ONE HUNDRED ELEVENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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June 30, 2010

The Honorable Julius Genachowski
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Dear Chairman Genachowski:

On June 21, 2010, the Subcommittee on Communications, Technology, and the Internet held a hearing on a bipartisan staff discussion draft that would provide funding for constructing and maintaining a nationwide, interoperable public safety broadband network. The discussion draft would require the Federal Communications Commission (FCC) to implement technical requirements to achieve nationwide interoperability as well as auction spectrum for the purpose of raising the billions of dollars necessary to construct and maintain such a network over the next ten years.

The discussion draft relies on many of the recommendations put forth by the FCC in its National Broadband Plan (NBP). For example, the draft contemplates that public safety would operate its broadband network utilizing the same air interface as commercial licensees in the 700 MHz band. In addition to helping ensure interoperability, the NBP suggests that this approach would allow public safety to take advantage of economies of scale associated with a market in which there are a variety of commercial providers purchasing equipment and devices from a range of vendors. Such economies of scale could reduce significantly equipment costs for public safety users.

It is our understanding that this proposal represents a significant change from today's public safety communications equipment market for voice or "narrowband" services. As the NBP states, "[p]ast efforts to create a public safety narrowband interoperable voice network have failed."[1] Public safety has typically had to rely on an exclusive or limited vendor pool for

[1] Federal Communications Commission, *National Broadband Plan* at 315 (2010).

equipment and devices,[2] and the cost of the equipment is often more expensive than comparable commercial equipment.[3] Some have suggested that these factors limit public safety's options and may even undermine attempts to achieve interoperability.[4]

To improve the Committee's understanding of the existing public safety equipment and device market, and to help with its ongoing evaluation of the NBP recommendations, we would appreciate your assistance in obtaining answers to the following questions:

1. Please provide a list of the top four vendors of public safety narrowband equipment and their respective market shares. If the FCC does not track this information independently, please use public references to provide these details.

2. Have proprietary solutions affected interoperability, innovation, cost, or competition in the market for public safety communications equipment?

    a. How would the greater use of open standards affect these factors?

    b. What steps should the FCC take, if any, to encourage the use of open standards in public safety communications?

3. Please provide information on whether the public safety interoperable voice network, governed by Project 25, has achieved true interoperability.

    a. Has interoperability been hindered by a lack of competition in equipment and device availability?

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[2] House Committee on Science and Technology, Testimony of Dereck Orr, Program Manager of Public Safety Communications Systems, National Institute of Standards and Technology, *Interoperability in Public Safety Communications Equipment* at 7 (May 27, 2010) (online at http://democrats.science.house.gov/Media/file/Commdocs/hearings/2010/Tech/27may/Orr_Testimony.pdf); *FCC, Public Safety Groups at Odds Over Control of Nationwide Wireless Network*, The Washington Post, (online at http://www.washingtonpost.com/wp-dyn/content/article/2010/06/08/AR2010060805253.html) (June 9, 2010).

[3] *See* The Center for Public Integrity, *Homeland Security's Billion-Dollar Bet on Better Communications: Interoperability Money Aids Motorola and Other Contractors, but Are First Responders Better Off?* (Feb. 16, 2010) (online at http://www.publicintegrity.org/investigations/homeland_security/articles/ entry/1925) ("Whereas P25 systems can run into the hundreds of millions, gateways cost much less — nowadays, around $10,000.").

[4] *Id.*

b. To the extent that interoperability has been hindered, please provide specific examples.

4. Does the current structure of the public safety equipment market hinder efforts to achieve interoperability for a broadband public safety network? If so, please provide a description of possible steps the Commission might take to remedy this situation.

5. Section 101(b) of the staff discussion draft sets forth criteria for the Commission to consider in establishing rules for interoperability. How should this list be revised to ensure that interoperability is achieved in the broadband network, unlike the "failure" that occurred in the narrowband network? What technical and operational framework might be more appropriate to ensure interoperability on a future nationwide wireless public safety broadband network?

6. Can interoperability requirements applied to the wireless public safety broadband network be utilized to promote interoperability between the narrowband and broadband networks?

Please provide the requested information by July 15, 2010. If you have any questions about this request, please have a member of your staff contact Roger Sherman on the Committee staff at (202) 225-2927. The Republican staff contact, Neil Fried, may be reached at (202) 225-3641.

Sincerely,

Henry A. Waxman
Chairman

Joe Barton
Ranking Member

Rick Boucher
Chairman
Subcommittee on Communications,
Technology, and the Internet

Cliff Stearns
Ranking Member
Subcommittee on Communications,
Technology, and the Internet

Enclosure

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

July 20, 2010

The Honorable Henry A. Waxman
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Waxman:

Attached please find my responses to the questions posed in your June 30, 2010 letter about the existing public safety equipment and device market.

I thank you for the opportunity to answer your questions. I look forward to working with you and your colleagues to ensure that public safety officials have the tools they need to communicate effectively on a day-to-day basis and during emergencies. Please let me know if I can be of further assistance.

Sincerely,

Julius Genachowski

Question

1. Please provide a list of the top four vendors of public safety narrowband equipment and their respective market shares. If the FCC does not track this information independently, please use public references to provide these details.

Answer:

The FCC does not formally monitor market share information of public safety narrowband equipment vendors. However, publicly available information indicates that the Motorola Corporation (Motorola) has a significant share of the United States public safety narrowband equipment market. For example, a June 9, 2010 Washington Post article states that Motorola's market share in the public safety equipment market is 80%. Public information also shows that the following vendors, among others, compete in this sector, but with significantly smaller market share overall than Motorola: PlantCML (subsidiary of EADS), Harris Corporation, Thales, Kenwood, and RELM Wireless.

Question

2. Have proprietary solutions affected interoperability, innovation, cost or competition in the market for public safety communications equipment?

a. How would the greater use of open standards affect these factors?

b. What steps should the FCC take, if any, to encourage the use of open standards in public safety communications?

Answer:

The staff of the FCC's Public Safety and Homeland Security Bureau (Bureau) believe that proprietary solutions and market dominance play an important role in the problems with interoperability, innovation, cost and competition in the market for public safety communications equipment. This conclusion is consistent with the National Emergency Communications Plan (NECP) issued by the Department of Homeland Security, which states (page 24) that "[t]he proprietary nature of many communications technologies creates an ongoing challenge to system connectivity and establishing interoperability among them." Similarly, Dereck Orr, the Program Manager of the Public Safety Communications Research Program of the National Institute of Science and Technology recently testified before the Committee on Science and Technology, Subcommittee on Technology and Innovation, that interoperability is impacted by the proprietary nature of public safety communications equipment.

Bureau staff and many outside experts have found proprietary solutions to have a significant impact on the cost of public safety communications equipment. This, perhaps, is illustrated best by comparing widely-available commercial wireless and the proprietary public safety narrowband communications equipment. For example, the staff's research has found that while a state-of-the-art consumer cellular device typically costs a few hundred dollars, a typical land mobile radio for public safety communications may cost as much as $5,000. This is at least partly because public safety is unable to capture the benefits of competition and economies of scale associated with equipment and devices that are manufactured for the commercial consumer marketplace, Commission staff expect that leveraging the commercial mass market could reduce costs for public safety devices substantially – even with such requirements as ruggedizing, many experts suggest that handset costs should be measured in hundreds of dollars not thousands.

Similarly, Bureau staff and many outside experts believe that proprietary equipment negatively impacts innovation. Project 25 (P25), the leading standard for public safety narrowband communications, has taken more than 20 years to develop and is still not complete. This fact is almost without parallel in the standards environment and one that many experts would not associate with successful, leading edge products. As a result, P25 systems still rely upon proprietary solutions and the beneficial effect of competition through open standards is not fully realized. A comparison to Tetra, a European standard similar to P25 but which was successfully completed in 1995, makes this stagnation clear. Though similar in function to P25, Tetra products are both more spectrally efficient than P25 and significantly cheaper. Our information suggests that this is the result of a competitive marketplace based on open standards. The protracted development of P25 has allowed vendors to take advantage of selling proprietary solutions.

Another key to ensuring competition in the public safety equipment market is open standards. However, open standards are not enough. To this end, I have directed the Public Safety and Homeland Security Bureau to issue a Public Notice soon (Competition Public Notice) that will look at the impact of promoting competition for public safety communications technologies.

Further, the Commission has a unique opportunity through the FCC's Emergency Response Interoperability Center (ERIC) to create a national framework for the deployment and operation of an interoperable public safety broadband network. This framework will enable a strong market to be created to serve the needs of the public safety community. This in turn will lead to greater competition, which will result in greater innovation in the public safety broadband communications device and equipment market.

Question:

3. Please provide information on whether the public safety interoperable voice network, governed by Project 25, has achieved true interoperability.

a. Has interoperability been hindered by a lack of competition in equipment and device availability?

b. To the extent that interoperability has been hindered, please provide specific examples.

Answer:

A broad array of experts have observed that existing public safety narrowband systems have not achieved true interoperability. As the 9/11 Commission concluded, the absence of interoperable communications capabilities among public safety organizations at the local, state, and federal levels was a problem of the highest order (page 293). Unfortunately, there has been little progress in solving this problem. Further, the Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina (pages 163-182) found that public safety on the ground lacked the interoperability required for seamless on-the-ground coordination. And, during a hearing held on May 27, 2010, by the House Science and Technology Committee, Subcommittee on Technology and Innovation on Interoperability in

Public Safety Communications Equipment, the majority of witnesses recognized that additional work was required to achieve interoperability for the public safety narrowband systems.

There is insufficient information available on the impact of limited competition in equipment and device availability for public safety communications. By contrast, the Commission has data from the commercial industry indicating that the highly competitive commercial mobile industry equipment market has had long standing technical solutions to interoperability, including PSTN voice calling, text messaging, roaming and IP connectivity. Thus, a central feature of the forthcoming Competition Public Notice noted above is to seek comment on whether and to what extent the interoperability for public safety narrowband voice communications has been hindered by a lack of competition in equipment and device availability, and how this can be remedied in the future.

Question:

4. Does the current structure of the public safety equipment market hinder efforts to achieve interoperability for a broadband public safety network? If so, please provide a description of possible steps the Commission might take to remedy this action.

Answer:

The current structure of the public safety equipment market may hinder efforts to achieve interoperability for a broadband public safety network. To remedy this state of affairs, the National Broadband Plan recommended an incentive-based partnership approach that leverages commercial technology and economies of scale, including the commercial deployment of a broadband wireless network using the D block. By leveraging commercial broadband deployment for consumers in the 700 MHz band, public safety will have access to lower cost equipment and devices, additional capacity, and increased redundancy and resiliency. In addition, by ensuring that public safety technology remains within the mainstream of commercial technology evolution, public safety applications and services will necessarily be based on open, global standards.

Question:

5. Section 101(b) of the staff discussion draft sets forth criteria for the Commission to consider in establishing rules for interoperability. How should this list be revised to ensure that interoperability is achieved in the broadband network, unlike the "failure" that occurred in the narrowband network? What technical and operational framework might be more appropriate to ensure interoperability on a future nationwide wireless public safety broadband network?

Answer:

A broad framework for interoperability is essential to ensuring that this network is interoperable from day one and remains so as the technology evolves. The Bureau staff believes that interoperability can be achieved and maintained only through a combination of technology standards, license conditions, network governance, funding conditions and regulations. If any of these factors is missing, interoperability will not be achieved.

The staff discussion draft includes necessary elements for consideration in establishing rules as part of this broad framework. The Commission, , however, notes that any path forward should permit flexibility to identify additional criteria identified through any rulemaking process. To that end, the FCC recently issued a *Public Notice* for additional information on interoperability to help effectuate the work of the Emergency Response Interoperability Center (ERIC) to create an interoperability framework. Comments were filed in response to this *Public Notice* on July 19, 2010. Further, the Commission will receive additional information on the impact of competition in the equipment market in response to the upcoming Competition Public Notice. All of this information, along with the experience that ERIC and the FCC gains from reviewing and acting on the interoperability showings submitted by waiver recipients on July 19, 2010, will assist the FCC in identifying any additional criteria necessary to the creation of an effective interoperability regime.

In addition to the promulgation of rules, a significant challenge in achieving interoperability involves ensuring that the thousands of independent public safety jurisdictions comply with the appropriate interoperability framework. While the FCC can utilize its licensing regime and its enforcement authority to bring this about, it will also be very important to condition any grant program on compliance with these important interoperability requirements. It will also be imperative that other Federal agencies, including the Department of Justice and the Department of Homeland Security, who work closely with public safety agencies on governance and standard operating procedures, ensure that the proper procedures are in place so all can be certain of interoperability from day one of this network.

Question:

6. Can interoperability requirements applied to the wireless public safety broadband network be utilized to promote interoperability between narrowband and broadband networks?

Answer:

While creating an interoperable public safety broadband network will not, in and of itself, solve all the troubling interoperability problems faced by existing narrowband networks, it does present an important opportunity to make progress in this area. In the short term, there is the possibility of technical interoperability requirements that would promote narrowband and broadband network interoperability. For example, this can be done through the use of gateway and other equipment. In the longer term, it may be possible to support mission critical voice communications that currently are provided only on narrowband systems. This ability will enable public safety to begin to migrate off of existing narrowband networks and end up with a single device for all of their communications needs using the latest technologies and on a cost-effective basis.