**WRITTEN STATEMENT**

**Of**

**JOHN B. MULETA, Esq.**
**Chief, Wireless Telecommunications Bureau**
**Federal Communications Commission**

**Hearing**

**On**

**First Responder Interoperability:**
**Look Who's Talking Now**

**Before the**
**Subcommittee on National Security, Emerging Threats, and International Relations**
**House Government Reform Committee**

**July 20, 2004**
**10:00 a.m.**
**2154 Rayburn House Office Building**
**Washington, D.C.**

**Written Statement of John Muleta, Esq.**
**Chief, Wireless Telecommunications Bureau**
**Federal Communications Commission**

## Introduction

Good morning Chairman Shays, Ranking Member Kucinich and Members of the Subcommittee on National Security, Emerging Threats, and International Relations. Thank you for your invitation to appear before you on behalf of the Federal Communications Commission (Commission or FCC) to discuss our work in facilitating and promoting first responder interoperability.

As an initial matter, I commend your decision to request the Government Accountability Office (GAO) to study the critical issues related to public safety interoperability and its importance to homeland security. The Commission's staff is committed to participating in the initiatives of other interested stakeholders that are designed to identify, assess and analyze interoperability successes and challenges. The GAO study afforded us the opportunity to share knowledge accrued from decades of working with public safety entities and other stakeholders in this field. With the release of this report today, Congress and the public will receive GAO's assessment of the current interoperable communications capabilities of first responders nationwide and the agency relationships that promote a seamless communications network. I look forward to hearing this Committee's views regarding the findings and recommendations of this report.

The Commission's experience working with public safety entities and stakeholders is expansive and far-reaching. Our predecessor agency began working in this area shortly after the Titanic disaster and today there are more than 40,000 spectrum licenses designated for public

safety systems under the Communications Act. The FCC has the unique role of providing spectrum for state and local governments to use as part of these systems. As a result, the Commission has a long-standing commitment to the protection and enhancement of public safety communications systems.

Under the leadership of Chairman Michael K. Powell, the Commission has intensified its efforts and designated homeland security and public safety issues as one of the Commission's six core strategic objectives. As September 11, 2001 demonstrated, the ability of public safety systems to communicate seamlessly at incident sites with minimal on-site coordination is critical to saving lives and property. The FCC remains committed to using all of its resources to promote and enhance the interoperability of the thousands of public safety systems that make up a critical part of our nation's homeland security network.

The Commission's experience indicates that a holistic approach is the best method for fostering interoperability. Achieving interoperability requires an emphasis on more than spectrum, technology and equipment issues – it also requires a focus on the organizational and personal coordination and communication necessary to make interoperability available in times of greatest need. For its part, the Commission directs its efforts toward allocating additional spectrum for public safety systems, nurturing technological developments that enhance interoperability and providing its expertise and input for interagency efforts such as SAFECOM.

There are limitations, however, to what the FCC can do. That is why the GAO study, which focuses on all of the issues affecting interoperability, is so important. The Commission is only one stakeholder in the process and many of the challenges facing interoperability are a result of the disparate governmental interests – local, state, and federal – that individually operate portions of our national public safety system. Each of these interests has different capabilities in

terms of funding and technological sophistication, making it difficult to develop and deploy interoperability strategies uniformly throughout the country. Regardless of these problems, we at the FCC continue to advance policies that enable all of the stakeholders to do their best in maintaining a strong and viable national public safety system.

**Commission Resources**

The FCC works in an integrated and flexible fashion to assign spectrum for public safety purposes. The Wireless Telecommunications Bureau (WTB) and the Office of Engineering and Technology (OET) share significant responsibility for intra-agency projects related to interoperability technology and policy development. The Commission also maintains a Homeland Security Policy Council (HSPC) and created the Office of Homeland Security within the Enforcement Bureau to facilitate intergovernmental communications on homeland security issues.

***Wireless Telecommunications Bureau***

WTB underwent reorganization this past year that created the Public Safety and Critical Infrastructure Division (PS&CID). PS&CID now has a clear focus – its job is to administer the licensing rules for public safety radio networks and the related radio networks of critical infrastructure industries such as the nation's utilities. The division also has the responsibility of promulgating rules that require wireless carriers to deploy E911 systems throughout the country for the benefit and use of over 160 million cell phone subscribers – another critical element of the nation's homeland security system. The division's routine day-to-day contact with public safety licensees, their vendors and other stakeholders allows it to closely monitor industry trends and needs. In 2003, WTB processed more than 529,000 public safety and other private and

mobile applications, including applications for new licenses, license modifications and renewals, waivers, and requests for special temporary authority.

***Office of Engineering and Technology***

In addition to its responsibility for spectrum allocations, OET routinely assesses vulnerabilities in communications networks and equipment and makes recommendations for facilitating improvements to network security, reliability and integrity. OET also evaluates new technologies and makes recommendations to the Commission for rule changes which would enable their use to improve the communications capability of the nation's public safety community. OET is the agency's principal point of contact with the National Telecommunications and Information Administration (NTIA) and in this role works with NTIA on spectrum issues that affect both non-Federal and Federal government spectrum users, including state, local and federal first responders.

***Homeland Security Policy Council and Office of Homeland Security***

The FCC's Homeland Security Policy Council (HSPC), created in November 2001 and composed of senior managers of the Agency's policy bureaus and offices, and the Office of Homeland Security (OHS) assist the Commission in implementing the Homeland Security Action Plan. Among the directives of the Action Plan is to ensure that public safety, public health, and other emergency and defense personnel have effective communications services available to them as needed.

Equally as important, HSPC and OHS ensure coordination with other federal, state, and local entities that are involved with Homeland Security. For example, as a partner with the Department of Homeland Security, the FCC has promoted registration of states and localities in

the Telecommunications Service Priority and the Wireless Priority Access Service programs. These programs provide wireline and wireless telephone dial tone to public safety entities on a priority basis during and following a disaster. HSPC members also are working with disabilities rights organizations to identify and resolve communications issues that have an impact on that community during national emergencies.

In addition, HSPC and OHS work closely to support the Network Reliability and Interoperability Council (NRIC VII) and Media Security and Reliability Council (MSRC), two of the FCC's federal advisory committees. Through NRIC VII, communications industry leaders provide recommendations and best practices to the FCC focused on assuring optimal reliability and interoperability of wireless, wireline, satellite, paging, Internet and cable public communications networks and the rapid restoration of such services following a major disruption. MSRC does much the same with the goal of achieving optimal reliability, robustness and security of broadcast and multi-channel video programming distribution facilities. Public safety representatives are part of this effort since, during emergencies, TV and radio are sources of information for citizens.

**Coordination**

The FCC recognizes that interagency coordination is an essential factor in developing effective interoperability. To that end, Commission staff routinely confers with the Department of Homeland Security's SAFECOM. The FCC and SAFECOM share the common goal of improving public safety communications interoperability. We are continuing our collaborative efforts to develop a strong working relationship, both formally and informally. For example, the FCC is an active member of SAFECOM's Advisory Group. In addition, FCC staff has met with staff from SAFECOM on several occasions for information exchanges and briefings, including,

most recently, a March 11, 2004 presentation to SAFECOM's Executive Committee on matters pending before the Commission. FCC staff also has attended and/or participated in several events hosted by SAFECOM, including its 2003 Summit on Interoperable Communications for Public Safety and 2004 Public Safety Communications Interoperability Conference.

DHS Deputy Director David Boyd and I continue to work together to further promote and ensure effective coordination regarding homeland security and public safety communications initiatives. We agree that it is critical that the FCC and SAFECOM work cooperatively to achieve our common interests of promoting homeland security and interoperability. With this goal in mind, we have made a commitment to establish a working group comprised of representatives of our respective staffs who will meet on a regular basis to work collaboratively on interoperability and other issues of relevance to the FCC and SAFECOM. We envision that this new inter-agency "team" will provide an effective forum for informed, innovative and on-going exchanges aimed at ensuring steady progress towards achievement of nationwide interoperability capability.

**Spectrum Designated for Public Safety Interoperability**

The Commission currently has designated throughout the country approximately 97 MHz of spectrum from ten different bands for public safety use. Public safety entities also actively use spectrum-based services in other spectrum bands. For example, under the ultra-wideband rules, ground penetrating radars and imaging systems enable public safety users to detect the location or movement of people behind or within walls or other structures, an important and potentially lifesaving tool. In addition, the Commission has designated certain channels in these public safety bands specifically for interoperability. A public safety entity may use these designated frequencies only if it uses equipment that permits inter-system interoperability. The

frequencies that have these so-called "use designations" include 2.6 MHz of the 700 MHz band, 5 channels in the 800 MHz band, 5 channels in the 150 MHz band (VHF Band), and 4 channels in the 450 MHz band (UHF Band).

Starting on January 1, 2005, the Commission will require newly certified public safety mobile radio units to have the capacity to transmit and receive on the nationwide public safety interoperability calling channel in the UHF and VHF bands in which it is operating. Also, in the case of certain inland coastal areas, known as VHF Public Coast areas (VPCs), the Commission has designated several additional channels in the VHF band to be used exclusively for interoperable communications.

***Recent Public Safety Spectrum Allocations***

The Commission is committed to ensuring that public safety operators have sufficient spectrum that is free from harmful interference. Earlier this month for instance, the Commission adopted – by a unanimous, bipartisan vote – a solution to the ongoing and growing problem of interference faced by 800 MHz public safety radio systems. The Commission's decision will result in an additional 4.5 MHz of 800 MHz-band spectrum becoming available to public safety, critical infrastructure, and private wireless users, including 10 channels for public safety/critical infrastructure interoperability. Also, in the last few years, the Commission has made two allocations that illustrate the importance placed on ensuring that public safety entities have sufficient spectrum to carry out their critical missions. First, consistent with the Balanced Budget Act of 1997, the Commission identified and allocated 24 MHz of spectrum in the 700 MHz band for public safety use. Second, the Commission made available for public safety use 50 MHz of spectrum at 4.9 GHz.

To better facilitate use of the 700 MHz public safety spectrum, the Commission adopted special rules and policies. It crafted provisions both to address the continuing interoperability issues among various public safety systems and to provide flexibility to accommodate a wide variety of innovative uses. In particular, the Commission dedicated 2.6 MHz of this spectrum for interoperability purposes. Given the central role that states provide in managing emergency communications, the Commission concluded that states are well-suited for administering the interoperability spectrum and that state-level administration would promote safety of life and property through seamless, coordinated communications on the interoperability spectrum.

The FCC's rules provide that the states may manage interoperability channels in two ways: (1) they may establish a State Interoperability Executive Committee (SIEC) or its equivalent; or (2) they may designate their Commission established Regional Planning Committees (RPCs). Thirty-eight states and the District of Columbia elected to administer their interoperability spectrum. For the fourteen who did not, the RPCs have been delegated the responsibility to administer this spectrum.

From the beginning, the Commission has recognized that the utility of this spectrum for public safety depended on taking actions, consistent with the current statutory scheme, to minimize, and ultimately clear, the broadcast use of this spectrum. For instance, during the digital television (DTV) transition planning, the Commission minimized the use of channels 60-69. As a result, the new 700 MHz public safety spectrum on TV channels 63-64 and 68-69 is available now in many areas of the country. Because of the significance of this spectrum for public safety, especially first responders, and interoperability, the Commission is actively considering ways to bring the digital transition to its conclusion. Indeed, under the direction of Chairman Powell, the Media Bureau has developed a bold framework that would provide a soft

landing and a clear conclusion for the DTV transition so that, in part, we can provide public safety with this additional spectrum.

The Commission's second allocation, 50 MHz of spectrum at 4.9 GHz (4940-4990 MHz), promises to permit the use of new advanced wireless technologies by public safety users. This spectrum is part of a transfer of Federal Government spectrum to private sector use. The Commission initially proposed to allocate the 4.9 GHz band for fixed and non-aeronautical mobile services and to auction it to commercial users, with no designation of the spectrum for public safety use. In response to requests from the public safety community for additional spectrum for broadband data communication, the Commission designated the 4.9 GHz band for public safety use in February 2002 and adopted service rules in April 2003.

The Commission intended the 4.9 GHz band to accommodate a variety of new broadband applications such as high-speed digital technologies, broadband mobile operations, fixed "hotspot" use, wireless local area networks, and temporary fixed links. The 4.9 GHz band rules also foster interoperability, by providing a regulatory framework in which traditional public safety entities can pursue strategic partnerships with others necessary for the completion of their mission.

Licenses for this spectrum will be granted to public safety entities based on a "jurisdictional" geographical licensing approach. Accordingly, the 4.9 GHz spectrum will be licensed for shared use. Under this approach, the Commission will authorize 4.9 GHz licensees to operate throughout those geographic areas over which they have jurisdiction and will require them to cooperate with all other 4.9 GHz licensees in use of the spectrum. In order to increase spectrum use and foster interoperability, the Commission will permit licensees to enter into sharing agreements or strategic partnerships with both traditional public safety entities, including

Federal Government agencies, and non-public safety entities, such as utilities and commercial entities.

**Promotion of Public Safety Interoperability**

There are a range of mechanisms that specifically promote interoperability. As discussed above, the Commission has used its resources to identify additional spectrum. The Commission also has provided for innovative licensing methods, created planning methods that encourage better coordination, and promoted new technologies.

***Regional Planning***

The Commission adopted the regional planning approach to spectrum management as an alternative to the traditional first-in-the-door approach to spectrum licensing and management in the public safety context. Regional planning allows for maximum flexibility of the RPCs to meet state and local needs and encourage innovative use of the spectrum to accommodate new and as yet unanticipated developments in technology and equipment. The Commission has utilized this approach for public safety spectrum in the 700 and 800 MHz bands.

***Sharing of Radio (Spectrum) Facilities***

In order to promote interoperability, the Commission has rules for two types of spectrum sharing. First, the FCC's rules specifically provide for shared use of radio stations where licensees may share their facilities on a nonprofit, cost shared basis with other public safety organizations as end users. In July 2000, the Commission expanded this sharing provision. This rule also allows Federal government entities to share these facilities as end users. A second type of sharing is unique to the 700 MHz public safety spectrum. In this spectrum

band, state and local public safety licensees may construct and operate joint facilities with the Federal government. The Commission took this action to encourage partnering of FCC-licensed state or local government entities with Federal entities to promote interoperability and spectrum efficiency.

***Public Safety National Coordination Committee***

The Public Safety National Coordination Committee (NCC) operated as a federal advisory committee from 1999 to 2003 and recommended technical and operational standards to assure interoperability in the 700 MHz public safety band. The over 300 members employed a consensus-based decision-making process to meet its charge. The NCC was guided by an eleven-member Steering Committee and used three subcommittees, each of them having several working groups to develop its recommendations, many of them highly technical. It submitted its final recommendations in July 2003.

The NCC developed recommendations on a technical standard for the narrowband voice and data channels to ensure that police, firefighters, EMS and other public safety officials using 700 MHz radios can communicate with one another instantly on common voice and data channels. The same channels are designated for interoperability use everywhere in the United States. The Commission adopted the narrowband voice standard and also a narrowband data standard in January 2001 as the NCC recommended.

The NCC also developed a recommendation for a wideband data standard and forwarded it to the Commission in July, 2003. This standard would give public safety agencies a common "pipeline," on 700 MHz wideband data interoperability channels, with which to implement such applications as sending mug shots and fingerprints to police vehicles, medical telemetry from EMS units to hospitals, blueprints of burning buildings to firefighters and video coverage of

incidents to the incident commander. The NCC worked with the Telecommunications Industries Association – an accredited standards developer – to develop interoperability technical standards that are open and non-proprietary. The Commission will consider the remaining NCC recommendations, including the wideband data standard, in a future rulemaking.

***Intelligent Transportation Systems Radio Service***

In December 2003, the Commission adopted service and licensing rules for the Dedicated Short Range Communications (DSRC) Service in the Intelligent Transportation Systems (ITS) Radio Service in the 5.850-5.925 GHz band. It is envisioned that DSRC would provide the critical communications link for ITS, which is key to reducing highway fatalities, a high priority for the Department of Transportation. The effective and expeditious implementation of DSRC not only benefits American consumers by providing solutions to today's transportation challenges and allowing life-saving communications. It also provides public safety entities with another communications tool that can assist them in fulfilling their missions. To ensure interoperability and robust safety and public safety communications among DSRC devices nationwide, the Commission adopted rules requiring that the ASTM-DSRC standard be used. The Commission also adopted licensing and technical rules aimed at creating a framework that ensures priority for public safety communications, thereby allowing both public safety and non-public safety use of the 5.9 GHz band. Further, the Commission adopted a jurisdictional licensing approach similar to that used for the 4.9 GHz band.

***Cognitive Radios Proceedings***

The Commission is actively exploring the potential of new technologies to enhance interoperability and encourage network efficiency of public safety systems. One example of

such new technologies is cognitive radios, which have the capability to change their power and/or frequency, sense their environment, know their location, and optimize their communication path. This technology holds tremendous promise for public safety interoperability by making it possible for radios from different public safety systems to operate seamlessly at an incident site without prior coordination. The Commission has initiated a Cognitive Radio Technologies proceeding to examine the enhanced interoperability potential that these even more flexible technologies may offer.

**Conclusion**

The FCC is dedicated to marshalling all of its resources and expertise in order to ensure that adequate spectrum and technology is available for providing interoperability among the nation's public safety systems. The Commission continues to work with a wide range of stakeholders to foster and promote new policies, rules, regulations and technologies related to public safety interoperability. Although some of the challenges involved in bringing interoperability to public safety systems are outside the scope of the FCC's authority, the Commission continues to take a leadership role in trying to resolve these challenges. Thank you for the opportunity to testify on this important issue affecting our homeland security.