Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
Public Safety and Homeland Security	)	
Bureau Seeks Comment on Interoperability,	)	PS Docket No. 06-229
Out of Band Emissions and Equipment	)	
Certification for Public Safety Broadband	)	
Networks.	)	

COMMENTS OF
THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

The National Public Safety Telecommunications Council (NPSTC) submits these Comments in response to the Commission's Public Notice, DA10-884, released May 18, 2010. This Public Notice referenced the Commission's grant of twenty-one waiver requests to allow 700 MHz public safety broadband deployment and seeks further comment on interoperability, out-of-band emissions, roaming, prioritization and other issues surrounding public safety broadband network interoperability. The comments to this Public Notice can help guide the Commission regarding deployment by 700 MHz broadband waiver grantees and can serve as a basis upon which to propose final rules for the public safety broadband network. [1]

NPSTC provides the comments herein with the goal of enabling those waiver grantees to move forward to deploy systems that meet their local operational requirements and provide for nationwide interoperability.

[1] *See* Public Notice, DA 10-884, PS DS Docket No. 06-229, released May 18, 2010.

The National Public Safety Telecommunications Council

The National Public Safety Telecommunications Council is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

American Association of State Highway and Transportation Officials
American Radio Relay League
Association of Fish and Wildlife Agencies
Association of Public-Safety Communications Officials-International
Forestry Conservation Communications Association
International Association of Chiefs of Police
International Association of Emergency Managers
International Association of Fire Chiefs
International Municipal Signal Association
National Association of State Chief Information Officers
National Association of State Emergency Medical Services Officials
National Association of State Foresters
National Association of State Technology Directors
National Emergency Number Association
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM

Program); Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). NPSTC has liaison relationships with associate members, the Telecommunications Industry Association and the Canadian Interoperability Technology Interest Group.

NPSTC Recommendations

It has taken three and a half years to navigate the regulatory process from adoption of the FCC's initial public safety broadband Notice of Proposed Rulemaking to the recent Order authorizing actual public safety agencies to move forward with broadband deployment in the 763-768/793-798 MHz band.[2] NPSTC appreciates the Commission's attention to those petitions and release of an Order on May 12, 2010 granting the twenty-one waiver requests on file. The follow-up Public Notice requests comments on a wide range of issues. In view of the long road to get to this point, NPSTC urges the Commission to 1) focus first on issues specifically required for waiver grantees to move forward and deploy their regional system with the interoperability provisions adopted in the Commission's waiver Order; and 2) initiate a comprehensive rulemaking proceeding to determine appropriate regulatory requirements for the long term.

The Commission has already set forth some key requirements to establish the framework for interoperability, e.g., requiring that waiver grantees deploy 4G LTE equipment.[3] Experience gained in actually deploying and beginning to use public safety broadband systems will provide important information to guide the need for any additional regulatory requirements. Furthermore

[2] Ninth Notice of Proposed Rulemaking, WT Docket No. 96-86 and PS Docket No. 06-229, adopted December 20, 2006. Order, In the Matter of Requests for Waiver of Various Petitioners to Allow the Establishment of 700 MHz Interoperable Public Safety Wireless Broadband Networks, PS Docket No. 06-229, Adopted May 11, 2010.

[3] Waiver Order, adopted May 11, 2010 at para.38.

restrictions incorporated into the rules now would likely take several years to remove or modify should they prove to be unnecessary or counterproductive to the deployment of public safety broadband systems designed to meet both operability and interoperability requirements.

NPSTC previously set forth a framework for interoperability in its Broadband Task Force (BBTF) and is pleased to see that the Commission adopted a number of the BBTF recommendations in the waiver grant Order reason agencies submitted waiver requests was so they could move forward and deploy systems that meet their regional operability requirements. These agencies of course recognize the benefits of broadband interoperability, which they have committed to incorporate. If a system does not meet a region's own operability requirements it will not be in existence long term to support roaming of other public safety entities or to provide interoperability.

NPSTC believes the framework provided in the BBTF is the right approach. However, any FCC detailed requirements on specific applications and governance could be postponed until systems are in place and there is at least some preliminary operational experience on what works best. Furthermore, details on operations and governance should be decided by public safety agencies and the PSST, which the FCC already established as the licensee to ensure the necessary degree of commonality across the country. A significant advantage to being very selective on rule requirements, while deferring as many issues as possible to PSST guidelines, is the ability to adjust based on experience without the multi-year process needed to make rule changes.

NPSTC provides the following recommendations on specific issues raised in the Public Notice:

A. The Core

A key question the Commission has raised that does affect initial buildout and operation is "whether there should be a nationwide core to which all individual networks would be connected…" [4] NPSTC would be surprised if the Commission actually intended to infer a single Evolved Packet Core (EPC) nationwide, which would obviously result in a single point of failure. One nationwide EPC used by all regions would not provide the level of redundancy and would entail significant eNodeB backhaul costs and microwave backhaul spectrum requirements. We do believe that multiple public safety agencies within an overall region or in neighboring regions could chose to share a core to help reduce costs while still providing operational control. The EPC contains several different nodes responsible for operation of a LTE network. These nodes are physical in nature but can also be logically split out from individual pieces of hardware. While details need to be confirmed, in general this would allow multiple jurisdictions who desire to do so to share the cost of EPC nodes, while still maintaining local control.

Regardless of the number of EPCs ultimately deployed, NPSTC believes the most important element to consider is whether the paths chosen provide the operational control and level of reliability needed by public safety agencies. It is likely that all areas of the country will not be totally ubiquitous in the various cost and control tradeoffs that lead to decisions on EPC deployment. As waiver grantees move forward with RFPs to plan and design systems, we believe they will be in the best position to address these requirements. We do not recommend the Commission take on the role of designing the system and mandating that all systems use one common EPC..

B. Prioritization

[4] Public Notice at page 3.

NPSTC agrees that prioritization among various public safety agencies will be needed. Public safety agencies need the capability to implement such prioritization to effectively address various prevention and response activities. However, in all cases, we believe that some human intervention by public safety personnel (incident commanders, their designees and/or dispatchers) is needed to make the right prioritization calls. Therefore, the technology and the standards need to support situational prioritization decisions within the public safety community managing use of the broadband networks. We believe additional work may need to be done in the standards to support such a feature. The device and applications have varying levels of priority that need to be addressed in the context of public safety requirements. It is NPSTC's understanding that current prioritization levels in LTE are based on identity of the device, not the situation. Therefore, while provision for situational prioritization among public safety users is a desired feature, it may be premature to include it as an FCC requirement. Additional experience once systems are deployed will help determine if modifications in the priority levels are needed to meet public safety needs.

Prioritization of public safety on commercial networks is a difficult issue. The level of prioritization public safety needs is guaranteed access and capacity, not just being first in a queue. However, such a guarantee and capabilities for "ruthless pre-emption" are understandably incompatible with consumer expectations on a commercial network. No one wants the risk of being kicked off the network during an emergency, even if they are not a public safety user. Also, it is during an emergency that commercial networks are stretched beyond capacity just to serve the general public, which makes public safety access tenuous at best. This is one of the main reasons the public safety community, including NPSTC, strongly supports reallocating the D block to public safety rather than relying on roaming and prioritization as the only means to access the broadband capacity needed. Accordingly, while prioritization on a

commercial network may be helpful in some situations, NPSTC does not believe it is viable to rely on such prioritization to meet public safety needs.

C. Roaming

NPSTC notes that public safety agencies can already make arrangements with commercial carriers to roam onto their networks. While not mission critical grade, commercial networks do serve as a "best effort" approach to meet public safety data needs, especially given the lack of spectrum that has been accessible to public safety.

NPSTC does not believe that the reverse situation, i.e., roaming of the general public commercial customers onto the public safety network, is very likely given the disparity in spectrum capacity between public safety and commercial carriers. Under the Commission's plan, public safety would have only 5+5 MHz of dedicated broadband capacity. If public safety is successful in convincing Congress to reallocate the D block to public safety that would grow to 10+10 MHz. In contrast, the Commission has committed to find 500 MHz of additional spectrum for commercial mobile broadband use, which is in addition to over 500 MHz of spectrum commercial operators already have. Therefore, we believe the need for and viability of roaming of the general public onto public safety systems is generally unnecessary. Furthermore, roaming of the general public from a commercial system onto a public safety network creates security concerns. NPSTC does recognize that there may be circumstances such as coordination with utilities during an emergency that warrant roaming onto public safety systems by entities other than public safety agencies. These instances of course need to be under public safety control.

D. Out of band Emissions and Guardband

If the D block is not reallocated to public safety and is auctioned, NPSTC believes that interference conflicts could occur. The extent of those potential conflicts is not yet known, but experience at 800 MHz indicates that adjacent commercial and public safety systems will cause

interference conflicts. If the D block is not reallocated as the public safety community has strongly recommended, NPSTC believes the Commission must condition any D block license(s) to require that any interference to public safety be immediately resolved at the D block licensee(s) expense.

If a guardband is ultimately needed and were taken out of the public safety spectrum, an already miniscule block of spectrum to support broadband would be further reduced. Also, while the LTE standard includes channel widths of 10, 5 and 3 MHz, only the 5 MHz and 10 MHz channel widths are defined for 3GPP Band Class 14. Therefore, imposing a guardband on the PSST side of the boundary significantly reduces public safety network capacity and eliminates the economies of scale that the Commission and public safety have both indicated would be a key benefit of broadband.

E. Performance Requirements

Cell edge data rates, coverage, number of sites and cost are all linked together on a broadband network. NPSTC recommends the FCC leave decisions on these performance requirements to the waiver grantees, in coordination with the PSST as necessary.[5] The Commission should trust public safety waiver grantees to deploy systems that they design to match the operability (performance) requirements pertinent to their respective regions and instead, focus on elements that enable interoperability across operable systems. Clearly a system that is not operable cannot be interoperable. However, meeting both operability and interoperability requirements is a multi-faceted challenge impacted by the amount of spectrum available, funding, technology, control and governance. Attempting to mandate performance

[5] Any public safety agency or region that chooses to partner with a commercial operator of course may face requirements that flow from that partnership, either from a regulatory or contractual basis.

elements of a system design in the rules would do nothing but establish parameters that may or may not be matched to a given region's needs. Public safety agencies are capable of making decisions on the various tradeoffs that define what is both needed and viable in their respective regions, and should be given the leeway to do so.

Conclusion

NPSTC looks forward to a continuing dialogue with the Commission to ensure waiver grantees can deploy without undue delay and to modify the rules currently in place so that going forward, additional regions can deploy broadband systems designed to meet public safety needs without the delay of obtaining waivers. Providing public safety the regulatory framework to meet its broadband communications needs should be the norm, not the exception.

Respectfully submitted

Ralph A. Haller, Chair

National Public Safety Telecommunications Council

8191 Southpark Lane, Number 205

Littleton, Colorado 80120-4641

866-807-4755

July 19, 2010