and Washington, D.C. (Mar. 15, 2010) to discuss the FCC's cost model for the public safety broadband network
- Multiple conference calls to discuss key policy matters such as roaming and priority access
- Public notices soliciting comment on such matters as the technical aspects of interoperability and a follow up call on interoperability issues
- Regular attendance at NPSTC meetings and NPSTC Broadband Task Force meetings
- Participation in the PSCR Shareholder Meeting (April 20-21, 2010) in Boulder, CO
- Meetings with representatives from the U.S. Conference of Mayors
- Briefing of the DOJ Tribal Working Group (May 27, 2010) on ERIC and the public safety broadband network
- 9-1-1 Gala (Mar. 16, 2010)
- Police Executive Research Forum (Mar. 19, 2010)
- National Governors Association (Apr. 1, 2010)
- SAFECOM Executive Committee conference call (May 12, 2010)
- NENA Conference (June 8, 2010) - Indianapolis, IN
- EAS Workshop – (June 10, 2010)
- UASI Conference – (June 22, 2010) – New Orleans, LA
- APCO Annual Conference and Expo – (August 2, 2010) – Houston, TX

**FCC and PSHSB meetings with the Department of Homeland Security
(DHS) regarding public safety broadband activities**

Meetings and Conferences with DHS

- July 26, 2010 – Call between Jamie Barnett and Greg Schaffer
- July 09, 2010 – Conference call scheduled DHS/OEC/DOJ/NTIA
- July 06, 2010 - Meeting w/Alan Bersin of DHS re: border issues and the public safety broadband network
- July 02, 2010 - Meeting w/DHS/DOJ
- June 28, 2010 - FCC/DHS/DOJ/DOC Teleconference
- June 25, 2010 - Lunch w/Jamie Barnett and Helen Domenici of DHS
- June 11, 2010 - FCC/DHS/DOJ Meeting
- June 10, 2010 - Meeting w/OEC re: NECP Update
- June 01, 2010 - Meeting w/Jamie Barnett and Robert "Dusty" Rhodes of DHS OEC
- May 19, 2010 – NTIA conference call with FCC/DHS/DOJ and others on public safety broadband
- May 18, 2010 – Jennifer Manner call to Chris Essid of OEC
- May 12, 2010 - SAFECOM Executive Committee Meeting (Jamie Barnett addressed)
- May 06, 2010 - NSTAC Annual Meeting (and sidebar discussion with DHS)
- April 30, 2010 - GETS/WPS User Council Meeting
- April 27, 2010 – Telephone conversation between Jamie Barnett and Chief Charles Werner of SAFECOM
- April 23, 2010 – Telephone conversation between Jamie Barnett and Greg Schaffer
- April 21, 2010 – Conference call with OEC
- April 19, 2010 – Telephone conversation between Jamie Barnett and Chief Charles Werner of SAFECOM
- April 16, 2010 – Telephone conversation between Jamie Barnett and Greg Schaffer
- April 15, 2010 - NCS Presentation on NBP
- April 5, 2010 – Telephone call between Jamie Barnett and Greg Schaffer to discuss public safety broadband plan and ERIC
- March 18, 2010 – Telephone conversation between Jamie Barnett and Chief Charles Werner of SAFECOM
- March 11, 2010 - Meeting w/FEMA
- March 08, 2010 - Meeting w/Peter Fonash
- February 26, 2010 - DHS Meeting on ERIC
- February 22, 2010 - Conference call w/Greg Schaffer
- February 04, 2010 - Call w/DHS
- February 03, 2010 – Shared significant data with DHS on ERIC, public safety broadband, etc.
- February 02, 2010 - Philadelphia Event DOJ/DHS/etc.
- January 28, 2010 - ERIC Meeting w/DHS
- January 27, 2010 - ECPC Executive Committee Meeting
- January 22, 2010 – Meeting at OMB with Greg Schaffer and Jamie Barnett to discuss ERIC funding and placement

- January 15, 2010 – Telephone conversation between Jamie Barnett and Chief Charles Werner of SAFECOM
- January 6, 2010 – Jennifer Manner call to OEC
- December 3, 2009 – Telephone call between Chief Charles Werner of SAFECOM and Jamie Barnett re: national broadband plan interview in Firehouse Magazine
- November 29, 2009 – Telephone conversation between Jamie Barnett and Chief Charles Werner of SAFECOM
- November 18, 2009 – Conference Call among Phil Reiting, Greg Schaffer and Jamie Barnett
- November 10, 2009 - Meeting w/DHS (Phil Reiting)
- November 05, 2009 - FCC/OEC Meeting at OEC
- October 30, 2009 - Meeting w/DHS re: National Broadband Plan
- October 23, 2009 – Meeting w/DHS re: National Broadband Plan
- October 16, 2009 - Meeting w/DHS Asst. Secretary for Policy
- October 14, 2009 - PSHSB/OEC coordination meeting
- October 02, 2009 - DHS Meeting w/Greg Schaffer
- September 28, 2009 - Meet and Greet w/FEMA Assistant Administrator
- September 17, 2009 - PSHSB/OEC coordination meeting
- July 7, 2009 - PSHSB/OEC coordination meeting

ECPC Executive & Steering Committee Meetings

- Steering Committee -- July 28, 2010
- Executive Committee -- July 21, 2010
- Steering Committee -- June 23, 2010
- Steering Committee -- May 26, 2010
- Steering Committee -- April 28, 2010
- Executive Committee -- April 21, 2010
- Steering Committee -- March 24, 2010
- Steering Committee -- February 24, 2010
- Executive Committee -- January 27, 2010
- Steering Committee Conference Call -- January 13, 2010
- Steering Committee -- November 20, 2009
- Executive Committee -- October 21, 2009

DHS Participation in PS Broadband Workshops (3)

- 1) Broadband Workshop: Public Safety and Homeland Security - August 25, 2009
Panelists: Charles Hoffman, Chief, Disaster Emergency Communications Programs, Disaster Emergency Communications Division, FEMA, and Daniel Phythyon, Chief, Policy, Planning & Analysis Division, Office of Emergency Communications, DHS
- 2) Broadband Workshop: Cyber Security - September 30, 2009
Panelist: Philip Reiting, Deputy Undersecretary, National Protection & Programs Directorate, DHS
- 3) Broadband Field Hearing: Public Safety Comms and Emergency Response - November 12, 2009

Keynote Speaker: Undersecretary Rand Beers, National Protection and Programs
Directorate, DHS

AGENDA

**THE ROLE OF BROADBAND IN IMPROVING PUBLIC SAFETY
COMMUNICATIONS AND EMERGENCY RESPONSE**

Broadband Field Hearing

In conjunction with Georgetown University Medical Center

Location: Leavey Center at Georgetown University, 3800 Reservoir Rd, NW, Washington, D.C. 20057

November 12, 2009

Time: 9:00 AM-2:30 PM

AGENDA

Summary: The field hearing will focus on public safety entities (EMS, Fire, Police, PSAPs) to determine specific broadband requirements, including applications, needed by each discipline to facilitate the utilization of broadband technologies to promote efficient, effective response and recovery capabilities. The discussion will include the requirements of the public safety community in terms of network features, applications, architecture and other aspects of the network including costs of implementing these technologies and the role of the National Broadband Plan in addressing these needs.

9:00 AM-9:15 AM—Welcome: Commissioner Mignon Clyburn

9:15 AM-9:30 AM—Welcome: Howard Federoff, M.D., Ph.D., Executive Vice President, Georgetown University Medical Center

9:30 AM-9:45 AM— Keynote—Undersecretary Rand Beers, National Protection and Programs Directorate, Department of Homeland Security

9:45 AM-10:45 AM—Panel 1—Emergency Medical Services (EMS) (Moderator: Jennifer Manner, Deputy Bureau Chief, PSHSB) How are broadband technologies and applications being utilized in the medical services arena and what future uses are needed or are being considered for use in the medical field? What is needed to make everyday use of these technologies a reality? What are the benefits to practitioners and the public of utilizing broadband technologies and tools?

Participants:

- Bruce McFarlane, Deputy Director, Emergency Preparedness Initiative, National Organization on Disabilities
- Kevin McGinnis, MPS, EMT-P, Communications Technology Advisor, Joint National EMS Leadership Conference (National Association of State EMS Officials, National Association of EMS Physicians, National Association of EMTs, National Association of EMS Educators)
- Dr. Richard J. Katz, Chief of Cardiology and Professor of Medicine, George Washington University

- Larry Flournoy, Associate Director, Academy for Advanced Telecommunication and Learning Technology, Texas A & M University (DREAM Ambulance Project)
- Jonathan D. Linkous, Chief Executive Officer, American Telemedicine Association

Government Participants:

- Jeffery Goldthorp, Chief, Communications Systems Analysis Division, PSHSB
- Robert Kenny, Director of Media Relations, PSHSB
- Timothy Perrier, Director, FCC Operations Center, PSHSB

10:45 AM-10:55 AM—Break

10:55 AM-11:55 AM— Panel 2—Police & Fire (Moderator—David Furth, Deputy Bureau Chief, PSHSB) How are broadband technologies, including applications, utilized in the police and fire arenas and what future uses are needed or are being considered for use in these fields? What is needed to make everyday use of these technologies a reality? What are the benefits to practitioners and the public by utilizing broadband technologies and tools?

Participants:

- Randall Hughes, Chief, Division of Telecommunications, Bureau of Indian Affairs
- Bob Pavlak, Chief Engineer, Public Safety Wireless Broadband, Office of the Chief Technology Officer, Government of the District of Columbia
- Eddie Reyes, Deputy Chief, Alexandria (VA) Police Department
- Tim Riley, Chief Information Officer, Bureau Chief, Los Angeles Police Department
- Greg Schaffer, Assistant Secretary for Cyber Security and Communications, Department of Homeland Security
- Richard Tuma, Director of Emergency Preparedness, Waukesha, WI

Government Participants:

- Jeff Cohen, Senior Legal Counsel, PSHSB
- Jeffery Goldthorp, Chief, Communications Systems Analysis Division, PSHSB
- Tom Peters, Director, Wireless Engineering, Broadband Task Force, FCC

11:55 AM-12:10 PM—Remarks from Commissioner Meredith Attwell Baker

12:10 PM-1:00 PM—Lunch

1:00 PM-1:15 PM—Remarks from Commissioner Michael J. Copps

1:15 PM-2:15 PM—Panel 3—Requirements Needed for Public Safety Mobile Wireless Network (Moderator—William Lane, Ph.D., Chief Engineer, PSHSB)

Participants:

- Bob Epsom, Senior Vice President & Chief Technology Officer, Enterprise Mobility Solutions, Motorola, Inc.
- Steve Harte, Associate Commissioner, Wireless Technologies, Department of Information Technology and Telecommunications, New York City
- Paul Mankiewicz, Ph.D., Chief Technology Officer, Wireless Networks, Alcatel/Lucent
- Dennis Martinez, Ph.D., Vice President of Product Management and Engineering, Broadband and Cellular Products, Harris Corporation
- Charles Werner, Chief, Charlottesville (VA) Fire Department; Executive Committee Chair, SAFECOM

Government Participants:

- Behzad Ghaffari, Senior Engineer, CSAD, PSHSB
- Walter Johnston, Chief, Electromagnetic Compatibility Division/Office of Engineering and Technology
- Jon Peha, Chief Technology Officer, FCC
- Ziad Sleem Associate Division Chief – Technical Spectrum and Competition Policy Division, Wireless Telecommunications Bureau

2:15 PM-2:30 PM—Closing Remarks—James Arden Barnett, Jr., Chief, PSHSB

Updates about the Federal Communications Commission's development of the National Broadband Plan can be found at www.broadband.gov. You can also follow us on Twitter at <http://twitter.com/FCC>.



FCC National Broadband Plan Staff Workshop
Public Safety and Homeland Security
August 25, 2009
9:00 AM–12:45 PM

Agenda:

- 9:00 am Welcoming Remarks—James A. Barnett, Jr., Rear Admiral (Ret.), Chief, Public Safety and Homeland Security Bureau
- 9:15 am Panel 1—First Responders Using Broadband Technologies to Advance Public Safety—Moderator—Jennifer A. Manner, Deputy Bureau Chief, PSHSB

This panel will examine how the National Broadband Plan (NBP) should reflect the current and potential uses of broadband to improve public safety communications and operations, including the utilization of the Internet and web-based applications. The panel will also examine issues that impact broadband deployment and/or technologies in the public safety arena, such as interoperability and cost and infrastructure limitations.

Panelists:

- Charles Brennan, Deputy Secretary, Commonwealth of Pennsylvania's Office of Public Safety Radio Service (OPSR)
- Stephen Carter, Vice President of Technology, Qualcomm
- Pete Eggimann, Chair, Operations Committee, National Emergency Number Association/ Director, 9-1-1 Services Metropolitan Emergency Services Board, St. Paul, MN; NG911 Trial Participant/ (Representing NENA and NG 911 Pilot Participant)
- Ralph Haller, Chair, National Public Safety Telecommunications Council (NPSTC)
- Glenn Katz, President and Chief Operating Officer, Spacenet, Inc.



- Harlin McEwen, Chair, Public Safety Spectrum Trust
- Bill Schrier, Chief Technology Officer & Director of Information Technology, City of Seattle (Representing APCO)

FCC/Other Government Agencies Moderating Panel:

- Jeffery Goldthorp, Chief, Communications Systems Analysis Division, PSHSB
- John Leibovitz, Deputy Chief, Wireless Telecommunications Bureau
- Kathryn Medley, Chief, Satellite Engineering Branch and Acting Chief, Systems Analysis Branch, International Bureau
- Erika Olsen, Senior Advisor, PSHSB
- Laurie Flaherty, Program Analyst, Office of Emergency Medical Services, National Highway Traffic Safety Administration, Department of Transportation
- Charles Hoffman, Chief, Disaster Emergency Communications Programs, Disaster Emergency Communications Division, FEMA
- Daniel Phythyon; Chief, Policy, Planning & Analysis Division; Office of Emergency Communications, DHS

9:50 am Panelist Discussion and Responses to Questions

10:45 am Comments from DHS' Office of Emergency Communications--
Daniel Phythyon; Chief, Policy, Planning & Analysis Division

10:50 am Comments from FEMA—Charles Hoffman; Chief, Disaster
Emergency Communications Programs, Disaster Emergency
Communications Division

10:55 am Break



11:05 am Panel 2—Homeland Security: Uses, Benefits and Challenges of Broadband Technologies in Large-Scale Events—Moderator—William Lane, Chief Engineer, PSHSB

This panel will examine ways in which broadband technology can enhance homeland security. The panel will explore how best to utilize broadband technologies to prepare for, respond to and recover from major natural disasters, pandemics, acts of terrorism, and cyber attacks. It will also focus on how public safety networks and applications can be secured and protected. The panel will also examine current and potential new applications and research that has been conducted in the managed-IP arena that could improve response to large-scale emergencies.

Panelists:

- Andrew L. Afflerbach, Ph.D.; P.E.; Chief Executive Officer; Director of Engineering; Columbia Telecommunications Corporation—(CTC) [Representing National Assn of Telecommunications Officers & Advisors—NATOA]
- Emmanuel Hooper, Ph.D., Senior Scholar and Researcher; Harvard University, Leadership for Network World; Harvard-MIT-Yale Cyber Scholar; Founder, Global Information Intelligence
- Murad Raheem, Branch Chief, U.S. Department of Health and Human Services; Office of the Assistant Secretary for Preparedness & Response; Information Technology, Electronics & Communications
- Marc Sachs, Executive Director, National Security and Cyber Policy, Office of Federal Government Relations, Verizon Government Affairs
- Steve Souder, Director, Fairfax (Virginia) Department of Public Safety Communication



FCC/Other Government Agencies Moderating Panel:

- Jeff Cohen, Senior Legal Advisor, PSHSB
- Jon Peha, Chief Technology Officer, FCC
- Dr. Carlos Kirjner, Senior Advisor to the Chairman on Broadband
- Charles Hoffman, Chief, Disaster Emergency Communications Programs, Disaster Emergency Communications Division, FEMA
- Daniel Phythyon; Chief, Policy, Planning & Analysis Division; Office of Emergency Communications, DHS

Public Input

The Commission seeks public input regarding questions to ask at the workshop. Questions can be e-mailed to the Workshop

Coordinator prior to the workshop at Jennifer.manner@fcc.gov. During the workshop, audience members—both in the room and online—will have the opportunity to suggest questions in writing. Questions will be reviewed and, time permitting, could be asked by the moderator. Additionally, there will be an opportunity to submit written comments in response to the staff workshops.

APPENDIX II

QUESTIONS FROM CHAIRMAN BENNIE G. THOMPSON OF MISSISSIPPI FOR JAMES ARDEN BARNETT, JR.

Question 1. What discussions, if any, did the FCC have regarding the possibility of levying a fee within the telecommunications industry to assist in the funding of a Nation-wide, public safety broadband network? What is the status of this type of funding proposal?

Answer. The National Broadband Plan (NBP) recommends public funding for both capital expenses for construction of the Nation-wide interoperable public safety broadband network and on-going expenses for the operation, maintenance, and evolution of such a network. With regard to those operational expenses, however, public funding will likely not be enough. Thus, the NBP recommends that Congress consider imposing a nominal public safety fee on all U.S. broadband users. Such a fee could be assessed on the communications industry. Congress would have to authorize the creation of such a fee and its administration. The NBP recommends that Congress should explore creating such a funding mechanism in fiscal year 2011, but no later than fiscal year 2012. The NBP leaves the source of funding network construction and operation to the discretion of Congress, but the suggestion of funding on-going expenses through this mechanism is a still valid and active proposal. The complete NBP proposal is available at: <http://www.broadband.gov/plan/16-public-safety/#s16-1>.

Question 2. Under the National Broadband Plan, how would commercial providers prioritize spectrum use among fire and police in one or multiple jurisdictions, or among State and Federal officials?

Answer. Under the National Broadband Plan, commercial providers would have no say in how public safety agencies use and prioritize among themselves when they are operating on the public safety broadband spectrum that constitutes the core of the network. A fundamental principle of the NBP proposal is that public safety would control its own core network, preserving as many options to itself as reasonably possible for determining how the public safety spectrum would be used. With regard to priority access and roaming by public safety on commercial spectrum, the NBP recommends that the FCC should conduct a rulemaking that would require commercial providers to allow public safety users priority access to commercial broadband networks in the 700 MHz band. The NBP also anticipates that both commercial and public safety networks in the 700 MHz band would use LTE technology, which has 15 levels of prioritization that will facilitate such priority access arrangements. Addressing how prioritization will function for commercial networks would be one of the matters addressed in the recommended rulemaking.

Question 3. Under the National Broadband Plan, what contingency plans are in place to provide continued operation and priority access to public safety if commercial networks are down or unable to provide priority access because they are overloaded?

Answer. First, under the NBP, public safety will always have its own network on which to rely, and public safety will be able to govern and control usage and priority on this dedicated network. Public safety would only roam onto, and obtain priority access on, commercial broadband networks when the public safety network is at capacity or otherwise unavailable. Second, the NBP contemplates that, in those circumstances, public safety could have access to multiple commercial networks for roaming and priority access services. Being able to access multiple commercial networks in this manner provides greater reliability and redundancy to public safety than relying solely on a single commercial network, and increases the options for public safety in the event that some commercial facilities become disabled or congested. In short, under the NBP's analysis, the most resilient and reliable plan is to have a high-capacity, hardened public safety network that is backed up by multiple independent commercial networks, if and when they are needed.

Question 4. How does the National Broadband Plan ensure we have a reliable and interoperable network for rural communities? Conversely, how would reallocating the D Block to public safety affect build-out in rural areas?

Answer. A critical focus of the NBP is to ensure that rural communities will have access to a Nation-wide public safety broadband network. To ensure this, the NBP recommendations rely on two major tools. First, the NBP recommends that there be sufficient funding, both for capital and on-going expenses, to ensure coverage and service to 99 percent of the Nation's population. Second, by recommending the auction of the D Block, the NBP establishes a framework for leveraging commercial economies of scale and reducing equipment costs for the benefit of public safety, thus making public safety network deployment and operation in rural areas more affordable. Specifically, making the D Block available for commercial use creates incentives for stimulate development of consumer-priced devices and equipment, and provides multiple potential partners for public safety network deployment and operation. In this respect, the NBP seeks to bring greater economic efficiencies to the public safety marketplace that would enable lower cost devices for public safety and a more cost-effective Nation-wide network deployment.

Reallocating the D Block to public safety has the potential to negatively impact rural build-out by increasing its cost. If public safety is unable to leverage the economies of scale in the consumer electronic marketplace, the cost of the public safety network could potentially rise from approximately \$6.5 billion for construction costs and approximately \$8–10 billion in operating costs to an estimated combined total of \$35–\$48 billion over 10 years.

Further, the D Block and the public safety broadband spectrum make up what is called "Band 14" in the 700MHz band for equipment development purposes. Without a commercial carrier in the D Block portion of Band 14, the pool of potential users of Band 14 equipment is likely to be reduced dramatically, providing less incentive for equipment manufacturers to develop or upgrade products. Without the ability to capitalize on consumer electronic market research and development, and choose from a broad array of commercial equipment manufacturers, public safety users risk being saddled with disproportionately high costs for communications equipment and devices that are rapidly outdated and not readily replaceable. These high costs could have a particularly harmful impact on the feasibility and affordability of extending the network to rural areas.

In short, reallocating the D Block may threaten to put the public safety broadband network out of reach for many communities, including those in rural areas. Delaying deployment may also damage any ability to leverage commercial deployments now or in the future, and makes it more likely that Nation-wide interoperability will not be achieved in any reasonable amount of time.

QUESTION FROM HONORABLE DINA TITUS OF NEVADA FOR JAMES ARDEN BARNETT, JR.

Question. As you may know, I represent Southern Nevada, a popular business and vacation destination for millions from around the world and home to hundreds of thousands of hotel rooms. On any given weekend, we have thousands of tourists who most likely know next to nothing about local emergency procedures. Because of this unique dynamic, it is imperative that the private sector institutions, like hotels and other attractions, work seamlessly with public safety officials. It is vital that public safety officials are able to send and receive information from the private sector, especially during an emergency.

As this discussion and decision-making process continues, I hope that a solution can be found that not only leverages the lower-cost devices and expertise of the private sector, but also provides public safety agencies and officials the ability to improve and increase their communications capabilities.

Mr. Barnett, as the Chief of the Public Safety and Homeland Security Bureau of the FCC, can you please outline what considerations were made for the types of public-private partnerships that exist in Las Vegas during the development of the National Broadband Plan? Did you consult public safety officials from areas where these partnerships are critical? As currently written, do you estimate the NBP will have any type of impact on these types of public-private partnerships?

Answer. Access to public safety spectrum in the 700 MHz band is governed by Section 337 of the Communications Act, as amended, 47 U.S.C. § 337. As part of a pending rulemaking proceeding and during development of the NBP, the FCC has been carefully evaluating how to best enable public-private partnerships that will foster the rapid and cost-effective deployment of the public safety broadband network. One of the open issues that the FCC continues to evaluate is whether the FCC has statutory authority under Section 337 to permit non-public safety users to

utilize public safety spectrum in the 700 MHz band. In considering this issue, the FCC is also evaluating how to ensure that if such users have access to the network, public safety will retain primary access to the spectrum when it needs it most. Accordingly, while we recognize that such partnerships can play a critical role during emergencies it is also necessary to create a regime that is balanced and ensures that public safety has access to the network capacity that it needs when it needs it.

QUESTIONS FROM CHAIRMAN BENNIE G. THOMPSON OF MISSISSIPPI FOR GREGORY SCHAFFER

Question 1. Please discuss how the Department of Homeland Security (DHS) was included in the FCC's efforts to develop the National Broadband Plan's D Block auction recommendation?

Answer. Consistent with the Federal Communications Commission's (FCC) role as an independent regulatory agency, the FCC did not share specifics with the Department of Homeland Security (DHS) or the Emergency Communications Preparedness Center (ECPC) regarding its final recommendations in advance of the public release of the National Broadband Plan, including any final D Block decisions.

As the FCC's Public Safety and Homeland Security Bureau developed the Public Safety elements of the Plan, the Bureau provided the Office of Emergency Communications (OEC) with a number of briefings on options under consideration, especially those concerning the proposed Nation-wide public safety broadband network. OEC, in turn, provided general comments to the Bureau, particularly on outreach to State and local emergency responders. Prior to the FCC's release of its Plan, OEC facilitated a meeting of the SAFECOM Executive Committee, during which the Bureau briefed SAFECOM members on likely recommendations in the Plan. DHS also participated in several public workshops sponsored by the FCC to gather input for the development of its Plan. Additionally, the FCC provided briefings to the ECPC on its development of the National Broadband Plan.

Question 2. The FCC's National Broadband Plan does not mention DHS's National Emergency Communications Plan that Congress required DHS to develop and update. Were efforts taken to align the National Broadband Plan (NBP) with the National Emergency Communications Plan (NECP)?

Answer. The Department of Homeland Security (DHS) released the National Emergency Communications Plan (NECP) in July 2008 to drive advancements in operability, interoperability, and continuity of communications at all levels of government. The NECP primarily focused on traditional emergency communications, such as land mobile radio technologies, while also stressing the importance of planning for new, emerging technologies such as broadband.

The Federal Communications Commission's (FCC) National Broadband Plan (NBP) references the NECP and DHS's efforts to implement the goals of the NECP in Chapter 16, "Public Safety" (p. 328). That section of the NBP also identifies the 700 MHz spectrum band as ideal for deploying a Nation-wide wireless broadband network for use by first responders. Since release of the NBP, OEC has been working in concert with Federal, State, local, territorial, and Tribal public safety representatives, including the FCC, to update the NECP so that it accounts for the planned deployment of a Nation-wide public safety network. DHS, via the NECP, also addresses key issues that impact the public safety community regardless of the use of current (land mobile radio) or emerging (broadband/4G) technologies, such as governance, planning and partnerships, training, requirements, standards, and research and development.

Question 3. Please describe in detail the questions and issues that need to be resolved before a final decision on the D Block is made, particularly the technical and legal aspects of the framework for priority access and roaming.

Answer. The administration and the Department of Homeland Security (DHS) support public safety's need for broadband communications that meet their mission requirements. As DHS evaluates any potential plan to develop and deploy a Nation-wide public safety broadband network, it is focusing on the following technical and legal aspects:

- First and foremost, interoperability must be built into any broadband network architecture from the outset.
- We must use lessons learned from the development of land mobile radio (LMR) technologies and avoid developing systems that are not built to open standards. Unless industry uses open standards emergency response communication equipment will be unable to interoperate without substantial investment in expensive add-on components.
- Second, network coverage in both urban and rural areas is essential.

- Emergency responders across the entire range of response official—from metropolitan police departments to rural county volunteer fire departments—must benefit from broadband communications capabilities to meet their mission requirements.
- Third, the solution must allow public safety devices to heavily leverage commercial technology.
 - If public safety and commercial providers can leverage common infrastructure, chipsets, and base station technologies which also meet public safety requirements, both sides will benefit.
- Fourth, any solution must provide a path for the network to evolve and grow, progressively adding greater capability and providing better mission support.
 - Technical specifications on how standards, such as Long Term Evolution, should be implemented.
 - An interface that will allow for roaming among early adopters (waiver cities) and eventually across the Nation-wide public safety broadband network.
 - A test and evaluation process to ensure that emerging technology meets specifications to enable interoperability across systems.

Our efforts are focused on ensuring that public safety has the capabilities to communicate as needed, on demand, and as authorized at all levels of government and across all disciplines. Ultimately, the development of a Nation-wide public safety broadband network must meet the needs of public safety. Under the Federal Communications Commission's (FCC) proposal, public safety communications would transition into a commercial environment characterized by increased infrastructure to maximize spectrum reuse and the utilization of commercial devices and base station technology to achieve significant cost and capability advantages for public safety users and the Nation. We believe that the FCC's proposal has merit, with a number of significant caveats. Any final decisions about the public safety broadband network must address the following issues:

- First, the FCC's proposal relies on development of a new generation of technical capabilities and additional legal authorities, which are intended to allow public safety to roam onto commercial spectrum with priority access in emergency events. Both the technical and legal frameworks for this type of plan must be evaluated, and capacity and capability outcomes understood, before any decision can be made regarding the spectrum requirements for public safety.
- Second, the FCC's plan will necessitate sufficient funding to build out the infrastructure required for the network. Effective network operations require that sufficient cell sites and base stations be built out and that the network be hardened as appropriate. One significant advantage of the FCC's plan is that network costs are expected to be significantly less than other alternatives, and costs are of course an important factor for public safety.
- Third, the FCC expects that commercial networks can ultimately be enabled to handle not only mission-enhancing public safety data communications traffic but eventually, mission-critical public safety voice traffic as well. While the use of Long Term Evolution wireless broadband technology as a replacement for existing public safety voice-traffic systems is years away, it is essential that significant efforts be undertaken now to solve the following critical technical challenges associated with public safety use of commercial networks:
 - The networks and associated equipment must be able to operate in a one-to-many mode, as LMR systems do today, in addition to the one-to-one mode of typical commercial cellular phone systems;
 - The networks and associated equipment must be able to operate peer-to-peer (or handset-to-handset) in the event of network outages;
 - The networks must be able to provide clear understandable voice communications in high-noise environments like burning buildings, and with minimal voice delay; and
 - The networks must be able to penetrate to and from the interior of large buildings without significant degradation of capability.

Although we are focused on the above-referenced questions at this time, we also recognize that additional issues may be identified as DHS works along with other members of the administration to research the particulars of the FCC's plans and as more details about the capabilities of new 4th generation communications technologies become available.

Question 4. Do you believe the FCC's Emergency Response Interoperability Center (ERIC) should be located within the Department of Homeland Security? If not, what functions do you think DHS should perform in relation to the ERIC?

Answer. Given the regulatory and technical responsibilities of the Emergency Response Interoperability Center (ERIC) concerning the operation of the Nation-wide public safety broadband network, the ERIC is appropriately located within the Fed-

eral Communications Commission (FCC). The Department of Homeland Security (DHS) will have a leadership position within ERIC by providing a detailee to serve as Deputy Director. At the same time, DHS and other Federal entities also have statutory responsibilities regarding emergency communications. As a result, DHS and other appropriate Departments are working to develop a Memorandum of Understanding (MOU) to form a partnership, in order to provide consistent and integrated Federal support for the Nation-wide public safety broadband network and to synchronize their on-going activities, including their coordination and consultation with State, local, and Tribal public safety organizations with ERIC functions. This partnership will leverage the unique capabilities of each Department with respect to non-regulatory matters, and enable each party to execute its preexisting statutory duties in a coordinated manner.

Although the governing MOU is still in progress, the following functions are representative of the partnership's proposed activities:

- Establish policies and strategic plans, to coordinate the roll-out of the proposed Nation-wide public safety broadband network;
- Ensure the availability of technical assistance to eligible parties at all levels of government (including quasi-governmental responders) to facilitate the rapid development, deployment, and adoption of the network and its integration into day-to-day operations;
- Develop coordinated guidance, applicable to all Federal programs that provide grants or other financial assistance for activities in connection with the network, that encourages planning and training for broadband capabilities and supports the adoption of the network at the most rapid possible rate;
- Coordinate Federal activities in support of development, testing, and evaluation for technologies related to the network;
- Coordinate administration positions on proposed FCC actions, notices, etc. affecting public safety communications in connection with the operations of the network for submission to the National Telecommunications and Information Administration;
- Develop and implement procedures, where possible, for the resolution of disputes arising among or between network operators, users, and other stakeholders, including informal procedures that can seek to resolve those disputes prior to formal ERIC regulatory and enforcement activities; and
- Collaborate with the ERIC to ensure that all ERIC actions are successfully integrated with relevant planning processes and governance structures and to facilitate the effective deployment and adoption of the proposed network.

QUESTION FROM HONORABLE DINA TITUS OF NEVADA FOR GREGORY SCHAFER

Question. As you may know, I represent Southern Nevada, a popular business and vacation destination for millions from around the world and home to hundreds of thousands of hotel rooms. On any given weekend, we have thousands of tourists who most likely know next to nothing about local emergency procedures. Because of this unique dynamic, it is imperative that the private sector institutions, like hotels and other attractions, work seamlessly with public safety officials. It is vital that public safety officials are able to send and receive information from the private sector, especially during an emergency.

As this discussion and decision-making process continues, I hope that a solution can be found that not only leverages the lower-cost devices and expertise of the private sector, but also provides public safety agencies and officials the ability to improve and increase their communications capabilities.

I want to ask you to share the Department's perspective on this issue of public-private sector interoperability. When developing DHS's position on the NBP, do you consider public-private partnerships? Does DHS believe that the NBP can be used to improve and expand these partnerships? How so? What steps is DHS taking to ensure that these recommendations are implemented effectively?

Answer. The Department of Homeland Security (DHS) strongly encourages public/private partnerships and values the expertise that the private sector is able to provide to the public safety community. DHS supports the vision of a National public safety broadband network, which leverages commercial technologies and applications, to meet public safety and emergency response requirements. By design, the adoption by the public safety community of the commercially-based long-term evolution (LTE) standard as the air interface for the network, and the Federal Communication Commission's (FCC) adoption of this recommendation in its National Broadband Plan, opens up new opportunities for partnerships between first responders and the private sector. DHS is continuing to collaborate on further consideration and implementation of these recommendations with the FCC and other Federal

agency members of the Emergency Communications Preparedness Center (ECPC), and will include recommendations for effective implementation of partnership opportunities in its updated National Emergency Communications Plan (NECP).

The planned deployment of new fourth generation, or 4G, mobile technologies by many commercial carriers over the next several years presents a historic window of opportunity to secure a range of high-speed, cutting-edge, inherently interoperable capabilities for our Nation's public safety and emergency response community. These new technologies can be leveraged to augment the existing land mobile radio (LMR) solutions that the public safety community currently uses to perform its vital mission: Delivering a robust, operable, and interoperable Nation-wide public safety network. This improved network would support rural jurisdictions and urban areas alike, ensuring that all emergency responders have access to the new capabilities. If employed effectively, it will facilitate the development of new technologies tailored to public safety.

QUESTIONS FROM CHAIRMAN BENNIE G. THOMPSON OF MISSISSIPPI FOR ROBERT
LEGRANDE, II

Question 1. How would reallocating the D Block to public safety ensure the build out of a Nation-wide, interoperable emergency communications network in our rural communities?

Answer. The FCC's plan to fund network build out in all areas, combined with the reallocation of the D Block will "ensure" National network build out. The plan directs a local government-driven approach and addresses the key problem with universal build-out; funding. Further to the plan, I suggest a shared D Block spectrum lease option (page 6) that will allow local jurisdictions to share spectrum and thereby by address the lack of commercial broadband availability in rural areas. Some may suggest that this recommendation supports a regional auction approach; however, we tried a one-size-fits-all auction option for public safety in 2008 and it did not work. We should provide the State and local governments with the flexibility to do what is in their best interest. This approach will satisfy the rural and National carriers as they may gain access to the D Block spectrum in some areas without an auction cost. Some may also suggest that this recommendation is too complicated for many rural governments. In my opinion, any solution we choose will be complicated; which is why I recommend leveraging the National Network Build Process on pages 7 and 8. This proactive process allows the Federal Government and PS organizations to work with State and local governments throughout the network development lifecycle and will promote efficient network designs and sound, sustainable business solutions.

Question 2. What are public safety's spectrum needs for catastrophic events versus other less severe disasters and normal operations?

Answer. The FCC produced a network capacity document that says 10MHz of 700MHz spectrum is enough for all events, while New York City and the District of Columbia produced documents that say we will need at least 20MHz. The fair answer to this question is that no one knows with absolute certainty . . . Every catastrophic event is different, as is less severe disasters and normal operations. In one case you may need the Federal Department of Transportation, the CIA, and State and local first responders and in another you may need regional and National responders. Further complicating this issue is the exponential increase in wireless broadband solutions and devices. 5 years ago no one knew what an iPhone or Droid PDAs were. Now they dominate the market and strain our existing commercial networks. The only thing we know for certain is that 5 years from now, after many commercial and PS LTE networks are built, there will be newer and more innovative solutions and devices all requiring increased bandwidth and it is for this reason that we must provide PS the D Block spectrum to ensure we have enough spectrum to meet their communications needs today and tomorrow.

Question 3. Some who support the auction of the D Block suggest that public safety uses spectrum inefficiently and does not understand the full capabilities of broadband. What insight can you provide on these claims that public safety utilizes broadband inefficiently and does not understand the full capabilities of broadband?

Answer. In the past, spectrum was given to PS in non-contiguous chunks and this has resulted in inefficient network designs. PS has made many steps forward to more efficient spectrum use and network designs. Neither industry nor the FCC promoted the first PS wireless broadband network leveraging commercial technology 6 years ago. This was accomplished by the District of Columbia Government. PS continues to promote efficient spectrum use as evidenced by the New York State Association of Counties model outlined in page 10 of this document. Here 57 counties in the State of New York have agreed to the same spectrally efficient technology

(LTE), to leverage the same BB radio frequency (700MHz), and to a comprehensive State-wide network design that saves money while ensuring local control. These efforts, along with many other PS 700MHz broadband efforts in America are evidence of PS' willingness and determination to move away from inefficient spectrum use and thereby fully leverage the capabilities of broadband wireless communications.

ATTACHMENT A.—RECOMMENDED PUBLIC SAFETY NATIONAL BROADBAND APPROACH



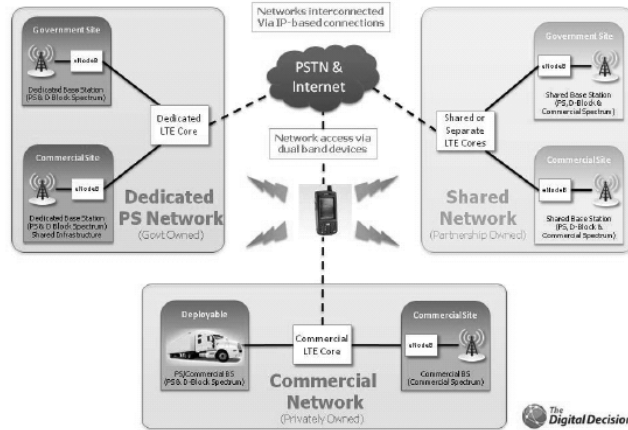
Attachment A: Recommended Public Safety National Broadband Approach



Recommended Public Safety National Broadband Approach

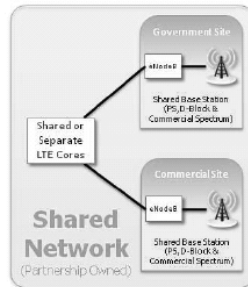
Presented by
Robert LeGrande, II.
Former CTO, District of Columbia Government
CEO, The Digital Decision, LLC
www.thedigitaldecision.com

Dedicated PS, Public-Private(Shared), and Commercial LTE networks working together to provide comprehensive PS BB Communications



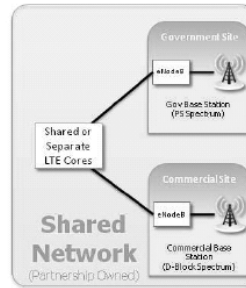
Public-Private(Shared) Options

Shared Infrastructure

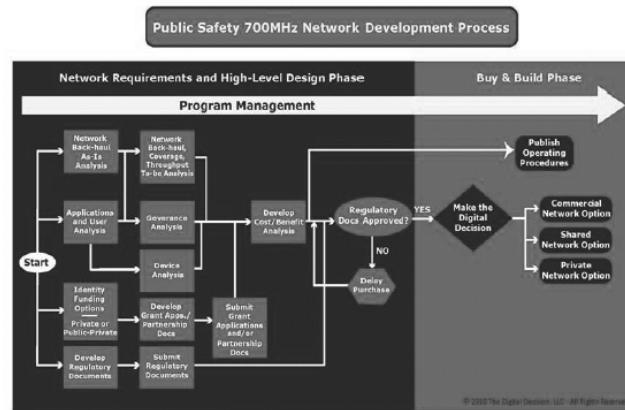


- Partnership to construct and deploy Commercial and PS networks
- PS maintains day to day control over the PS and D block spectrum

D-Block Leased Spectrum



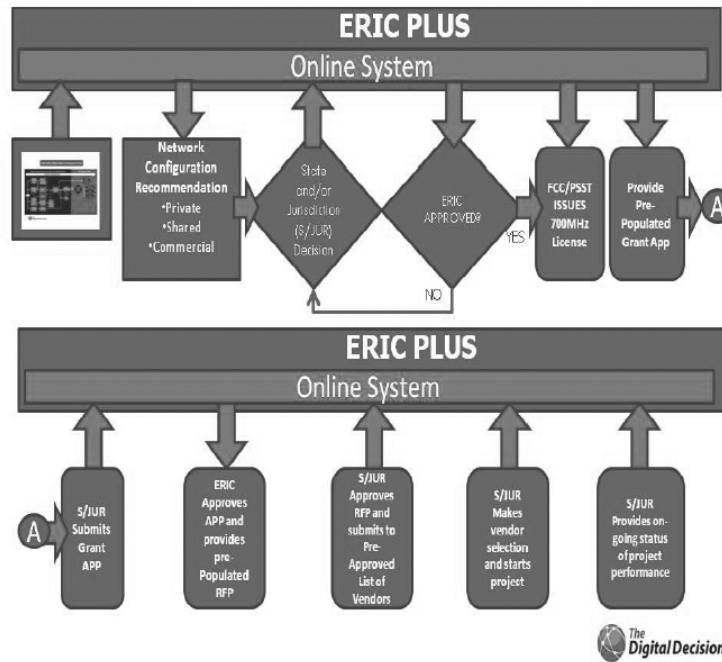
- PS partners with a commercial carrier via a RFP process to construct and deploy a private network on the PS spectrum and Public/Private network on the D-Block Spectrum
- PS maintains day to day control over the PS spectrum and defines the level of priority access needed for the D-Block spectrum



*The above process outlines the critical steps needed to determine the "appropriate" network configuration for a State and/or local jurisdiction.

*Following a uniform network development lifecycle for all State/Jurisdictions will result in more efficient network architectures as well as standardized, seamlessly interoperable operating procedures.

Recommended National Network Build Process





Recommended National Network Build Process Benefits

- Online application requires all PS700MHz network licensees to follow a uniform network deployment approach
- Expedites all phases of network deployment
- Online system populates national public Safety communications database with detailed user, application, governance and design information
- Produces a recommended network configuration which ensures technical and operational interoperability
- Identifies all public/private partnerships nationally
- Identifies which jurisdictions have national commercial roaming and which don't
- Can be used to identify the location of PS communications assets (Cows, devices, Sat phones, etc)
- Allows us to see where we still lack communications on an ongoing basis
- Allows for day to day status of national network build out
- Sets a national network technical, governance, application and user baseline that will make changes in the future more manageable and therefore achievable
- The Online system provides critical data needed to establish and maintain a National Network Operations Center (NNOC)
- Once we start the migration from LMR to BB, we will be able to leverage the online system to manage this very sensitive transition





700MHz Public Safety Wireless Broadband Communications The New York State Association of Counties (NYSAC) Model: State Coordinated-County Built and Operated

- One Waiver/Application for authorization to deploy and operate
 - The New York State waiver authorizes all counties to access the 700MHz Public Safety Broadband spectrum. As such, the State will be sending each county a Spectrum Agreement that stipulates requirements of network use based on the FCC's regulations.
- One Grant Application for all Counties outside of NYC:
 - NYSAC in partnership with the State has submitted a NTIA Round #2B application for a State coordinated County built and controlled "system of systems" network within New York that leverages both existing county and state infrastructures.
- One network deployment program with County vendor selection, County implementation and County control and operations:
 - NYSAC plans to "Qualify" vendors for county build-outs via a single procurement through one county.
 - NYSAC's goal: To enable counties to write task orders and select from a list of qualified vendors.
- This streamlined approach creates a state-wide FCC license, grant application, procurement, as well as technical and programmatic efficiencies while ensuring local control and interoperability.
- Should federal funding become available for this critical public safety initiative, NYSAC will work in partnership with the State of New York and NYC to revolutionize public safety communications in New York.

For more information on the NYSAC model contact:
Katy Vesco (516) 466-1473 or
Robert LeGrande (703) 344-1819



QUESTIONS FROM CHAIRMAN BENNIE G. THOMPSON OF MISSISSIPPI FOR ERIC GRAHAM

Question 1. Do you believe the National Broadband Plan's recommendation to auction the D Block would ensure the build out of a Nation-wide, interoperable emergency communications network in rural communities?

Answer. While an auction of the D Block facilitates the build out of a Nation-wide, interoperable emergency communications network in rural communities by providing immediate funding, the actualization of this network is also dependent on mandating interoperability throughout the 700 MHz spectrum.

As discussed in the written testimony, true interoperability—not only interoperability amongst the different public safety entities throughout the country but also with all commercial 700 MHz networks operating on the same Long Term Evolution

(LTE) technology—is required to have Nation-wide service. Partnership with commercial providers is necessary to build out the public safety network in an economical way. This partnership is only possible in areas where commercial providers are building out their own 4G LTE 700 MHz networks.

The current band classes, as established by the 3rd Generation Partnership Project (3GPP), create spectral islands through different band classes for the D Block and the existing Public Safety Spectrum (Band Class 14), the Upper C Block (Band Class 13), the Lower A, B, and C Blocks (Band Class 12), and the Lower B and C Blocks (Band Class 17). Under this band plan, devices used on the public safety network would only work on networks that are technologically compatible with Band Class 14.

Rural and regional wireless providers hold a significant amount of Lower A Block 700 MHz spectrum which will operate on Band Class 12. These providers are not only more likely to operate in rural communities already, but they also must meet geographic build out requirements which ensure that coverage with these licenses will be broad-based and not just confined to cities and towns. Geographic build out requirements ensure that networks are deployed in rural communities, as opposed to population-based build out requirements that entice a license holder to build out first to the highest population urban areas and expand service to rural areas subsequently, if at all. This build out requirement makes Lower A Block licensees ideal partners for constructing the public safety network in rural areas.

If interoperability is not required, public safety users will not have the ability to partner with, or even roam on, rural and regional holders of Lower A Block spectrum like Cellular South. In the event of a disaster such as Hurricane Katrina, public safety responders will be required to roam onto additional spectrum held by commercial providers. For the additional capacity, roaming onto spectrum held by commercial providers will provide not only 10 MHz of additional capacity but allow access to up to 70 MHz of 700 MHz broadband spectrum. Under the current band plan, first responders would be technically barred from roaming onto these networks in places operating on differing band classes. This means that even in areas where a 700 MHz LTE network is operational, public safety network users would be unable to roam onto the commercial 700 MHz network for additional capacity or if the public safety network goes down.

In order to ensure the build out of a Nation-wide, interoperable public safety network in rural communities, full interoperability throughout the 700 MHz broadband spectrum must be mandated in addition to auctioning the D Block to provide adequate revenue to build the network in all areas of the Nation.

Question 2. How would rural America be affected if Congress reallocates the D Block to public safety?

Answer. If Congress reallocates the D Block to public safety, it is unlikely that the public safety network will be built out and operational in rural America in the near future, if ever. Reallocating the D Block to public safety will immediately eliminate an estimated \$2–\$3 billion—possibly more based on Auction No. 73 spectrum valuations—that could be used to build out the public safety network, and it will do so without creating an appropriate alternative funding mechanism to ensure that public safety can deploy a network throughout the Nation in a timely manner.

Question 3. If the D Block is reallocated to public safety, do you believe sufficient revenue for network build out and operation could be obtained by the leasing of spectrum to commercial providers, particularly in rural areas of the country?

Answer. Any uncertainty will lead to lower revenue.

Due to the significant capital investment necessary to build, maintain, and operate wireless networks, regulatory and operational certainty are crucial before wireless providers are willing to invest in next-generation networks. Spectrum auctions provide the greatest certainty for licensees because bidders know the terms of the license in advance of the auction, including terms for renewal. Some have speculated that the D Block auction failed in Auction No. 73 due to the uncertainty of the terms surrounding that spectrum. Although Cellular South believes that the geographic size of the license was the greatest factor leading to the D Block's failure to reach its reserve price, there is no doubt that the uncertainty surrounding the terms of that license was a factor as well.

If the D Block were reallocated and then leased for commercial use, there would still be tremendous uncertainty surrounding that spectrum. The Commission or Congress would be forced to set forth uniform lease terms, or risk a patchwork of lease terms that vary from jurisdiction to jurisdiction. Renewal terms would require a high level of certainty, or lessees would not make the capital investments necessary to build and maintain a high-quality network. The incentive to invest would decrease over time as the lease term expires. Additionally, it would be very unlikely that a service provider would build new towers—thus increasing coverage—if the

carrier risked losing its lease at the end of a term. These problems are avoided when spectrum is licensed through the auction process with build-out based renewal terms that are not subject to future increases in lease prices.

Absent interoperability throughout the 700 MHz spectrum, rural and regional providers are unlikely to lease the D Block spectrum for two reasons. First, many rural and regional providers made significant investments in 700 MHz spectrum and already have access to this spectrum. Second, the commercial equipment in the 700 MHz band will not be able to operate on the D Block spectrum. Therefore, although leasing spectrum from a reallocated D Block may yield funding for the public safety networks in urban areas, where greater population densities lead to increased spectral demand, it is unlikely this plan would secure appropriate revenue amounts in a realistic timeframe to build and operate a public safety network in rural areas. Further, as with commercial networks, public safety networks are more likely to experience greater spectral demands in urban areas, meaning that the demand for leased spectrum would exist primarily in areas where public safety networks need additional capacity most and the spectrum available for lease to commercial providers would exist in areas without such demand for either public safety or commercial carriers. This is not the solution to provide funding to ensure that first responders have the network they need.

In contrast, auctioning the D Block could introduce additional commercial competitors into the 700 MHz space, while providing immediate funding for the public safety network in urban and rural areas alike.

In either case, it is imperative that Congress mandate interoperability throughout the 700 MHz broadband spectrum to ensure that all wireless users who access any portion of paired 700 MHz spectrum will have the capability to access all compatible networks operating on paired 700 MHz spectrum. This would further increase the value of the D Block spectrum, whether at auction or through a spectrum lease, increase economies of scale for mobile broadband public safety devices, and would allow the greatest possible flexibility for all wireless users.

