PUBLIC SAFETY INTEROPERABILITY: LOOK WHO'S TALKING NOW

HEARING

BEFORE THE

SUBCOMMITTEE ON NATIONAL SECURITY, EMERGING THREATS AND INTERNATIONAL RELATIONS

OF THE

COMMITTEE ON GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTH CONGRESS

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PUBLIC SAFETY INTEROPERABILITY: LOOK WHO'S TALKING NOW

TUESDAY, JULY 20, 2004

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON NATIONAL SECURITY, EMERGING
THREATS AND INTERNATIONAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 11 a.m., in room 2154, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays, Kucinich, Turner, Maloney, Ruppersberger, Tierney, and Watson.

Staff present: Lawrence Halloran, staff director and counsel; R. Nicholas Palarino, senior policy advisor; Robert A. Briggs, clerk; Grace Washbourne, full committee professional staff member; Andrew Su, minority professional staff member; and Cecelia Morton, minority office manager.

Mr. SHAYS. A quorum being present, the Subcommittee on National Security, Emerging Threats and International Relations hearing entitled, "Public Safety Interoperability: Look Who's Talking Now," is called to order.

The terrorist attacks of September 11, 2001 exposed dangerous gaps and failures in essential communication systems. Cell phone networks collapsed. First responders using incompatible radios could not relay vital information. The New York Stock Exchange shut down, but the Federal Reserve System and the Nation's banking network continued to operate.

Why? Because standardization, technical interconnectivity and redundancy at banks protected that critical communication infrastructure. Almost 3 years later, the critical telecommunications networks first responders bank on every day to save lives remain fragmented and vulnerable. Despite significant expenditures and some progress, public safety and emergency response communications still lack the bandwidth and connectivity needed to sustain essential capabilities in a major crisis.

So today we revisit the status of Federal efforts to improve first responder interoperability. As we will hear in testimony, forging links between more than 44,000 State and local agencies and over 100 Federal programs and offices poses daunting challenges. The lack of interoperability accurately reflects a lack of intergovernmental consensus on the urgency, feasibility and affordability of communication upgrades.

Uncoordinated planning and funding cycles seem to keep the consensus beyond reach. Disjointed Federal grant programs do little to guide State and local programs toward effective short or long term solutions, and the push for interoperability further complicates the already intense competition between public and commercial users for choice radio frequency spectrum bands.

A recent decision by the Federal Communications Commission to clear interference from the 800 megahertz public safety bands should help improve the performance of critical systems. But crowded spectrum is only one aspect of the problem. Another serious impediment is the lack of standardized information on the capabilities of current systems. Without broadly accepted technology and performance standards against which to measure progress, it is difficult to determine where we are, and all but impossible to know if we're getting anywhere.

After our hearing on these issues last November, we asked the Government Accountability Office, newly named but still GAO, to examine current Federal efforts to foster interoperability. The report issued today finds intergovernmental corroboration lacking and calls for standards, benchmarks and funding discipline to focus the currently rudderless process.

All the technical and regulatory jargon should not be allowed to obscure the central fact that lives are at stake. Selfless work on these issues by Monica Gabrielle, Sally Regenhard, Beverly Eckert, Mary Fetchet and so many other September 11 family members reminds us of our solemn obligation to speak with one urgent voice to avoid future tragedies.

We appreciate the time, expertise and dedication of all our witnesses who bring to us a very important discussion, and we look forward to each and every one of their testimony.

[The prepared statement of Hon. Christopher Shays follows:]

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Statement of Rep. Christopher Shays
July 20, 2004

The terrorist attacks of September 11, 2001 exposed dangerous gaps and failures in essential communication systems. Cell phone networks collapsed. First responders using incompatible radios could not relay vital information. The New York Stock Exchange shut down. But, the Federal Reserve System and the nation's banking network continued to operate. Why? Because standardization, technical inter-connectivity and redundancy protected that critical communication infrastructure.

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As we will hear in testimony, forging links between more than 44,000 state and local agencies and over 100 federal programs and offices poses daunting technical and political challenges.

The lack of interoperability accurately reflects a lack of intergovernmental consensus on the urgency, feasibility and affordability of communication upgrades. Uncoordinated planning and funding cycles seem to keep that consensus beyond reach. Disjointed federal grant programs do little to guide state and local programs toward effective short or long-term solutions. And, the push for interoperability further complicates the already intense competition between public and commercial users for choice radio frequency spectrum bands.

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We appreciate the time, expertise and dedication our witnesses bring to this important discussion, and we look forward to their testimony.

Mr. SHAYS. At this time, the Chair would recognize the gentlelady, the very effective lady from New York, Carolyn Maloney.

Mrs. MALONEY. Thank you very much, Chairman Shays, and for your continued work on public safety and interoperability specifically. Your commitment to our Nation's first responders is evident, not only by the number of hearings, the report you requested on this subject, but also the legislation that you sponsored with me in May, the 9/11 Can You Hear Me Now Act, H.R. 4386.

Today we will have the opportunity to discuss the current state of interoperability in New York's metropolitan area, and we will have the opportunity to hear from Dr. Glenn Corbett, who is a professor at John Jay College of Criminal Justice in New York City and a constituent that I'm proud to represent. He, along with the Skyscraper Safety Campaign, provided some of the technical assistance in developing the 9/11 Can You Hear Me Now legislation.

I introduced the legislation and the Act because the current state of first responder communications in New York City is not anywhere near what it needs to be. While there have been a number of improvements since September 11, nearly 3 years later the New York City Fire Department still lacks the basic infrastructure to communicate effectively and true interoperability simply does not exist.

At the same time, we all know that New York continues to be a top terrorist target, and the protection of New York City must be a national responsibility. The lack of a fully functional communication system for the New York Fire Department is not only a threat to our firefighters' and New York residents' lives, but to all who visit the city.

The legislation that Chairman Shays and I introduced would mandate the Department of Homeland Security to provide a fully functional communication system to the New York Fire Department within 1 year of its passage. This communication system would include four components: radios, dispatch system, critical information dispatch system and a supplemental communications device for individual firefighters. This communications system would be required to work in all buildings and in all parts of the city, something that unbelievably does not happen now, and tragically did not happen on September 11.

The proposed legislation requires coordination with the city of New York and their planned upgrades of the emergency September 11 system and any interoperability initiatives with other public safety communications systems. If this system in New York was developed, it could be a model for large cities across the country, cities that are frequently mentioned as under the greatest threat of a terrorist attack.

Beyond doing whatever it takes to prevent future attacks, one of our greatest fears is that we will not have taken the lessons from September 11 and be prepared for the future. We know that there were terrible communications failures on September 11. According to an independent report by McKinsey and Co., it may have cost upwards of 100 firefighters their lives on September 11, and obviously many other independent residents and workers that were in the buildings.

I can tell you that when I arrived at the Ground Zero central command on September 11 and asked what it was that was needed, they said, get us radios, we don't have any radios that work. Bill Young, at my request, and others, flew down radios that could work on the work site the next day.

The time to act is now. We need to do absolutely everything to ensure that we invest in the infrastructure and technology necessary for our first responders to communicate during every disaster. And that is why I'm also a co-sponsor of H.R. 440, The CONNECT First Responders Act. This legislation will significantly enhance the Federal Government's effort to achieve this critical objective by creating, first of all, and fully authorizing, the Office of Wireless Public Safety Interoperability Communications within the Department of Homeland Security. And giving this office the authority and annual budget to work with Federal, State, and local stakeholder to develop and implement a national strategy to achieve interoperability.

Second, establishing a new grant program dedicated to achieving communications interoperability nationwide. We need both of these acts to be passed and brought into law, because we need to do absolutely everything to protect our citizens from any future attack. It is obviously 101 to say that we need to have a radio system that works. We did not have one on September 11. We still do not have one.

I hope we hear some answers today from our distinguished panelists. Thank you all for being here, and thank you, Mr. Corbett, for coming, too.

Mr. SHAYS. I thank the gentlelady.

At this time the Chair would recognize Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman. I want to thank you for holding this hearing, and for your continued effort to make certain that our country's response to the terrorist threat is appropriate. The need for communication interoperability took center stage following the terror attacks in New York and Washington, DC. That event showcased the difficulty of first responders even in the same community to communicate with one another.

The inability to communicate becomes an even larger issue as you look at Federal and State agencies working together. This subcommittee, under the chairman's leadership, held a field hearing in Stamford, CT, where Mrs. Maloney was present. And there it was clear that the issue for agencies to talk to one another was very important in the issue of responding to a terrorist threat. My community, Dayton, OH, held a weapons of mass destruction attack exercise prior to September 11th. And there the inability to communicate was identified as a major hurdle in providing a coordinated response.

The Federal Government has a very important role to play in ensuring that communication interoperability exists among Federal, State and local agencies. However, it is important that the Federal Government does not operate in a vacuum, ignoring the lessons and advice of local first responders. Local and State governments should be active participants in any effort to ensure seamless communication.

And we thank the chairman for his continued effort in not only looking for a solution but continuing to focus on this process as we move forward.

Mr. SHAYS. I thank the gentleman.

Mr. Ruppersberger. I too thank you, Mr. Chairman, for your leadership in the critical homeland security priority. Both Republican and Democratic leadership of this committee have committed to keeping this issue on the congressional radar screen. I think it is entirely necessary and appropriate.

Until now, my background has been local leadership. Along with many of my colleagues on this committee and throughout the House, I am concerned about the needs of local first responders, our front line soldiers in the war on terrorism. We learned many expensive lessons on that tragic September day almost 3 years ago. One of the most correctable was the need for first responders to be able to communicate.

Terrorist attacks and all other hazards requiring police and firefighters to respond do not know county, city, State or even regional boundaries. So when an event occurs and people run into danger to save innocent lives, they should be able to talk to one another. It doesn't get any more basic than that.

This revelation is not new. Yet we are almost 3 years later in trying to decide how this should work. There are three fundamentals to determine regarding interoperability: what are localities doing now; what sort of national standards should we set to transcend inherent jurisdictions and boundaries; and how will we pay for this technology. We need a national status report that shows us what is happening at the local level. Progress requires a clear and accurate picture of what is happening in each State, how local elected and local first responders have been involved in the development of State plans and how much of that effort has focused on the big issues of interoperability.

At a time when we have incredible spending levels to fight the war on terrorism abroad, as I believe we should, I think we need an equal commitment to prioritize Homeland Security needs. Our first responders, our hometown troops, need our help, and I look forward to working with my colleagues on both sides of the aisle to move this issue forward.

Mr. SHAYS. Mr. Tierney.

Mr. TIERNEY. Thank you, Mr. Chairman. I just want to join my colleagues here in acknowledging the extent of this particular problem and knowing that since the events of September 11th, we have exposed what's been a longstanding and complex problem with our public safety agencies.

Even the 9/11 Commission's recent report indicates that many lives possibly could have been saved had we had the system in place. It goes back, of course, to the Oklahoma City bombing, where after that study showed that the first responders had to use runners to carry messages from one command center to another because the responding agencies used different emergency radio channels, different frequencies and different radio systems.

In order to achieve communications interoperability, which is probably the highest priority issue for our public safety community, we have to a lot more than we are currently doing right now. The

April report from GAO reported that project SAFECOM had made very little progress. The most recent report indicates that there is still a great distance to go. It cited a lack of consistent executive commitment and support and an inadequate level of interagency collaboration.

So 8 years after the final report and detailed recommendations to improve interoperability from the Federal Government's Public Safety Wireless Advisory Committee, and over 2 years after the initiation of Project SAFECOM, it doesn't seem that we've made much progress on this front. Secretary Ridge has stated that there are immediate steps the Departments can take while we focus on long range integrated solutions. We agree with that.

The Department of Homeland Security should be providing dedicated annual funding for both short term and long term enhancements to State and local interoperable communications systems. The administration has to address the disjointed Federal approach to interoperability by clearly assigning principal responsibility for communications interoperability to one office in the Federal Government.

Along with Mrs. Maloney and others, we've introduced Connecting the Operations of National Networks of Emergency Communications Technologies for First Responders Act, the so-called CONNECT for First Responders Act, that should address most of these issues. The act would replace the ineffective interagency group, at least as the GAO says it is, known as Project SAFECOM, that currently oversees the Federal interoperability efforts with a unified office within the Department of Homeland Security. It would provide this office with a dedicated annual budget, charge it with working with Federal, State and local stakeholder to develop and implement a national strategy to achieve interoperability. That should provide us, at least head us in the right direction.

Without a robust, consistent budget and the necessary authority, I think our efforts are going to continue to fail in this area. So this legislation would substantially increase the role of the new office in accelerating and implementing nationwide interoperable communications. It would authorize $50 million for fiscal year 2005 for the administration of the office. That would be more than double the $22 million that the administration has requested for SAFECOM in fiscal year 2005.

The bill would establish a new Department of Homeland Security grant program dedicated to achieving communication interoperability nationwide, funding both immediate and long term solutions for our communications needs. Like the Assistance to Firefighters grant program, the bill authorizes the Secretary to make direct grants to local governments and public safety agencies, but also authorizes grants to State governments.

I for one, and I think others joining me, continue to be disappointed that this administration insists on adding an extra level of bureaucracy by putting these matters through the States instead of down to the local communities. The Fire Act, the COPS grant with the grants directly to the local communities in my estimation has worked far more effectively than the process that we now see, working on Department of Homeland Security grants.

We know that achieving nationwide interoperability will require a significant financial commitment to all levels of government. Previous estimates for upgrading communications systems nationwide have ranged as high as $18 billion. Recently, the private sector estimated that approximately $350 million is necessary to implement a comprehensive patching system throughout the country.

The bill would authorize $5 billion over 5 years for the grant program, starting at $500 million for fiscal year 2005 and increasing funding by $250 million per year. The reason we increase the authorization level each year in the bill is in order to first facilitate the immediate acquisition of short term communications equipment to link existing communications infrastructure and second, to initiate the development of comprehensive interoperable communication plans prior to more extensive equipment purchase in the latter years of the program.

Purchasing and implementing new technologies, such as patching or switching systems, will only provide us with a short term solution to a critical problem. Ultimately, we would like to see all communication systems sharing open architectures and standard technologies, so that different radio systems made by different manufacturers can communicate on demand. The bill indicates our belief that we can achieve this goal in cooperation, not competition, with the private sector radio systems manufacturers.

I'd like to close with one last concern, and that is that in Cambridge, Massachusetts, we've had a number of individuals connected with MIT and other institutions up there who actually have an open system on the internet with security provided that the military has been using now for some time as a pilot program. That program was offered to the Department of Homeland Security for pilot programs and I can't tell you exactly what the delay was in that, but it took months and months before we could get anybody's attention.

My fear is that there was more of an attitude of looking to see if a larger contract worth far many more dollars could be given to a larger contractor than to go with a system that in order to have been performing well with the military would cost far less and be implemented in a more expeditious manner. So I hope that the Department of Homeland Security is really looking to do this the right way, do it as economically and soundly as possible, and not let the political or the prior connections with other companies get in the way of getting this job done as soon as possible and in the best way possible.

I yield back.

Mr. SHAYS. Thank you.

Mr. TURNER [assuming Chair]. I ask unanimous consent that all members of the subcommittee be permitted to place any opening statement in the record, and that the record remain open for 3 days for that purpose. Without objection, so ordered.

Further, I ask unanimous consent that all witnesses be permitted to include their written statements in the record. And without objection, so ordered.

Today, I would like to introduce our first panel of witnesses. We have Mr. William Jenkins, Jr., Director, Homeland Security and Justice Issues, U.S. Government Accountability Office. We have Dr.

David Boyd, Program Manager, SAFECOM, U.S. Department of Homeland Security; Mr. John Muleta, Chief, Wireless Telecommunications Bureau, Federal Communications Commission; Mr. Stephen Devine, patrol frequency coordinator, Communications Division, Missouri State Highway Patrol General Headquarters; and Mr. Glen Nash, Telecommunications Division, California Department of General Services.

Gentlemen, we do swear in our witnesses for this subcommittee. Would you please stand and raise your right hands.

[Witnesses sworn.]

Mr. TURNER. Note for the record that the witnesses responded in the affirmative.

Before we proceed, we have a comment from our chairman.

Mr. SHAYS. Thank you, Mr. Chairman. I just wanted to say that we really have an outstanding panel before us. As I was walking in, I want to just emphasize the fact that we're very fortunate to have all five of you here. Obviously having the Government Accountability Office here, the GAO here to set the stage is helpful. To have both the Department of Homeland Security and the Federal Communications Commission folks in the same room talking together is vital.

I particularly want to say to Stephen Devine and Glen Nash, I know as State officials, that you have become national experts on this issue. You've devoted a number of years to trying to work this out. So while you're from Missouri and while you're from California, you really are carrying the weight for all the States. We wanted to get the best and we were told the two of you are. So we thank you both for being here.

Mr. TURNER. Thank you.

Gentlemen, we're going to ask, because of the size of the panel, that each of you try to limit your comments to the 5 minutes that are allocated. You can see the lights in front of you that will be counting down for you. We will begin with Mr. Jenkins.

STATEMENTS OF WILLIAM O. JENKINS, JR., DIRECTOR, HOMELAND SECURITY AND JUSTICE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE; DAVID G. BOYD, DIRECTOR, SAFECOM PROGRAM OFFICE, SCIENCE AND TECHNOLOGY DIRECTORATE, DEPARTMENT OF HOMELAND SECURITY; JOHN B. MULETA, ESQ., CHIEF, WIRELESS TELECOMMUNICATIONS BUREAU, FEDERAL COMMUNICATIONS COMMISSION; STEPHEN T. DEVINE, CHAIRPERSON, MISSOURI STATE INTEROPERABILITY EXECUTIVE COMMITTEE, PATROL FREQUENCY COORDINATOR, COMMUNICATIONS DIVISION, MISSOURI STATE HIGHWAY PATROL GENERAL HEADQUARTERS; AND GLEN S. NASH, SENIOR TELECOMMUNICATIONS ENGINEER, STATE OF CALIFORNIA, DEPARTMENT OF GENERAL SERVICES

Mr. JENKINS. Mr. Chairman and members of the subcommittee, I appreciate the opportunity to be here today to discuss our work on wireless interoperable communications for first responders.

In November 2003 testimony before this subcommittee, we outlined three challenges in achieving interoperable communications that remain the principal challenges today. They are, one, clearly

defining and identifying the problem; two, establishing performance goals, requirements and standards; and three, defining governmental roles in addressing the problem.

This morning I'd like to highlight some key points from our report being released today that focuses on these challenges and the extent to which Federal grants support interoperable communications improvements. First, with regard to problem definition, the current status of interoperable communications capabilities nationwide, including the scope and severity of any shortcomings, has not yet been determined. To assess those capabilities, a set of requirements is needed that can be used to assess what is compared to what should be.

In April 2004, SAFECOM issued a document designed to serve as a set of requirements. SAFECOM expects to complete a baseline assessment of current interoperable capabilities by July 2005, but is still refining its methodology for developing that baseline.

Second, with regard to intergovernmental roles, Federal, State and local governments all have important roles in assessing interoperability requirements, identifying gaps in the current ability to meet those requirements and developing and implementing comprehensive plans for closing those gaps. The Federal Government can provide the leadership, focus and long-term commitment needed. It can take leadership in developing a national architecture for interoperability, a national data base for interoperable frequencies, a national standard nomenclature for those frequencies and supporting State efforts to develop and implement Statewide interoperable communication plans.

SAFECOM was established as the Federal umbrella program for coordinating all Federal initiatives and projects on public safety interoperable communications. According to SAFECOM, there are more than 100 Federal agencies and programs involved in public safety issues. SAFECOM's ability to provide the needed Federal leadership and coordination has been hampered by its dependence upon other Federal agencies for funding and cooperation. DHS has recently created the Office of Interoperability and Compatibility to be fully established by November 2004, and which will include SAFECOM. But the office's structure, funding and authority are still being developed.

With broad input from local governments and first responders, States can serve as the focal points for statewide interoperability planning and implementation. The FCC has recognized the States' importance by providing the States authority to administer the interoperability channels within the 700 megahertz spectrum. Some States are working to develop statewide plans, but there is no established structure or funding for supporting such efforts. Nor is there any guidance for States on what should be included in such plans.

And of course, such plans would need to encompass cross-State interoperability issues. New York, Philadelphia and Cincinnati are examples of metropolitan areas that cross State boundaries and where cross-State communications must be encompassed in any regional or State interoperability plan.

Third, the fragmented Federal grant structure for first responders does not effectively support statewide interoperability planning.

SAFECOM has developed recommended grant guidance for all Federal grants whose moneys could be used to improve interoperability. The guidance has been incorporated in part in some grants, but SAFECOM cannot require that consistent guidance be included in all Federal grants for first responders.

Moreover, the structure of some grants does not support long-term planning efforts, because for example, the grants do not require any interoperable communications plan prior to receiving funds. Or, the grants may also include a 1 or 2 year performance period that may encourage a focus on equipment purchases rather than comprehensive planning to guide those purchases.

Finally, Federal and State governments lack a coordinated grant review process to ensure that funds allocated to local governments are used for communication projects that complement each other and add to overall statewide and national interoperable capacity. One result is that grants could be approved for bordering jurisdictions that propose conflicting interoperable solutions. We recognize that SAFECOM has made progress in bringing leadership and focus to the Federal Government's interoperability efforts and many State and local officials are working diligently to assess and approve interoperable communications.

However, as we said last November, the fundamental barrier to effectively addressing wireless interoperability problems has been and remains the lack of effective, collaborative, interdisciplinary and intergovernmental cooperation and planning. Our report includes recommendations to the Secretary of DHS and the Director of OMB for enhancing Federal coordination and providing assistance and encouragement to States to establish statewide interoperable planning bodies that draw on the experience and perspectives of local first responders.

That concludes my statement, Mr. Chairman, and I'd be happy to answer any questions you or other members of the committee may have.

[NOTE.—The GAO report entitled, "Homeland Security, Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications," may be found in subcommittee files.]

[The prepared statement of Mr. Jenkins follows:]

United States General Accounting Office

GAO

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

For Release on Delivery
Expected at 10:00 a.m. EST
Tuesday, July 20, 2004

HOMELAND SECURITY

Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications

Statement of William O. Jenkins, Jr.
Director, Homeland Security and Justice Issues

GAO-04-963T

July 2004

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Highlights

Highlights of GAO-04-963T, a testimony before the Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform, House of Representatives

Why GAO Did This Study

Lives of first responders and those whom they are trying to assist can be lost when first responders cannot communicate effectively as needed. This report addresses issues of determining the status of interoperable wireless communications across the nation, and the potential roles that federal state, local governments can play in improving these communications.

What GAO Recommends

GAO recommends that the Secretary of DHS (1) continue to develop a nationwide database of and common terminology for public safety interoperability communications channels; (2) assess interoperability in specific locations against defined requirements; (3) through federal grant awards encourage state action to establish and support a statewide body to develop and implement detailed improvement plans; and (4) encourage that grant applications be in compliance with statewide interoperability plans, once they are developed. GAO also recommends that the Director of OMB work with DHS to review SAFECOM's functions and establish a long-term program with appropriate authority and funding to coordinate interoperability efforts across the federal government.

DHS generally agreed with our first two recommendations but did not specifically address the other recommendations to DHS. OMB had no comments.

www.gao.gov/cgi-bin/getrpt?GAO-04-963T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact William Jenkins at (202) 512-8777 or jenkinsw@gao.gov.

HOMELAND SECURITY

Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications

What GAO Found

In a November 6, 2003, testimony, GAO said that no one group or level of government could "fix" the nation's interoperable communications problems. Success would require effective, collaborative, interdisciplinary and intergovernmental planning.

The present extent and scope nationwide of public safety wireless communication systems' ability to talk among themselves as necessary and authorized has not been determined. Data on current conditions compared to needs are necessary to develop plans for improvement and measure progress over time. However, the nationwide data needed to do this are not currently available. The Department of Homeland Security (DHS) intends to obtain this information by the year 2005 by means of a nationwide survey. However, at the time of our review, DHS had not yet developed its detailed plans for conducting this survey and reporting its results.

The federal government can take a leadership role in support of efforts to improve interoperability by developing national requirements and a national architecture, developing nationwide databases, and providing technical and financial support for state and local efforts to improve interoperability. In 2001, the Office of Management and Budget (OMB) established the federal government's Wireless Public Safety Interoperable Communications Program, SAFECOM, to unify efforts to achieve national wireless communications interoperability. However, SAFECOM's authority and ability to oversee and coordinate federal and state efforts has been limited by its dependence upon other agencies for funding and their willingness to cooperate. OMB is currently examining alternative methods to implement SAFECOM's mission. In addition, DHS, where SAFECOM now resides, has recently announced it is establishing an Office for Interoperability and Compatibility to coordinate the federal response to the problems of interoperability in several functions, including wireless communications. The exact structure and funding for this office, which will include SAFECOM, are still being developed.

State and local governments can play a large role in developing and implementing plans to improve public safety agencies' interoperable communications. State and local governments own most of the physical infrastructure of public safety communications systems, and states play a central role in managing emergency communications. The Federal Communications Commission recognized the central role of states in concluding that states should manage the public safety interoperability channels in the 700 MHz communications spectrum. States, with broad input from local governments, are a logical choice to serve as a foundation for interoperability planning because incidents of any level of severity originate at the local level with states as the primary source of support. However, states are not required to develop interoperability plans, and there is no clear guidance on what should be included in such plans.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to be here today to discuss the critical issue of wireless interoperable communications for first responders.[1] In testimony last November before this subcommittee, we pointed out that the inability of first responders—police officers, fire fighters, emergency medical service personnel, public health officials, and others—to communicate effectively over wireless systems with one another as needed during an emergency is a long-standing and widely recognized problem in many areas across the country.[2] Reports have shown that when first responders cannot communicate effectively as needed, it can literally cost lives of both emergency responders and those they are trying to assist. Thus, effective communications between and among wireless communications systems used by federal, state, and local public safety agencies is generally accepted as not only desirable but essential for the protection of life and property. Public safety officials generally recognize that effective "interoperable" communications is the ability to talk with whom they want, when they want, when authorized, but not the ability to talk with everyone all of the time. The effective interoperability of wireless systems permits a rapid and coordinated response to an emergency incident, whether that incident is a "routine" spill from an overturned tanker truck or railcar, a natural disaster, or a terrorist attack.

In this statement and in the report we are releasing today,[3] we examine (1) issues in determining the current interoperable communications capabilities of first responders nationwide, including the scope and severity of interoperable wireless communications problems across the nation; (2) the potential roles that federal, state, and local governments can play in improving these communications, and (3) how the variety of federal grants for state and local first responders may encourage or inhibit

[1]Our work addressed issues of public safety wireless communications interoperability—communications that use radio frequency waves, such as cellular telephones and other types of wireless radios—instead of telephone wires for transmitting voice and data. We did not address interoperability problems that may be found in other homeland security functions, such as fire equipment, chem-bio equipment, and information technology.

[2]U.S. General Accounting Office, *Homeland Security: Challenges in Achieving Interoperable Communications for First Responders*, GAO 04-231T (Washington, D.C.: November 6, 2003).

[3] U.S. General Accounting Office, *Homeland Security: Federal Leadership and Intergovernmental Cooperation Required to Achieve First Responder Interoperable Communications*, GAO-04-740 (Washington, D.C.: July 2004).

the assessment of interoperable problems and the development of comprehensive plans to address those problems.

In doing our work, we met with federal, state, and local officials, obtained and reviewed appropriate documentation, attended several meetings of public safety communications officials, and met with staff of the National Governors Association. We conducted our work from July 2003 through June 2004 in accordance with generally accepted government auditing standards.

Summary

- The fundamental barrier to effectively addressing wireless interoperability problems for public safety has been the lack of effective, collaborative, interdisciplinary, and intergovernmental cooperation and planning.

Defining the Problem: Assessing Current Capabilities

- Interoperable communications needs are a function of effective incident command planning and operations structure that defines, for different circumstances and types of events, who is in charge and what types of information—voice, data, or both—would need to be communicated to whom under what circumstances.
- The current wireless interoperable communications capabilities of first responders nationwide has not been determined. To assess these capabilities a set of requirements is needed that can be used to assess "what is" compared to "what should be." The Office of Management and Budget has designated SAFECOM, within the Department of Homeland Security, as the focal point for coordinating federal efforts to improve interoperable communications. In April 2004, SAFECOM issued a document designed to serve as a set of baseline requirements and is working to develop a baseline of current capabilities by July 2005. This is a difficult task, and the details of SAFECOM's baseline study are still being worked out.

Federal Leadership and Intergovernmental Cooperation Is Needed

- The federal, state, and local governments all have important roles in assessing interoperability needs, identifying gaps in meeting those needs, and developing comprehensive plans for closing those gaps.

- The federal government can provide the leadership, long-term commitment, and focus to help state and local governments meet these goals. For example, the federal government can provide the leadership and support for developing (1) a national architecture that identifies communications requirements and technical standards, (2) a national database of interoperable communications frequencies, (3) a common nomenclature for those frequencies, and (4) statewide interoperable communications plans.

- SAFECOM's ability to provide federal leadership and coordination is hampered by its dependence upon other federal agencies for funding and cooperation. SAFECOM is to negotiate an annual memorandum of understanding on funding or program participation with each federal agency that OMB has designated as a partner with SAFECOM.

- DHS has recently created the Office of Interoperability and Compatibility, which it expects to be fully established by November 2004. As of June 2004, the exact structure and funding for the office, including SAFECOM's role within the office, were still being developed.

- With broad input from local governments and first responders, states can serve as focal points for statewide planning to improve interoperable communications. The Federal Communications Commission has recognized the important role of states by providing them authority to administer the interoperability channels within the 700 MHz band of communications spectrum.

- Some states are working to develop statewide plans. However, states are not required to establish a statewide capability to (1) integrate statewide and regional interoperability planning or (2) prepare statewide interoperability plans that maximize use of spectrum to meet the range of interoperability needs within the state. Nor is there is any guidance for states on what such plans should include.

Federal Grant Structure Does Not Support Statewide Planning

- The fragmented federal grant structure for first responders does not support statewide interoperability planning. SAFECOM has developed grant guidance for interoperability, but cannot require that consistent guidance be incorporated in all federal first responder grants.

- The structure of some federal grants does not support long-term planning efforts because, for example, they did not require a communications plan prior to receiving grant funds and required a 1- or 2-year performance period.

- The federal and state governments lack a coordinated grant review process to ensure that funds allocated to local governments are used for communication projects that complement each other and add to overall statewide and national interoperability capacity.

Recommendations

We recommend that the Secretary of DHS:

- in coordination with the FCC and the National Telecommunications and Information Administration, set target dates for completing the development of a nationwide interoperable frequency database and common nomenclature for those frequencies;
- establish national interoperable communications requirements and assist states in assessing current capacities against those requirements;
- use DHS grant guidance to encourage states to establish a single statewide body to assess and develop statewide plans for improving interoperable communications; and
- at the appropriate time, require through DHS grant guidance that all state or local grant applications for equipment purchases conform with statewide interoperable communications plans.

We also recommend that the Director of OMB, in conjunction with DHS, review the interoperability mission and functions now assigned to SAFECOM and establish those functions as a long-term program with adequate coordination authority and funding.

DHS generally agreed with the first two recommendations, but did not directly address the third and fourth recommendations. OMB had no comments on our draft report or recommendations.

Background

Interoperable communications is not an end in itself. Rather, it is a necessary means for achieving an important goal—the ability to respond effectively to and mitigate incidents that require the coordinated actions of first responders, such as multi-vehicle accidents, natural disasters, or terrorist attacks. Public safety officials have pointed out that needed interoperable communications capabilities are based on whether communications are needed for (1) "mutual-aid responses" or routine day-to-day coordination between two local agencies; (2) extended task force operations involving members of different agencies coming together to

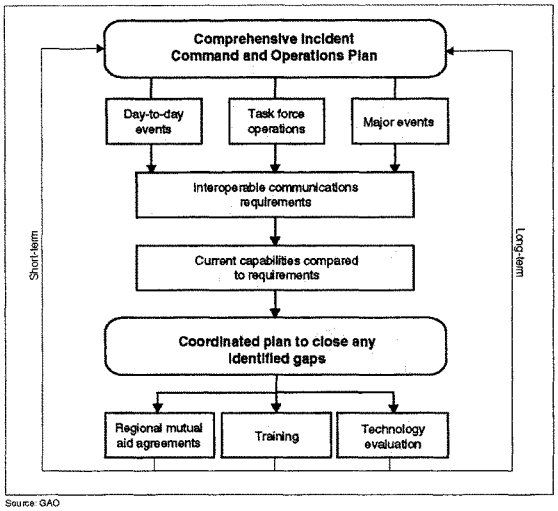
work on a common problem, such as the 2002 sniper attacks in the Washington, D.C. metropolitan area; or (3) a major event that requires response from a variety of local, state, and federal agencies, such as major wildfires, hurricanes, or the terrorist attacks of September 11, 2001. A California State official with long experience in public safety communications breaks the major event category into three separate types of events: (1) planned events, such as the Olympics, for which plans can be made in advance; (2) recurring events, such as major wildfires and other weather events, that can be expected every year and for which contingency plans can be prepared based on past experience; and (3) unplanned events, such as the September 11th attacks, that can rapidly overwhelm the ability of local forces to handle the problem.

Interoperable communications are but one component, although a key one, of an effective incident command planning and operations structure. As shown in figure 1, determining the most appropriate means of achieving interoperable communications must flow from an comprehensive incident command and operations plan that includes developing an operational definition of who is in charge for different types of events and what types of information would need to be communicated (voice, data, or both) to whom under what circumstances. Other steps include:

- defining the range of interoperable communications capabilities needed for specific types of events;
- assessing the current capabilities to meet these communications needs;
- identifying the gap between current capabilities and defined requirements;
- assessing alternative means of achieving defined interoperable communications requirements; and
- developing a comprehensive plan—including, for example, mutual aid agreements, technology and equipment specifications, and training—for closing the gap between current capabilities and identified requirements.

Interoperable communications requirements are not static, but change over time with changing circumstances (e.g., new threats) and technology (e.g., new equipment), and additional available broadcast spectrum. Consequently, both a short- and long-term "feedback loop" that incorporates regular assessments of current capabilities and needed changes is important.

FIGURE 1: A Planning Process for Interoperable Communications



Source: GAO

In addition, the first responder community is extensive and extremely diverse in size and the types of equipment in their communications systems. According to SAFECOM officials,[4] there are over 2.5 million public safety first responders within more than 50,000 public safety organizations in the United States. Local and state agencies own over 90 percent of the existing public safety communications infrastructure. This intricate public safety communications infrastructure incorporates a wide variety of technologies, equipment types, and spectrum bands.[5] In

[4]The Wireless Public Safety Interoperable Communications Program (SAFECOM) was established in 2001 by the Office of Management and Budget (OMB) to focus on communications interoperability issues.

[5]Spectrum bands are the useable radio frequencies in the electromagnetic distribution. Specific frequencies have been allocated to the public safety community.

addition to the difficulty that this complex environment poses for federal, state, and local coordination, 85 percent of fire personnel, and nearly as many emergency management technicians, are volunteers with elected leadership. Many of these agencies are small and do not have technical expertise; only the largest of the agencies have engineers and technicians.

In the past, a stovepiped, single jurisdiction, or agency-specific communication systems development approach prevailed—resulting in none or less than desired interoperable communications systems. Public safety agencies have historically planned and acquired communications systems for their own jurisdictions without concern for interoperability. This meant that each state and local agency developed communications systems to meet their own requirements, without regard to interoperability requirements to talk to adjacent jurisdictions.

For over 15 years, the federal government has been concerned with public safety spectrum issues, including communications interoperability issues.[6] A variety of federal departments and agencies have been involved in efforts to define the problem and to identify potential solutions, such as the Department of Homeland Security (DHS), the Department of Justice (DOJ), the Federal Communications Commission (FCC), and the National Telecommunications and Information Agency (NTIA) within the Department of Commerce (DOC), among others. Today, a combination of federal agencies, programs, and associations are involved in coordinating emergency communications.

DHS has several agencies and programs involved with addressing first responder interoperable communication barriers, including the SAFECOM program, the Federal Emergency Management Agency (FEMA), and the Office for Domestic Preparedness (ODP). As one of its 24 E-Gov initiatives, the Office of Management and Budget (OMB) in 2001 created SAFECOM to unify the federal government's efforts to help coordinate the work at the federal, state, local, and tribal levels to establish reliable public safety communications and achieve national wireless

[6]The radiofrequency spectrum is the medium that enables wireless communications of all kinds. Although the radio spectrum spans the range from 3 kilohertz to 300 gigahertz, 90 percent of its use is concentrated in the 1 percent of frequencies that lie below 3.1 gigahertz, because these frequencies have properties that make this portion of the spectrum well suited for many important wireless technologies. Radio waves are a form of electromagnetic radiation that propagate in space as the result of particle oscillations. The number of oscillations per second is called "frequency," which is measured in units of hertz. The term "kilohertz" refers to thousands of hertz and "gigahertz" to billions of hertz.

communications interoperability. The SAFECOM program was brought into DHS in early 2003. In June 2003, SAFECOM partnered with the National Institute of Standards and Technology (NIST) and the National Institute of Justice (NIJ) to hold a summit that brought together over 60 entities involved with communications interoperability policy setting or programs.

Several technical factors specifically limit interoperability of public safety wireless communications systems. First, public safety agencies have been assigned frequencies in new bands over time as available frequencies become congested and as new technology made other frequencies available for use. As a result, public safety agencies now operate over multiple frequency bands—operating on these different bands required different radios because technology was not available to include all bands in one radio. Thus, the new bands provided additional capabilities but fragmented the public safety radio frequency spectrum, making communications among different jurisdictions difficult. Another technical factor inhibiting interoperability is the different technologies or different applications of the same technology by manufacturers of public safety radio equipment. One manufacturer may design equipment with proprietary technology that will not work with equipment produced by another manufacturer.

Nature and Scope of Interoperable Communication Problems Nationwide Are Unknown

The current status of wireless interoperable communications across the nation—including the current interoperable communications capabilities of first responders and the scope and severity of the problems that may exist—has not been determined. Although various reports have documented the lack of interoperability of public safety first responders wireless communications in specific locations, complete and current data do not exist documenting the scope and severity of the problem at the local, state, interstate, or federal levels across the nation. Accumulating this data may be difficult, however, because several problems inhibit efforts to identify and define current interoperable communications capabilities and future requirements.

First, current capabilities must be measured against a set of requirements for interoperable communications, and these requirements vary according to the characteristics of specific incidents at specific locations. Who needs to talk to whom, when they need to talk, and what set of communications capabilities should be built or acquired to satisfy these requirements depends upon whether interoperable communications are needed for day-to-day mutual aid, task force operations that occur when members of

different agencies come together to work on a common problem such as the National Capitol Region sniper investigation, or major events such as a terrorist attack. Requirements for interoperable communications also may change with the expanding definition of first responders—from the traditional police, fire, and emergency medical providers to include such professions as health care providers and other professions—and the evolution of new technology.

Establishing a national baseline for public safety wireless communications interoperability will be difficult because the definition of who to include as a first responder is evolving, and interoperability problems and solutions are situation specific and change over time to reflect new technologies and operational requirements. In a joint SAFECOM/AGILE[7] program planning meeting in December 2003, participants agreed that a national baseline is necessary to know what the nation's interoperability status really is, to set goals, and to measure progress. However, at the meeting, participants said they did not know how they were going to define interoperability, how they could measure interoperability, or how to select their sample of representative jurisdictions; this was all to be determined at a later date. SAFECOM has embarked on an effort to establish a national baseline of interoperable communications capabilities by July 2005, but SAFECOM is still working out the details of the study that would be used to develop the baseline. At the time of our review, SAFECOM officials acknowledged that establishing a baseline will be difficult and said they are working out the details of their baseline study but still expect to complete it by July 2005.

DHS also has other work under way that may provide a tool for such self-assessments by public safety officials. An ODP official in the Border and Transportation Security Directorate of DHS said ODP is supporting the development of a communications and interoperability needs assessment for 118 jurisdictions that make up the Kansas City region. The official said the assessment will provide an inventory of communications equipment and identify how the equipment is used. He also said the results of this prototype effort will be placed on a CD-Rom and distributed to states and localities to provide a tool to conduct their own self assessments. SAFECOM officials said they will review ODP's assessment tool as part of a coordinated effort and use this tool if it meets the interoperability requirements of first responders.

[7]The Advanced Generation of Interoperability for Law Enforcement (AGILE) is a key DOJ program promoting wireless interoperability for first responders.

Second, technical standards for interoperable communications are still under development. Beginning in 1989, a partnership between industry and the public safety user community developed what is known as Project 25 (P- 25) standards. According to the Public Safety Wireless Network (PSWN)[8] program office, Project 25 standards remain the only user-defined set of standards in the United States for public safety communications. DHS purchased radios that incorporate the P-25 standards for each of the nation's 28 urban search and rescue teams. PSWN believes P-25 is an important step toward achieving interoperability, but the standards do not mandate interoperability among all manufacturers' systems. Standards development continues today as new technologies emerge that meet changing user needs and new policy requirements.

Third, new public safety mission requirements for video, imaging, and high-speed data transfers, new and highly complex digital communications systems, and the use of commercial wireless systems are potential sources of new interoperability problems. Availability of new spectrum can also encourage the development of new technologies and require further development of technical standards. For example, the FCC recently designated a new band of spectrum, the 4.9 Gigahertz (GHz) band, for use and support of public safety. The FCC provided this additional spectrum to public safety users to support new broadband applications such as high-speed digital technologies and wireless local area networks for incident scene management. The FCC requested in particular comments on the implementation of technical standards for fixed and mobile operations on the band. NPSTC has established a task force that includes work on interoperability standards for the 4.9 GHz band.

[8]The Department of Justice and the Department of the Treasury formed PSWN to promote effective public safety communications and to foster interoperability among local, state, federal, and tribal communications systems. PSWN was incorporated into DHS as part of the SAFECOM project in 2003.

Federal Leadership and Intergovernmental Cooperation Is Needed

The federal government, states, and local governments have important roles to play in assessing interoperability needs, identifying gaps in meeting those needs, and developing comprehensive plans for closing those gaps. The federal government can provide the leadership, long-term commitment, and focus to help state and local governments meet these goals. For example, currently national requirements for interoperable communications are incomplete and no national architecture exists, there is no standard database to coordinate frequencies, and no common nomenclature or terminology exists for interoperability channels. States alone cannot develop the requirements or a national architecture, compile the nationwide frequency database, or develop a common nationwide nomenclature. Moreover, the federal government alone can allocate communications spectrum for public safety use.

Need to Establish National Requirements and a National Architecture

One key barrier to the development of a national interoperability strategy has been the lack of a statement of national mission requirements for public safety—what set of communications capabilities should be built or acquired—and a strategy to get there. A key initiative in the SAFECOM program plan for the year 2005 is to complete a comprehensive Public Safety Statement of Requirements. The Statement is to provide functional requirements that define how, when, and where public safety practitioners communicate. On April 26, 2004, DHS announced the release of the first comprehensive Statement of Requirements defining future communication requirements and outlining future technology needed to meet these requirements. According to DHS, the Statement provides a shared vision and an architectural framework for future interoperable public safety communications. DHS describes the Statement of Requirements as a living document that will define future communications services as they change or become new requirements for public safety agencies in carrying out their missions. SAFECOM officials said additional versions of the Statement will incorporate whatever is needed to meet future needs but did not provide specific details.

A national architecture has not yet been prepared to guide the creation of interoperable communications. An explicit, commonly understood, and agreed-to blueprint, or enterprise architecture, is required to effectively and efficiently guide modernization efforts. For a decade, GAO has promoted the use of enterprise architectures, recognizing them as a crucial means to a challenging goal—agency operational structures that

are optimally defined in both business and technological environments.[9] SAFECOM officials said development of a national architecture will take time because SAFECOM must first assist state and local governments to establish their communications architectures. They said SAFECOM will then collect the state and local architectures and fit them into a national architecture that links federal communications into the state and local infrastructure.

Standard Databases and Common Nomenclature Not Yet Established

Technology solutions by themselves are not sufficient to fully address communication interoperability problems in a given local government, state, or multi-state region. State and local officials consider a standard database of interoperable communications frequencies to be essential to frequency planning and coordination for interoperability frequencies and for general public safety purposes. Police and fire departments often have different concepts and doctrines on how to operate an incident command post and use interoperable communications. Similarly, first responders, such as police and fire departments, may use different terminology to describe the same thing. Differences in terminology and operating procedures can lead to communications problems even where the participating public safety agencies share common communications equipment and spectrum. State and local officials have drawn specific attention to problems caused by the lack of common terminology in naming the same interoperability frequency.

The Public Safety National Communications Council (NCC), appointed by the Federal Communications Commission (FCC) was to make recommendations for public safety use of the 700 MHz communications spectrum. The NCC recommended that the FCC mandate (1) Regional

[9]An enterprise architecture can be viewed as a link between an organization's strategic plan and the program and supporting systems implementation investments it intends to pursue to systematically achieve its strategic goals and outcomes. As such the architecture is basically a blueprint, defined largely by interrelated models, that describes (in both business and technology terms) an entity's "as is" or current environment, its "to be" future environment, and its investment plan for transitioning from the current to the future environment. See U.S. General Accounting Office, *Information Technology: The Federal Enterprise Architecture and Agencies Enterprise Architectures Are Still Maturing*, GAO-04-798T (Washington, D.C.: May 19, 2004).

Planning Committee[10] use of a standard database to coordinate frequencies during license applications and (2) specific names be designated for each interoperability channel on all pubic safety bands. The NCC said that both were essential to achieve interoperability because public safety officials needed to know what interoperability channels were available and what they were called. In January 2001, the FCC rejected both recommendations. It said that the first recommendation was premature because the database had not been fully developed and tested. The FCC directed the NCC to revisit the issue of mandating the database once the database was developed and had begun operation. The FCC rejected the common nomenclature recommendation because it said that it would have to change the rules each time the public safety community wished to revise a channel label. In its final report of July 25, 2003, the NCC renewed both recommendations. It noted that the FCC had received a demonstration of a newly developed and purportedly operational database, the Computer Assisted Pre-Coordination Resource and Database System (CAPRAD), and that its recommendations were consistent with previous FCC actions, such as the FCC's designating medical communications channels for the specifc purpose of uniform useage.

Converting SAFECOM's Functions To A Long-Term Program

In 2001, the Office of Management and Budget (OMB) established SAFECOM to unify the federal government's efforts to help coordinate work at the federal, state, local, and tribal levels in order to provide reliable public safety communications and achieve national wireless communications interoperability. However, SAFECOM was established as an OMB E-Gov initiative with a goal of improving interoperable communications within 18-24 months—a timeline too short for addressing the complex, long-term nature of the interoperability problem.[11] In

[10]In 1987, the FCC developed a National Plan for Public Safety Radio Services that set national guidelines for use of the 800 MHz spectrum while allowing regional public safety planning committees to develop regional plans tailored to their areas own particular communications needs. A large portion of the 700 MHz public safety spectrum, approximately 53 percent (12.5 MHz), is designated for general use by local, regional, and state users. A regional planning process was adopted to govern management of this public safety spectrum. It is a process similar to that used in the 821-824 MHz and 866-869 MHz bands. Regional Planning Committees (RPCs) are allowed maximum flexibility to meet state and local needs, encourage innovative use of the spectrum, and accommodate new and as yet unanticipated developments in technology equipment. They are responsible for creating and managing regional plans.

[11]U.S. General Accounting Office, *Project SAFECOM: Key Cross-Agency Emergency Communications Effort Requires Stronger Collaboration*, GAO-04-494 (Washington, D.C.: April 16, 2004).

addition, the roles and responsibilities of various federal agencies within and outside DHS involved in communications interoperability have not been fully defined, and SAFECOM's authority to oversee and coordinate federal and state efforts has been limited in part because it has been dependent upon other federal agencies for cooperation and funding and has operated without signed memorandums of understanding negotiated with various agencies.

DHS, where SAFECOM now resides, announced in May 2004 that it had created an Office for Interoperability and Compatibility within the Science and Technology Directorate, to coordinate the federal response to the problems of wireless and other functional interoperability and compatibility. The new office is responsible for coordinating DHS efforts to address interoperability and compatibility of first responder equipment, to include both communications equipment and equipment such as personal protective equipment used by police and fire from multiple jurisdictions. The plan as approved by the Secretary of DHS states that by November 2004 the new office will be fully established and that action plans and a strategy will be prepared for each portfolio (type or class of equipment). The plan presents a budget estimate for creation of the office through November 2004 but does not include costs to implement each portfolio's strategy. The plans for the new office do not clarify the roles of various federal agencies or specify what oversight authority the new office will have over federal agency communications programs. As of June 2004, the exact structure and funding for the office, including SAFECOM's role within the office, were still being developed.

Multiple Federal Agencies Have Roles And Responsibilities For Interoperability

DHS has not defined how it will convert the current short-term program and funding structures to a permanent program office structure. When it does, DHS must carefully define the SAFECOM mission and roles in relation to other agencies within DHS and in other federal agencies that have missions that may be related to the OMB-assigned mission for SAFECOM. SAFECOM must coordinate with multiple federal agencies, including ODP within DHS, AGILE and the Office for Community Oriented Policing Services (COPS)[12] in DOJ, the Department of Defense, the FCC, the National Telecommunications and Information Administration within

[12]Congress authorized COPS within DOJ to administer the Interoperable Communications Technology Program in 2003. The program awarded 14 grants totaling more than $66 million to first responders for interoperable communications and provides technical assistance to grantees.

the Department of Commerce, and other agencies. For example, AGILE is the DOJ program to assist state and local law enforcement agencies to effectively and efficiently communicate with one another across agency and jurisdictional boundaries. The Homeland Security Act assigns the DHS Office for Domestic Preparedness (ODP) primary responsibility within the executive branch for preparing the United States for acts of terrorism, including coordinating or, as appropriate, consolidating communications and systems of communications relating to homeland security at all levels of government. An ODP official said the Homeland Security Act granted authority to ODP to serve as the primary agency for preparedness against acts of terrorism, to specifically include communications issues. He said ODP is working with states and local jurisdictions to institutionalize a strategic planning process that assesses and funds their requirements. ODP also plans to develop tools to link these assessments to detailed interoperable communications plans.

SAFECOM officials also will face a complex issue when they address public safety spectrum management and coordination. The National Telecommunications and Information Administration (NTIA) within the Department of Commerce is responsible for federal government spectrum use and the FCC is responsible for state, local, and other nonfederal spectrum use. The National Governors' Guide to Emergency Management noted that extensive coordination will be required between the FCC and the NTIA to provide adequate spectrum and to enhance shared local, state, and federal communications. In September 2002, GAO reported that FCC and NTIA's efforts to manage their respective areas of responsibility were not guided by a national spectrum strategy and had not implemented long-standing congressional directives to conduct joint, national spectrum planning.[13] The FCC and the NTIA generally agreed with our recommendation that they develop a strategy for establishing a clearly defined national spectrum plan and submit a report to the appropriate congressional committees. In a separate report, we also discussed several barriers to reforming spectrum management in the United States.[14] On June 24, 2004, the Department of Commerce released two reports entitled

[13]U.S. General Accounting Office, *Telecommunications: Better Coordination and Enhanced Accountability Needed to Improve Spectrum Management*, GAO-02-906 (Washington, D.C.: Sept., 2002).

[14]U.S. General Accounting Office, *Telecommunications: Comprehensive Review Of U.S. Spectrum Management With Broad Stakeholder Involvement Is Needed*, GAO-03-277 (Washington,D.C.: Jan., 2003).

Spectrum Policy for the 21st Century, the second of which contained recommendations for assessing and managing public safety spectrum.

SAFECOM's Authority To Coordinate Federal And State Efforts Is Limited

SAFECOM has limited authority to coordinate federal efforts to assess and improve interoperable communications. Although SAFECOM has developed guidance for use in federal first responder grants, SAFECOM does not have authority to require federal agencies to coordinate their grant award information. SAFECOM is currently engaged in an effort with DOJ to create a "collaborative clearinghouse" that could facilitate federal oversight of interoperable communications funding to jurisdictions and allow states access to this information for planning purposes. The database is intended to decrease duplication of funding and evaluation efforts, de-conflict the application process, maximize efficiency of limited federal funding, and serve as a data collection tool for lessons learned that would be accessible to state and locals. However, SAFECOM officials said that the challenge to implementing the coordinated project is getting federal agency collaboration and compliance. As of February 2004, the database contained award information from the 2003 COPS and FEMA interoperability communications equipment grants, but no others within or outside DHS.

SAFECOM's oversight authority and responsibilities are dependant upon its overall mission. OMB officials told us that they are currently in the process of refocusing the mission of the SAFECOM program into three specific parts: (1) coordination of federal activities through several initiatives, including participation in the Federal Interagency Coordination Council[15] and establishment of a process for federal agencies to report and coordinate with SAFECOM on federal activities and investments in interoperability; (2) developing standards; and (3) developing a national architecture for addressing communications interoperability problems. They said identification of all current and planned federal agency communications programs affecting federal, state, and local wireless interoperability is difficult. According to these officials, OMB is developing

[15]FICC is an informal council consisting of federal agencies, whose mission is to help local, tribal, state, and federal public safety agencies improve public safety response through more effective and efficient interoperable wireless communications by reducing duplication in programs and activities, identifying and promoting best practices and coordinating federal grants, technical assistance, training, and standards. Proposed FICC members are federal agencies within DOJ, DHS, Defense, Agriculture, Health and Human Services, and Commerce.

a strategy to best utilize the SAFECOM program and examining options to enforce the new coordination and reporting process. SAFECOM officials said they are working to formalize the new reporting and coordination process by developing written agreements with other federal agencies and by obtaining concurrence of major state and local associations to the SAFECOM governance structure. SAFECOM officials noted that this newly refocused SAFECOM role does not include providing technical assistance or conducting operational testing of equipment. They said that their authority to conduct such activities will come from DHS enabling directives. SAFECOM officials also said that they have no enforcement authority to require other agencies to use the SAFECOM grant guidance in their funding decisions or to require agencies to provide grant program information to them for use in their database.

State and Local Governments Can Play a Central Role

States, with broad input from local governments, can serve as focal points for statewide planning to improve interoperable communications. The FCC has recognized the important role of states. In its rules and procedures, the FCC concluded that because states play a central role in managing emergency communications and are usually in control at large scale-events and disasters, states should administer the interoperability channels within the 700 MHz band of communications spectrum. States can play a key role in improving interoperable communications by establishing a management structure that includes local participation and input to analyze and identify interoperability gaps between "what is" and "what should be," developing comprehensive local, state, and regional plans to address such gaps, and funding these plans. The states we visited or contacted—California, Florida, Georgia, Missouri, Washington and a five state Midwest consortium—were in various stages of formulating these management structures. However, states are not required to establish a statewide management structure or to develop interoperability plans, and there is no clear guidance on what should be included in such plans. In addition, no requirement exists that interoperability of federal communications systems be coordinated with state and local government communications systems. The use of a standard database on communications frequencies by public safety agencies within the state and common terminology for these frequencies in preparation and implementation of these statewide interoperable plans are essential but are also not required. Without planning, coordination, and applicable standards—in other words, without a commonly understood and accepted blueprint or national architecture—the communications systems developed between and among locations and levels of government may not be interoperable.

States are key players in responding to normal all-hazards emergencies and to terrorist threats. Homeland Security Presidential Directive 8 notes that awards to states are the primary mechanism for delivery of federal preparedness assistance for these missions. State and local officials also believe that states, with broad local and regional participation, have a key role to play in coordinating interoperable communications supporting these missions. The Public Safety Wireless Network (PSWN), in its report on the role of the state in providing interoperable communications, agreed. According to the PSWN report, state leadership in public safety communications is key to outreach efforts that emphasize development of common approaches to regional and statewide interoperability. The report said that state officials have a vested interest in establishing and protecting statewide wireless infrastructures because public safety communications often must cross more than one local jurisdictional boundary.[16]

However, states are not required to establish a statewide capability to (1) integrate statewide and regional interoperability planning and (2) prepare statewide interoperability plans that maximize use of spectrum to meet interoperability requirements of day-to-day operations, joint task force operations, and operations in major events. Federal, state, and local officials are not required to coordinate federal, state, and local interoperability spectrum resources that, if successfully addressed, have significant potential to improve public safety wireless communications interoperability. As a result, states may not prepare comprehensive and integrated statewide plans that address the specific interoperability issues present in each state across first responder disciplines and levels of government.

Several state and local agencies that we talked with emphasized that they are taking steps to address the need for statewide communications planning. State officials also told us that statewide interoperability is not enough because incidents first responders face could cross state boundaries. Thus, some states are also taking actions to address interstate interoperability problems. For example, Illinois, Indiana, Kentucky, Michigan, and Ohio officials said that their states have combined efforts to form the Midwest Public Safety Communications Consortium to promote interstate interoperability. According to these officials, they also have taken actions to form an interstate committee to develop interoperability

[16]See *The Role of The States in Public Safety Wireless Interoperability*, PSWN (2002).

plans and solicit support from key players, such as local public safety agencies.

Statewide Interoperable Communications Committees Offer Potential for Coordinated Statewide Planning

FCC recognized a strong state interest in planning and administering interoperability channels for public safety wireless communications when it adopted various technical and operational rules and polices for the 700 MHz band. In these rules and policies, FCC concluded that administration of the 2.6 MHz of interoperability channels in that band (approximately 10 percent) should occur at the state-level in a State Interoperability Executive Committee (SIEC). FCC said that states play a central role in managing emergency communications and that state-level organizations are usually in control at large-scale events and disasters or multi-agency incidents. FCC also found that states are usually in the best position to coordinate with federal government emergency agencies. FCC said that SIEC administrative activities could include holding licenses, resolving licensing issues, and developing a statewide interoperability plan for the 700 MHz band. Other SIEC responsibilities could include the creation and oversight of incident response protocols and the creation of chains of command for incident response and reporting. Available data indicate that 12 to 15 states did not create SIECs[17] but have relied on Regional Planning Committees or similar planning bodies.

Content and Scope of Statewide Interoperability Plans Not Established

A comprehensive statewide interoperable plan can provide the guiding framework for achieving defined goals for interoperability within a state and for regions within and across states (such as Kansas City, Mo and Kansas City, Kans.). NCC recommended that all SIECs prepare an interoperability plan that is filed with FCC and updated when substantive changes are made or at least every three years. NCC also recommended to FCC that SIECs, for Homeland Security reasons, should administer all interoperability channels in a state, not merely those in the 700 MHz band. According to NCC, each state should have a central point identified for information on a state's interoperability capability.

[17]FCC data show 38 states and the District of Columbia with SIECs or similar bodies and 12 states with Regional Planning Committees (RPC) assuming the SIEC role. However, PSWN data show 7 states with SIECs, 13 states with SIEC like committees, 15 states with statewide safety communication committees that have responsibilities broader than SIECs, and 15 states where RPCs have assumed SIEC responsibilities.

None of the four states we visited had finished preparation and funding of their state interoperability plans. Washington and Florida were preparing statewide interoperability plans at the time we visited. Georgia officials said they have a state interoperability plan but that it is not funded. However, one other state we contacted, Missouri, has extended SIEC responsibility for interoperability channels beyond the 700 MHz band.[18] The Missouri SIEC has also designated standard operational and technical guidelines as conditions for the use of these bands. SIEC requires applicants to sign a MOU agreeing to these conditions in order to use these channels in the state of Missouri. The Missouri SIEC Chairman said the state developed its operational and technical guidelines because FCC had not established its own guidelines for these interoperability channels in the VHF and UHF bands. The chairman said Missouri borders on eight other states and expressed concern that these states will develop different guidelines that are incompatible with the Missouri guidelines. He said FCC was notified of Missouri's actions but has not taken action to date. In another example, California intends to prepare a statewide interoperability plan. California's SIEC is re-examining California's previous stove piped programs of communications interoperability (separate systems for law enforcement, fire, etc.) in light of the need to maintain tactical channels within disciplines while promoting cross-discipline interoperability.

Coordination of Federal and State Interoperable Frequencies in Statewide Plans

FCC designated frequency coordinators[19] told FCC that planning for interoperability channels should include federal spectrum designated for interoperability with state and local governments. We found several examples in our field work that support inclusion of federal agencies in future state and local planning for interoperable communications. For example, a Washington State official told us that regional systems within the state do not have links to federal communications systems and assets. In another example, according to an emergency preparedness official in Seattle, a study of radio interoperable communications in a medical center also found that federal agencies such as FBI are not integrated into hospital or health communications systems, and other federal agencies

[18]Missouri SIEC responsibility includes FCC's designated interoperability channels (except for certain legacy mutual aid channels) in the VHF and UHF bands.

[19]FCC has certified specific associations to perform the coordination process used to choose appropriate frequencies for public safety mobile radio systems. This coordination is essential to ensure that the numerous systems across the country have clear and interference free operation on these critical radio systems.

have no radio infrastructure to support and participate in a health emergency such as a bio-terrorism event. He told us that he has no idea what the federal communications plan is in the event of a disaster; he said he does not know how to talk to federal health officials responding to an incident or what the federal government needs when they arrive.

The federal government is developing a system that could improve interoperable communications on a limited basis between state and federal government agencies. The Integrated Wireless Network (IWN) is a radio system that is intended to replace the existing radio systems for the DOJ, Treasury, and DHS. IWN is an exclusive federal law enforcement communications system that is intended to interact and interface with state and local systems as needed but will not replace these systems. According to DOJ officials, IWN is intended to improve federal to state/local interoperability but will not address interoperability of state and local systems.

However, federal interoperability with state and local wireless communications systems is hindered because NTIA and FCC control different frequencies in the VHF and UHF bands. To enhance interoperability, NTIA has identified 40 federal government frequencies that can be used by state and local public safety agencies for joint law enforcement and incident response purposes.[20] FCC, however, designated different frequencies for interoperability in the VHF band and in the UHF band from spectrum it controls for use by state and local public safety agencies.

Federal Grant Structure Does Not Support Statewide Planning

Total one-time replacement of the nation's communications systems is very unlikely, due to the costs involved. A 1998 study cited the replacement value of the existing public safety communication infrastructure nationwide at $18.3 billion.[21] DHS officials said this estimate is much higher when infrastructure and training costs are taken into account. Furthermore, DHS recently estimated that reaching an accelerated goal of communications interoperability will require a major investment of several billion dollars within the next 5 to 10 years. As a result of these extraordinary costs, federal funding is but one of several

[20]NTIA states that these frequencies may not be used to meet day-to-day communications needs of non-federal public safety agencies.

[21]*Land Mobile Radio Replacement Cost Study*, PSWN (June 1998).

resources state and local agencies must use in order to address these costs. Furthermore, given the high costs, the development of an interoperable communications plan is vital to useful, non-duplicative spending. However, the federal funding assistance programs to state and local governments do not fully support regional planning for communications interoperability. Federal grants that support interoperability have inconsistent requirements to tie funding to interoperable communications plans. In addition, uncoordinated federal and state level grant reviews limit the government's ability to ensure that federal funds are used to effectively support improved regional and statewide communications systems.

Local, state and federal officials agree that regional communications plans should be developed to guide decisions on how to use federal funds for interoperable communications; however, the current funding requirements do not support this planning process. Although recent grant requirements have encouraged jurisdictions to take a regional approach to planning, current federal first responder grants are inconsistent in their requirements to tie funding to interoperable communications plans. States and locals are not required to provide an interoperable communications plan as a prerequisite to receiving some federal grant funds. As a result, there is no assurance that federal funds are being used to support a well-developed strategy for improving interoperability. For example, the fiscal year 2004 Homeland Security Grant (HSG) and Urban Areas Security Initiative (UASI) grants require states or selected jurisdictions to conduct a needs assessment and submit a Homeland Security Strategy to ODP.[22] However, the required strategies are high-level and broad in nature. They do not require that project narratives or a detailed communications plan be submitted by grantees prior to receiving grant funds.

In another example, fiscal year 2003 funding provided by COPS and FEMA for the Interoperable Communications Equipment Grants did not require that a communications plan be completed prior to receiving grant funds. However, grantees were required to provide documentation that they were actively engaged in a planning process and a multi-jurisdictional and multidisciplinary project narrative was required. In addition to variations in requirements to create communications interoperability plans, federal

[22]In fiscal year 2004, this grant program's name changed from State Homeland Security Grant to Homeland Security Grant Program. The new program includes three different grant programs.

grants also lack consistency in defining what "regional" body should conduct planning.

Grant Submissions and Performance Period Time Frames Also Present Challenges to Short- and Long-Term Planning

State and local officials also said that the short grant application deadlines for recent first responder grants limited their ability to develop cohesive communications plans or perform a coordinated review of local requests. Federal officials acknowledged that the limited submission timeframes presents barriers to first responders for developing plans prior to receiving funds. For example, several federal grant programs—the Homeland Security Grant, UASI grant, COPs and FEMA communication equipment grants, Assistance to Firefighters Grant—allow states only 30 or 60 days from the date of grant announcement to submit a grant proposal. These time frames are sometimes driven by appropriations language or by the timing of the appropriations enactment. Furthermore, many grants have been awarded to state and locals for communications interoperability that have 1- or 2-year performance periods, and according to state and local officials, do not support long-term solutions. For example, Assistance to Fire Fighters Grants, COPS/ FEMA's Interoperable Communications Equipment Grants, and National Urban Search and Rescue grants all have 1-year performance periods.[23] UASI, HSG program, and Local Law Enforcement Block Grants have 2-year performance periods.

No Coordinated Federal or State Grant Review Exists to Ensure Funds are Used to Improve Regional or Statewide Communications Interoperability

The federal and state governments lack a coordinated grant review process to ensure that funds allocated to local governments are used for communication projects that complement each other and add to overall statewide and national interoperability. Federal and state officials said that each agency reviews its own set of applications and projects, without coordination with other agencies. As a result, grants could be given to bordering jurisdictions that propose conflicting interoperability solutions. In fiscal year 2003, federal officials from COPS and FEMA attempted to eliminate awarding funds to conflicting communication systems within bordering jurisdictions by coordinating their review of interoperable communications equipment grant proposals. However, COPS and FEMA

[23]In their technical comments on a draft of this report, COPS officials said the performance period for the FY 2003 Interoperable Communications Technology Equipment and the COPS Interoperable Communications Technology Program have a one year time period but that no-cost extensions of time were available to grantees on a case-by-case basis to accommodate unavoidable delays.

are only two of several federal sources of funds for communications interoperability.

In an attempt to address this challenge, in 2003 SAFECOM coordinated with other agencies to create the document *Recommended Federal Grant Guidance, Public Safety Communications and Interoperability Grants*, which lays out standard grant requirements for planning, building, and training for interoperable communications systems. The guidance is designed to advise federal agencies on who is eligible for the first responder interoperable communications grants, the purposes for which grant funds can be used, and eligibility specifications for applicants.[24] The guidance recommends standard minimum requirements, such as requirements to "...define the objectives of what the applicant is ultimately trying to accomplish and how the proposed project would fit into an overall effort to increase interoperability, as well as identify potential partnerships for agreements." Additionally, the guidance recommends, but does not require, that applicants establish a governance group consisting of local, tribal, state, and federal entities from relevant public safety disciplines and purchase interoperable equipment that is compliant with phase one of Project-25 standards.

The House Committee on Appropriations report for the DHS FY 2004 appropriation states that the Committee is aware of numerous federal programs addressing communications interoperability through planning, building, upgrading, and maintaining public safety communication systems, among other purposes. The Committee directed that all DHS grant programs issuing grants for the above purposes incorporate the SAFECOM guidance and coordinate with the SAFECOM program when awarding funding. To better coordinate the government's efforts, the Committee also encouraged all other federal programs issuing grants for the above purposes to use the guidelines outlined by SAFECOM in their grant programs. However, SAFECOM officials said that they have no enforcement authority to require other agencies to use this guidance in their funding decisions or to require agencies to provide grant program information to them for use in their database.

[24]DHS officials said that, in addition to outlining the eligibility for grant dollars and the purposes for which federal dollars can be used, the SAFECOM grant guidance provides consensus guidelines for implementing a wireless communications system. DHS said this guidance is useful in directing all agencies towards interoperability goals, even if they are not specifically applying for federal funding.

Conclusions

A fundamental barrier to successfully addressing interoperable communications problems for public safety has been the lack of effective, collaborative, interdisciplinary, and intergovernmental planning. Jurisdictional boundaries and unique public safety agency missions have often fostered barriers that hinder cooperation and collaboration. No one first responder agency, jurisdiction, or level of government can "fix" the nation's interoperability problems, which vary across the nation and often cross first responder agency and jurisdictional boundaries. Changes in spectrum available to federal, state and local public safety agencies—primarily a federal responsibility conducted through the FCC and NTIA—changes in technology, and the evolving missions and responsibilities of public safety agencies in an age of terrorism all highlight the ever-changing environment in which interoperable communications needs and solutions must be addressed. Interdisciplinary, intergovernmental, and multi-jurisdictional partnership and collaboration are essential for effectively addressing interoperability shortcomings.

Recommendations

We are making recommendations to DHS and OMB to improve the assessment and coordination of interoperable communications efforts. We recommend that the Secretary of DHS:

- in coordination with the FCC and National Telecommunications and Information Administration, continue to develop a nationwide database of public safety frequency channels and a standard nationwide nomenclature for these channels, with clear target dates for completing both efforts;
- establish requirements for interoperable communications and assist states in assessing interoperability in their states against those requirements;
- through DHS grant guidance encourage states to establish a single, statewide body to assess interoperability and develop a comprehensive statewide interoperability plan for federal, state, and local communications systems in all frequency bands; and
- at the appropriate time, require through DHS grant guidance that federal grant funding for communications equipment shall be approved only upon certification by the statewide body responsible for interoperable communications that grant applications for equipment purchases conform with statewide interoperability plans.

We also recommend that the Director of OMB, in conjunction with DHS, review the interoperability mission and functions now assigned to

SAFECOM and establish those functions as a long-term program with adequate authority and funding.

In commenting on a draft of this report, the Department of Homeland Security discusses actions the department is taking that are generally consistent with the intent of our recommendations but do not directly address specific steps detailed in our recommendations with respect to establishment of statewide bodies responsible for interoperable communications within the state, the development of comprehensive statewide interoperability plans and tying federal funds for communications equipment directly to those statewide interoperable plans. OMB did not provide written comments on the draft report.

This concludes my prepared statement, Mr. Chairman, and I would be pleased to answer any questions you or other members of the Subcommittee my have at this time.

Mr. TURNER. Thank you.

Dr. Boyd.

Dr. BOYD. Good morning, and thank you, Mr. Chairman and members of the committee for the invitation to speak to you today.

Whether fighting a fire or responding to a terrorist attack, emergency responders need coordination, communication and the ability to share vital information and equipment among a wide variety of public safety and security agencies. Unfortunately, the reality today is that agencies too often cannot communicate by radio because their equipment is incompatible or the frequencies they are assigned are different. They operate on 10 different frequency bands and run communications systems which are often 30 years old in an era with the technology life cycle of only 18 to 24 months.

Earlier this year, the Secretary of Homeland Security asked the Directorate of Science and Technology within DHS to lead the planning and implementation of a program office to significantly improve the coordination and management of the Department's interoperability programs for equipment and training as well as for communications, so we can make it possible for firefighters, police officers, and other emergency personnel to better communicate and share equipment during a major disaster. This office will reduce unnecessary duplication in programs and spending and assure consistency across Federal activities related to research and development, testing and evaluation standards, technical assistance, training and grant funding related to interoperability.

Since DHS assumed responsibility for SAFECOM 13 months ago, 5 principals have been put in place by SAFECOM to drive this new office. First, emergency response providers and homeland security practitioners who own, operate and maintain more than 90 percent of the Nation's wireless public safety infrastructure must be integrated into the program from its beginning to ensure the solutions we create actually meet their needs.

Second, coordination of existing Federal programs is essential to reduce unnecessary duplication of effort, permit the most efficient use of Federal resources and allow us to leverage the investments that many public safety agencies have already made. Third, properly designed non-proprietary open architecture standards are required to maximize competition across industry, encourage technology innovation, reduce costs and help to ensure compatibility among public safety and Homeland Security agencies.

Fourth, compliance with the National Incident Management System, the National Response Plan and relevant Homeland Security Presidential directives will provide a consistent, nationwide approach for agencies at all levels of government to work well together to prepare for, prevent, respond to and recover from major incidents. And finally, outreach efforts will emphasize the need for interoperability and provide tools for its implementation to practitioners and policymakers at all levels of government. We will model the operations of this office after the successful SAFECOM program. As a public safety practitioner driven program, SAFECOM is working with existing Federal communications initiatives and key public safety stakeholders to address the need to develop better technologies and processes for the cross-jurisdictional and cross-disciplinary coordination of existing systems and future networks.

SAFECOM developed the first national grant guidance already incorporated into grant programs of the community oriented policing services, Federal Emergency Management Agency and the Office for Domestic Preparedness to direct Federal programs funding public safety communications equipment in State and local agencies. In January of this year, the major associations representing the police chiefs, fire chiefs, sheriffs, mayors, cities, counties and public safety communications officers observed in a joint letter that with the advent of SAFECOM, public safety, and State and local governments finally have both a voice in public safety discussions at the Federal level and confidence that the Federal Government is coordinating its resources.

In April, SAFECOM published the first national statement of requirements for wireless public safety communications and interoperability which constitutes the first national definition of what interoperability must accomplish. It will drive the development and creation of interface standards that will satisfy public safety practitioner needs, offer industry a resource for understanding user needs, guide the development of new technologies and serve as a guide in developing SAFECOM research, development, test and evaluation programs.

Within a month of its posting, over 5,000 copies of the statement of requirements were downloaded, and manufacturers have begun to show us how they were mapping the capabilities of their equipment, especially new designs, to these requirements. We established a Federal interagency coordination council to bring together all the Federal players who provide grants to States and localities, operate communications systems that need to be interoperable or that have regulatory functions touching on interoperability. We've engaged in discussions with the FCC and recently agreed to form a task force to allow continuous interaction between the new interoperability office and FCC staff.

The Nation must continue to pursue the current, comprehensive strategy that takes into account technical and cultural issues associated with improving communications and interoperability. In doing so, it addresses research, development, testing and evaluation, procurement planning, spectrum management, standards, training, and technical assistance. The approach recognizes the challenges associated with incorporating legacy equipment and practices, given the constantly changing nature of technology.

It is imperative that this new Office of Interoperability, with its partners, work toward a world where lives and property are never lost because public safety agencies are unable to communicate or lack compatible equipment and training resources.

Thank you, Mr. Chairman. I'd be happy to answer any questions.

[The prepared statement of Dr. Boyd follows:]

Statement for the Record

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Director, SAFECOM Program Office

Science and Technology Directorate

Department of Homeland Security

Before the U.S. House of Representatives

Committee on Government Reform

Subcommittee on National Security, Emerging Threats, and International Relations

July 20, 2004

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Introduction

Good morning and thank you, Mr. Chairman and Members of the Subcommittee for the invitation to speak to you today. I appreciate your interest in The Department of Homeland Security's interoperability efforts and am grateful for this opportunity to address the important issue of public safety interoperability and compatibility before you. Today's testimony will focus on the relationship the Department of Homeland Security (DHS) has with the Federal Communications Commission (FCC), and State and local agencies interested in executing common interoperability standards.

Public Safety Background

> As Secretary Ridge stated on February 24, 2004,
>
> The ability for our Nation's first responders to communicate with each other as well as share equipment in times of crisis is a critical issue facing our Nation. Solving this challenge is a long-standing and complex problem. There are, however, some immediate steps the department can take this year to address the ... communications and equipment needs of first responders and make substantial progress toward achieving the penultimate communications solution.

Communications interoperability is the ability of public safety agencies to talk across disciplines and jurisdictions via radio communications systems, exchanging voice and/or data with one another on demand, in real time, as authorized. The Nation is heavily invested in an existing infrastructure that is largely incompatible. Currently, efforts within the Federal Government to address the interoperability problem are being coordinated with Federal, State and local practitioners. However, there remain many challenges, both technical and cultural, facing the improvement of public safety communications and interoperability.

Whether fighting a fire or responding to a terrorist attack, efficient and effective emergency response requires coordination, communication, and the sharing of vital information and equipment among numerous public safety and security agencies. As the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* makes clear, "systems supporting emergency response personnel, however, have been specifically developed and implemented with respect to the unique needs of each agency. Such specification complicates interoperability, thereby hindering the ability of various first responder organizations to communicate and coordinate resources during crisis situations." DHS believes this issue is so important that it has identified interoperability of communications and equipment as the number two priority for the Department's second year. We seek to ensure the interoperability of critical emergency response systems or products by making it possible for them to work with other systems or products without special effort on the part of the user.

The Department also has developed intradepartmental program offices to address the needs identified by emergency response providers[1] and to respond to the problems identified in the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets*. The National Strategy for Homeland Security also identifies "ensuring seamless communications among all responders a DHS priority. One of the new interdepartmental offices is a program office charged with significantly improving the coordination and validation of the Department's interoperability programs, thus allowing firefighters, police officers and other emergency personnel to better communicate and share equipment with each other during a major disaster.

Since its beginning, the Department has been involved with the issue of wireless interoperability through project SAFECOM (Wireless Public SAFEty Interoperable COMmunications) As a public safety practitioner driven program, SAFECOM, housed within the Department, has been the Federal Government's central point in coordinating Federal wireless investments and activities and partner with State, local, and Tribal governments to improve the interoperability of our Nation's wireless communications.

Secretary Ridge has now specifically tasked the Science and Technology (S&T) Directorate within DHS, in coordination with other DHS programs, to lead the planning and implementation of an office of interoperability that will address the larger issues of interoperability and compatibility, including wireless communications. By coordinating and leveraging the vast range of interoperability programs and related efforts spread across the Federal Government, this office, currently titled the "Office of Interoperability and Compatibility" (OIC), will reduce unnecessary duplication in programs and spending and ensure consistency across federal activities related to research and development, testing and evaluation (RDT&E), standards, technical assistance, training, and grant funding related to interoperability. This new program office will also encompass the SAFECOM office, which will continue as a key national initiative within the communications programs of OIC, in the Department's efforts to address the larger issue of interoperability.

Portfolio Areas

Within OIC, DHS is creating a series of portfolios to address critical issues related to the emergency response provider and homeland security communities. Initial priority portfolio areas the office will be addressing, in coordination with other departmental offices such as the DHS Office for Domestic Preparedness (ODP), include:

- Communications (through the SAFECOM Program Office);
- Equipment;
- Training; and

[1] As defined in the Homeland Security Act of 2002, Section 2(6), "The term 'emergency response providers' includes Federal, State, and local emergency public safety, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities." 6 U.S.C. 101(6)

- Others as required.

The OIC currently is identifying the necessary Federal stakeholders and will utilize these stakeholders to assess and finalize the portfolio areas. Through this process, the OIC will identify existing initiatives as well as the most appropriate short-term deliverables.

Office Implementation

The OIC is being modeled after the SAFECOM Program, which represents a successful model for how to address highly sophisticated technical and policy issues associated with public safety communications and interoperability. Leveraging the work that the SAFECOM Program has already undertaken, the OIC will look to replicate relevant elements of the SAFECOM process and to build on SAFECOM's achievements in bolstering public safety communications.

The new OIC will employ a systems engineering or lifecycle approach to identifying, defining, and developing action plans in each portfolio area. This lifecycle approach is both iterative and collaborative. It emphasizes the need to create a common set of standards, policies, and procedures that encourage backwards compatibility of new solutions which will drive the migration of systems towards advanced, interoperable equipment and processes in the future. Common components of this lifecycle approach include:

- Validation of needs assessments (consistent with Homeland Security Presidential Directive-8, which lays out the National Preparedness Goal, as appropriate);
- Development, with the user community, of a comprehensive statement of requirements for each portfolio;
- Completion of baselines to provide starting points for each portfolio;
- A robust research and development program for new capabilities;
- A robust standards program to identify and adopt existing, effective standards for public safety equipment and to support the development of essential new standards when none exist.
- Testing and evaluation of existing technologies;
- Development of common standards for training and technical assistance;
- Development of appropriate grants/funding guidance; and
- Development of policy and legal reference materials or recommendations relevant to each portfolio.

Within the OIC, we are following the successful SAFECOM model by creating action plans for each of these areas, and for others identified as the portfolios are developed. Each of these action plans will be developed through a collaborative process that brings together the relevant stakeholders to provide clear direction on a path forward. The process to develop action plans will involve:

- Assessment of the government agencies involved in each portfolio;
- Identification of the relevant stakeholders at the Federal, State and local levels;
- A stakeholder working session to define the issues, assess user needs, and create a detailed vision of the "end state" for each portfolio; and
- A governance structure that ensures ongoing participation on the part of key stakeholders at the Federal, State and local levels.

Through this end-user input, the new OIC will produce a strategy and action plan to address the interoperability and compatibility needs in each of these portfolios.

The OIC structure will be an organizational reflection of the lifecycle process it is designed to manage and support. The main purpose of the OIC will be to provide common standards of practice, protocol, planning, and evaluation across the broadest spectrum of interoperability activities and to facilitate the prioritization and coordination of these efforts within the framework of a common, nationwide vision.

The OIC will include a program management office responsible for coordinating the activities of the various portfolios. In addition, a cross-departmental coordinating council or interagency interoperability policy board, chaired by the Undersecretary for S&T, will be established to ensure that its efforts are coordinated intra- and inter-departmentally. This board will help reduce duplication in programs and activities.

With respect to specific tasks, the new OIC has already, at the direction of the Secretary of Homeland Security, undertaken a major initiative – RapidComm 9/30 – to achieve near term, emergency, incident-level interoperability in ten high threat urban areas by September 30, 2004. Working with multiple relevant Federal agencies, including the ODP, the Department of Justice, and the National Guard, we have begun working with all ten urban areas to identify what it is in place, what is available, and what is still needed to provide interoperability to support a major incident.

Players: Owners, Partners, and Stakeholders

Those with a vested interest in the interoperability office include the people, agencies, and organizations that will directly benefit from enhanced interoperability of equipment and processes. Creating interoperability requires coordination and partnerships among office managers, partners, and stakeholders. Secretary Ridge has directed that S&T, as

the manager—or owner—of OIC, establish partnerships with all relevant offices and agencies in order to effectively coordinate similar activities. These partners will be instrumental in ensuring that our programs address all possible issues, ranging from grants for equipment procurement to regulatory policy creation. These partners and additional relevant stakeholders include representatives from the following communities:

- Emergency response providers represented by their national associations
- Department of Homeland Security and other government agencies
    - Operational programs and offices
    - Research & development offices
    - Test & evaluation programs
    - Technical assistance providers
    - Grant programs;
- Standards Development Organizations; and
- Industry

Principles for Achieving Interoperability

In order for the OIC to effectively coordinate and validate the Department's interoperability programs, it will need to employ a common set of standards, policies, and procedures. This will require that the program employ a user driven approach and recognize the substantial investments that public safety and homeland security agencies have already made in existing equipment and procedures. Additionally, OIC must recognize the challenges associated with incorporating legacy equipment and practices in the face of constantly changing technology. Driving principles behind the management of this office include:

1. *Recognizing that it must be a user driven program* - Emergency response providers and homeland security practitioners – who own, operate and maintain more than 90% of the nation's wireless public safety infrastructure – will be integrated into the program from its beginning, thereby allowing the program to create solutions that meet their needs. The public safety community will be involved primarily through associations. There are two reasons for this approach. First, the associations represent the leadership of their respective constituencies; and second, as the National Task Force on Interoperability (NTFI) has demonstrated, the associations are an excellent way to reach out to these communities.

2. *Extensive leveraging of what exists* - Cooperation and coordination with existing programs reduces unnecessary duplication of effort and increases efficient use of Federal resources dedicated to common causes. In addition, the investments that many public safety agencies have already made must be maximized.

3. *A standards-based approach* - Standards maximize competition across industry, encourage technology innovation, create an overall cost savings, and increase compatibility among public safety and homeland security agencies.

4. *Compliance with key policy documents and initiatives* – Compliance with the National Incident Management System, the National Response Plan, and relevant Homeland Security Presidential Directives will provide a consistent nationwide approach for agencies at all levels of government to work effectively and efficiently together to prepare for, prevent, respond to, and recover from major incidents.

5. *An effective outreach program* - Outreach efforts will emphasize the need for interoperability, and tools for its implementation, to practitioners and policy makers at all levels of government, and the public safety community.

The Communications Portfolio - SAFECOM

The Communications Portfolio, will continue to build on SAFECOM's achievements in bolstering public safety communications.

As a public safety practitioner driven program, and as part of the interoperability office, SAFECOM is working with existing Federal communications initiatives and key public safety stakeholders to address the need to develop better technologies and processes for the cross-jurisdictional and cross-disciplinary coordination of existing communications systems and future networks. The customer base includes more than 50,000 State and local public safety agencies and organizations. Federal customers include more than 100 agencies engaged in public safety disciplines such as law enforcement, firefighting, public health, and disaster recovery. SAFECOM, and OIC are also working closely with the FCC to identify interoperability solutions for the first responder community. Recently the SAFECOM Program and the FCC agreed to set up a joint interoperability task force and have identified its first members in an effort to enhance achieving this objective. This task force will be formalized in the near future.

SAFECOM's objectives include: (1) developing standards in partnership with Federal, State, local and Tribal public safety organizations to define the requirements for first responder interoperability at all levels; (2) building from those standards, developing an architectural framework in coordination with the work under the National Response Plan to assist in the progression towards wireless interoperability; and (3) developing and implementing a process to coordinate the Federal Government's wireless interoperability investments and programs.

In addition, key challenges in achieving improved public safety communications and interoperability include both the lack of and fragmentation of spectrum. From the 1920's, when two-way radio communication began, spectrum was allocated as needed with little planning and no consideration of cross-jurisdictional interoperability. Originally, as the National Task Force on Interoperability (NTFI) report released in February 2003 has observed, almost all public safety communications were originally confined to the low end of the frequency range. As technology improved and increasing numbers of agencies began to set up radio communications systems, more radio spectrum was required and transmission at higher frequencies became both necessary and technologically possible. Hence, the FCC assigned frequencies in different bands, offering a temporary solution for congestion and crowding. The result is that public safety currently operates in ten separate bands, which has contributed to the fragmentation that characterizes public safety spectrum today and the consequent lack of public safety interoperability. On-going problems related to interference, overcrowding, and proprietary solutions still hamper the most effective use of the limited and fragmented public safety spectrum.

Spectrum issues are not simply technical problems requiring engineering solutions. Policies surrounding the use of spectrum—a limited resource sought by competing private and governmental interests—restrict public safety's ability to use it more efficiently. For example, in 1997, Congress allocated 24 MHz of spectrum in the 700 MHz band specifically to public safety. However, most of the 700 MHz spectrum allotted to public safety is currently unavailable for public safety because of television broadcasts on channels 63, 64, 68, and 69, especially in major metropolitan areas. Although this spectrum is scheduled to be available for public safety use on January 1, 2007, television stations are permitted to stay in the 700 MHz band until 85 percent of the households in their market areas have televisions capable of receiving digital television (DTV) signals. Currently only 14 percent of the current television sets in the U.S. are capable of receiving DTV signals. The result is that public safety is unable to make use of this much needed spectrum, on which lives may depend in daily public safety operations, and during times of disaster.

Spectrum policy is an essential issue in the public safety communications arena. Unfortunately, State and local public safety representatives are frequently not included in spectrum policy decisions, despite their majority ownership of the communications infrastructure and their importance as providers of public and homeland security. SAFECOM will hence play a key role in representing the views of State and local stakeholders on spectrum issues within the Federal Government. Last year, SAFECOM was appointed to an interagency Spectrum Task Force to contribute such views, and the ongoing working relationship that has developed between SAFECOM and the FCC will, we believe, pay huge dividends in the future. With the FCC's recent decision on the 800 mHz interference issue, we join with the public safety community in applauding the Federal Government's efforts to address public safety needs.

SAFECOM Achievements To Date

Over the last year, SAFECOM has made significant progress in both achieving its short-term goals and building the foundation for a comprehensive longer term program. It has established itself as the umbrella program within the Federal government for coordination with Federal, State, local and Tribal public safety agencies to improve public safety communication and interoperability.

- *Coordinated Funding Assistance* - In FY 2003, SAFECOM developed grant guidance in keeping with the needs of public safety for use by Federal programs funding public safety communications equipment to State and local agencies. Community Oriented Policing Services (COPS), Federal Emergency Management Agency (FEMA), and ODP incorporated this guidance into their public safety communications grants. This guidance marked the first coordinated approach to funding requirements. In further support of the coordinated grant process, SAFECOM organized and funded the peer review process for the joint grant solicitation from COPS and FEMA. SAFECOM also supported the Department of Commerce National Institute of Standards and Technology (NIST) Summit on Interoperability that was the first step towards identifying all the Federal and national programs involved in public safety communications so that a broader coordination effort can continue.

- *Statement of Requirements Development* - SAFECOM recently developed the Statement of Requirements (SoR) for Wireless Public Safety Communications and Interoperability in coordination with the National Public Safety Telecommunications Council, NIST, and the Department of Justice's CommTech Program (formerly the AGILE Program). The SoR contains interoperability scenarios describing how SAFECOM envisions technology enhancing public safety. From these scenarios, operational requirements are defined and functional requirements of the technologies are extrapolated. The requirements identified in the SoR will drive the development and creation of interface standards that will satisfy public safety practitioner needs. The SoR will also offer industry a resource for understanding the users' needs in the development of new technologies and serve as a guide for SAFECOM to develop its research development, test, and evaluation program and constitutes the first national definition of what interoperability must accomplish. Using the requirements detailed in the SoR as the basis, SAFECOM is currently working with state and local public safety practitioners to develop an interoperability architectural framework. This framework provides a description of how the requirements detailed in the SoR support nationwide interoperability, allowing different state and local communications systems to interoperate in a system-of-systems network. A draft of the Architectural Framework will be completed by the end of 2004.

- *SAFECOM Strategic Plan Update* - SAFECOM conducted a strategic planning session at the Executive Committee (EC) and Advisory Group (AdG) meetings in June, 2004. The EC and AdG are comprised of senior level stakeholders from the Federal, State and local public safety communications communities. The strategic initiatives developed at the December Joint Planning Meeting were reviewed, and new objectives for the short and long term goals of the program were developed. SAFECOM is currently producing and will soon distribute a modified strategic plan based on stakeholder comments presented at these meetings.

SAFECOM On Track to Achieve Critical Milestones in 2004, including (but not limited to):

Detailed Interoperability Project Plan for the Commonwealth of Virginia

- SAFECOM will develop a detailed project plan using the result of the strategic planning session and the project team's technical expertise. This project plan will include tasks that need to be accomplished by the Commonwealth along with realistic timeframes for completion. Like the Virginia Strategic Planning Session, this plan will serve as a model for other states as they work towards achieving communications interoperability for public safety first responders.

Interoperability Grant Peer Review

- SAFECOM will facilitate interoperability grant peer review sessions enabling public safety communications subject matter experts to evaluate and comment upon grant applications for FY 2004 COPS and FEMA communications equipment grants. These reviewers will ensure that grants will be distributed only for projects that meet SAFECOM developed interoperability requirements.

RapidCom9/30

- SAFECOM is undertaking an initiative to ensure a minimum level of public safety interoperability is in place in ten key urban areas by September 30, 2004. The RapidCom9/30 project will provide incident commanders in charge of managing/directing various responding agencies the ability to adequately communicate with each other and the respective command center within one hour of an incident. Due to this effort's limited scalability, it is not meant to serve as a comprehensive public safety communications solution, but as an interim solution that provides a minimum-level interoperability capability during emergency responses.

Narrowbanding Report

- SAFECOM will release a report detailing the program's recommendations on spectrum policy in regard to narrowbanding in the 700 MHz band. As recent events in the 800 MHz band have shown, coordinated spectrum policy is important for public safety communications, and SAFECOM's input to any plan in the 700 MHz band will allow for more efficient spectrum use when allocated frequencies become available in the next decade.

National Guard Study

- SAFECOM will release a report outlining how National Guard Land Mobile Radio (LMR) resources can be incorporated into the plan to achieve nationwide interoperability. It will also identify how local public safety organizations can leverage National Guard assets. The National Guard already has a great deal of investment in LMR facilities, and this report will help local and state public safety organizations utilize resources that may already be present in their communities.

Communication Device Report

- SAFECOM will release a report detailing the findings of its testing and evaluation program. The first report will focus on the performance of public safety communications equipment with the P25 Phase I standard. This report is the first step in developing a comprehensive national architecture plan for communications interoperability.

Portal for Interoperability Information

- The Web Portal of Interoperability Information will be the "One-Stop-Shop" for information pertaining to public safety communications interoperability. As a portal, it will be an interactive community space, allowing registered users to research potential solutions as well as share their thoughts on existing technologies. Version 1.0 of this portal, which will be released in November 2004 is the first attempt to provide first responders with a central repository of critical information pertaining to communications interoperability.

National Interoperability Baseline Methodology

- SAFECOM will release a methodology detailing how a baseline of the level of interoperability nationwide can be established. The baseline is required in order to understand the current level of interoperability at the local and State levels and will be used to measure the success of the SAFECOM Program in achieving national communications interoperability for first responders in the coming years.

Conclusion

Our Nation is heavily invested in an existing infrastructure that is largely incompatible. As I stated earlier, current efforts within the Federal Government to address the interoperability problem are being coordinated to incorporate the needs of Federal, State and local practitioners. We must continue to pursue the current comprehensive strategy that takes into account technical and cultural issues associated with improving communications and interoperability, and recognizes the challenges associated with incorporating legacy equipment and practices given the constantly changing nature of technology.

The many obstacles facing public safety interoperability make for complex problems with no one-size-fits-all solution. Flexible and dynamic solutions are necessary to combat the unique challenges presented by the first responder world. The new OIC and its partners will continue to work towards a world where lives and property are never lost unnecessarily because public safety agencies are unable to communicate or lack compatible equipment and training resources.

Mr. TURNER. Thank you.

Mr. Muleta.

Mr. MULETA. Good morning, Mr. Chairman and members of the subcommittee. I want to thank you for this opportunity to appear before you on behalf of FCC to discuss our work in facilitating interoperability between the Nation's public safety communication systems.

As an initial matter, I commend your decision to request GAO to study the critical issues related to public safety interoperability and its importance to homeland security. Our staff at the FCC is committed to participating in the initiatives of other interested stakeholders designed to identify, assess and analyze interoperability successes and challenges. I look forward to hearing this committee's views regarding the findings and the recommendations of the report.

The FCC's experience working with public safety entities and stakeholders is expansive and far-reaching. Today there are more than 40,000 spectrum licenses designated for public safety systems under the Communications Act. The FCC has a unique role of providing spectrum that State and local governments use as an integral part of these systems. Under the leadership of Chairman Powell, the Commission has intensified its efforts in this area and designated homeland security and public safety issues as one of the Commission's six core strategic objectives.

As September 11th vividly demonstrated, the ability of public safety systems to communicate seamlessly at incident sites with minimal onsite coordination is critical to saving lives and property. The FCC is therefore committed to use all of its resources to promote and enhance the interoperability of the thousands of public safety systems that make up the critical part of our Nation's homeland security network.

Our experience indicates that a holistic approach is the best method for fostering interoperability. Achieving interoperability requires focus on more than spectrum, technology and equipment issues. It also requires a focus on the organizational and the personal coordination and communication necessary to make it available in the times of our greatest needs. For its part, the Commission directs its efforts toward providing additional spectrum for public safety systems, nurturing technological developments enhancing interoperability, and providing its expertise and input to interagency efforts such as SAFECOM to improve our homeland security.

It is important that despite all its efforts, there are limits to what the FCC can do. The FCC 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.

In terms of additional spectrum for public safety, the Commission currently has designated throughout the country approximately 97 megahertz of spectrum for public safety use. The Commission has also designated certain channels on these public safety bands specifically for interoperability, and a public safety licensee may use these designated frequencies only if it uses equipment that permits inter-system interoperability. The frequencies that have so-called use designations include 2.6 megahertz in the 700 megahertz band, 5 channels in the 800 megahertz band, 5 channels in the 150 megahertz band, which is a VHF band, and 4 channels in the 450 megahertz band, which is the UHF band.

In addition, and very importantly, starting next January 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 they operate.

In the last few years, the Commission has made two additional spectrum allocations that illustrate the importance placed on ensuring public safety entities have additional interoperable spectrum to carry out their critical missions. First, consistent with the Balanced Budget Act of 1997, the FCC identified and allocated 24 megahertz in the 700 megahertz band for public safety use. In particular, we also dedicated 2.6 megahertz of the spectrum for interoperability purposes.

Given the central role the States provide in managing emergency communications and consistent also with the GAO's findings, the FCC also 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 and coordinated communications on the 700 megahertz interoperability spectrum.

Second, the FCC designated 50 additional megahertz of spectrum at 4.9 gigahertz for public safety users in response to requests from public safety community for additional spectrum for broad band data communications. The 4.9 gigahertz band also fosters interoperability by providing a new regulatory framework in which traditional public safety entities can pursue strategic relationships with others, such as critical infrastructure entities, for the completion of their mission.

In addition to using its resources to identify additional spectrum, the FCC has also provided innovative licensing methods, creative planning methods that encourage better coordination, and advocated new technologies in order to promote the effective, interoperable use of public safety spectrum. Foremost, the Commission adopted the regional planning approach spectrum management as an alternative to the traditional first in the door approach to spectrum licensing and management in the public safety context.

The Commission has also developed new rules permitting two types of spectrum sharing in order to promote interoperability. First, the FCC's rules specifically provide for shared use of radio stations where public safety licensees may share their facilities on a non-profit cost shared basis with other public safety organizations that use it as end users. This rule has now been expanded to also include Federal Government users.

A second type of sharing is unique to the 700 megahertz public safety spectrum. In this spectrum band, State and local public safety licensees may construct and operate joint facilities with the Federal Government.

In terms of coordination, the FCC recognizes interagency coordination as an essential factor in developing effective interoperability. In 1999, the FCC organized a public safety National Coordination Committee as a Federal advisory committee, and asked it to recommend technical and operational standards that provide for interoperability in the 700 megahertz public safety band. The NCC, which finished its charter last year, also worked with the Telecommunications Industry Association, an accredited open standards developer, to develop interoperability technical standards that are open and non-proprietary, that are lowering costs and increasing the rate of adoption by public safety licensees.

The Commission staff also routinely confers and does outreach with critical organizations, including the Association of Public Safety Commissions Office, the National Public Safety Telecommunications Council, the International Association of Fire Chiefs and the International Association of Chiefs of Police, some of whose representatives are here today. Moreover, the staff is closely working with the Department of Homeland Security SAFECOM, as we both 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. Dr. Boyd and I are also continuing to work together at a personal level to promote and ensure effective coordination regarding homeland security and public safety communications initiatives.

In addition to our regular meetings, we recently committed to establish an informal working group comprised of representatives of our respective staffs to meet and share information on a regular basis on issues of interoperability.

I'd like to thank you again for the opportunity to testify in front of you on this important issue affecting our homeland security, and I'll be glad to answer any additional questions.

[The prepared statement of Mr. Muleta follows:]

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.

Mr. TURNER. Thank you.

Mr. Devine.

Mr. DEVINE. Good morning, Mr. Chairman and members of the committee. Thank you for providing me the opportunity to share my thoughts today on this important topic.

In Missouri, I am involved in public safety communications, regional planning initiatives. I serve as the local APCO advisor, and I chair the Missouri Statewide Interoperability Executive Committee.

The Missouri State Interoperability Executive Committee, with its participation from across the State, has made great strides in developing a locally integrated interoperability environment within Missouri. My most important duty is working for the Highway Patrol, or actually outside of my official job description. My description as patrol frequency coordinator has gradually evolved into an overall public safety communications resource for police, fire and EMS and local government concerns in Missouri sponsored by the State.

These duties identify me as the initial contact and resource for all public safety communications issues, such as homeland security grant process and interoperable communications issues, State interoperability executive committee advocacy, regional planning, promoting a dialog for operational and technical interoperability solutions, frequency coordination, FCC regulatory topics and other issues, including updates, seminars and training.

Prior to my appointment to this position at the State level, no one entity or person provided these services to Missouri's public safety community. This caused a lack of dialog that impaired each community's ability to serve its constituents. It is effective for interoperable guidance and administration to come from the State level of government in many instances, which has responsibilities throughout the State, not just in portions of it.

Today I'd like to briefly discuss two particular communications outreach and planning mechanisms beneficial to public safety at the regional level, and how interaction with both the FCC and the Department of Homeland Security can improve the overall interoperable potential in each State. I generally look toward the Department of Homeland security through Project SAFECOM to promote training, implementation, direction and the encouragement of a consistent communications dialog at the local level and to the FCC to cerate the enabling regulatory environment that will public safety to best utilize its assigned resources and promote interoperability for its end users.

The first mechanism is the mandatory development and expansion of Statewide Interoperability Executive Committees. Within the NCC committee, the FCC supported but did not mandate the creation of an SIEC in each State. The NCC has since recommended that SIECs be mandated by the FCC and expanded to include the administration of all interoperability spectrum, not just that of 700 megahertz.

The expanded role of the mandated SIEC would allow the conclusions identified in the NCC to improve interoperability in other public safety bands. NCC recommendations on SIEC expansion and other interoperability issues are currently pending FCC action.

In concern with SIEC development, the Federal Government, with support from the Department of Homeland Security, shall provide the States spectrum management training. This is consistent with conclusions reached in the recent MTIA report that indicates a lack of spectrum planning resource at the State level. MTIA previously provided a spectrum management program to States, but it is no longer offered. In many areas, receiving this training will initiate SIEC interoperable development in States and promote a dialog within States as well.

The second issue crucial to the furthering of interoperability is the promotion of common national interoperable parameters and conditions that enable continuity and positively impact communications within the first responder community. These recommendations are all included in the NCC recommendations under FCC Docket No. 96–86. They are the development of statewide interoperability plans, the institution of standardized interoperability channel nomenclature, the requirement of standardized technical interoperable parameters and the utilization of standard incident management or incident command systems.

The end result has public safety, after an implementation period, using managed nationwide interoperability channels from all public safety bands with common technical parameters and common channel names within a standardized operating environment. How these channels are used in each State is then documented and made available to other States and Federal users in the form of State interoperability plans to promote an interoperability dialog across the country which currently does not exist.

The establishment of Federal, State and local communications planning and implementation dialog needs improvement. One method would be to establish an interoperable dialog between the Federal Government and State and local entities through memoranda of understanding. An MOU could be created between Federal users in each State outlining acceptable parameters for use between the parties and then allowing the States to distribute the parameters to the local communities. The State would then disseminate the MOU information and its conditions to local users through a new MOU. This method of sharing and interoperability for all users is outside the FCC's current rules in some spectrum, but it will allow more effective interoperable resources to the local user.

States should also communicate with each other in the form of biannually published State interoperability plans created by their SIEC via Web access, such as Denver University's CAPRAD data base, which is being utilized as a planning tool within the 700 megahertz regional planning initiative.

I recommend continued Federal dialog and outreach between DHS and planning groups, such as NIPSTICK and other State SIEC groups to help regional and local users become more aware of their needs and abilities regarding interoperability. At a time when significant grant moneys are being distributed to the local community, there is an opportunity for the Federal Government to require the standardization of certain communications parameters at the local level, in the implementation of interoperability resources as a condition to the grantor.

The State of Missouri has used the Missouri SIEC as a resource to review grant funding and make recommendations regarding applications. The result is local users better equipped to expand their potential interoperability.

Public safety communications at the local level has no required, structured, centralized management mechanism with a focus on interoperability. A suggested method of improving discussion between Federal, State and local users would be for Federal entities to use a State SIEC as a point of contact within each State. State contacts could then communicate with each other to achieve regional needs.

In conclusion, interoperability in the public safety community starts and ends at the local level. Currently, the freedom offered to State and local agencies to implement new regulatory decisions in any fashion they deem appropriate often inhibits the very interoperability we seek due to each agency's interpretation of how those regulatory decisions should be implemented. Pushing good, positive rules into the local community, in the absence of followup, structure and enforceable guidelines, can inhibit interoperable communications. Supporting the communications needs of local, county, State and Federal users cannot be accomplished without an ongoing public safety interoperability dialog, resulting from a program in each State.

Thank you, Mr. Chairman. I'm available for any questions.

[The prepared statement of Mr. Devine follows:]

Statewide Interoperability Executive Committees Introduction, Formation, Purpose, and Goals

By

Stephen T. Devine, Missouri SIEC Chairperson
Missouri State Highway Patrol

Introduction

This document is intended to highlight cost effective methods to improve interoperability at the local, state and federal level. These recommendations have historically not been addressed because there has been no regulatory body with the authority to insure interoperable "best practices" at the local level. Currently each community defines interoperability as they see fit with their unique resources implemented in a unique manner. The sole intent of this document is to highlight the improvements in public safety communications interoperability that can be accomplished by having consistent management at the local level. This is best implemented in an environment containing a continued public safety dialogue, sponsored by a consistent interoperability resource/advocate at the state level, the Statewide Interoperability Executive Committee (SIEC)

The concept of a State Interoperability Executive Committee (SIEC) was introduced in the Federal Communications Commissions (FCC) National Coordination Committee Federal Advisory Committee under FCC Docket 96-86 Fourth Report and Order and Fifth Notice of Proposed Rule Making dated January 17, 2001, which was created to develop technical and operational parameters for 700 MHz public safety spectrum. The SIEC concept was introduced within the NCC so each state *could* form a SIEC to administer the dedicated interoperability spectrum the NCC had identified in the 700 MHz public safety allocations. The FCC envisioned that entities desiring to operate on 700 MHz interoperability channels would enter into a MOU agreeing to operational and technical parameters deployed on the channels with the SIEC, which would require them to adhere to an interoperability plan created specifically for use in that region. The NCC recommended that the SIEC's develop interoperability operational plans for the 700 MHz interoperability spectrum. Finally, if a state chose not to form an SIEC, the SIEC responsibility of administering the 700 MHz interoperability channels would default to the 700 MHz Regional Planning Committees in the particular area. It is important to note the FCC did not mandate the SIEC model, but encouraged states to form SIEC's.

This document outlines some simple, cost effective operational and technical parameters that should be required by the FCC in a rulemaking proceeding, consistent with pending National Coordination Committee recommendations under Docket 96-86. These recommendations, when implemented, will immediately provide an increase in public safety communications interoperable potential across the nation, when implemented.

Formation

The SIEC concept works best if implemented in two parts: The first is to acknowledge that states are best suited to *identify* public safety interoperability functionality in a state due to their wide area of responsibility. They can best determine capabilities and impediments to local interoperability and administer the SIEC body, which is accomplished by establishing an inclusive mechanism that can receive and process input from all users. As states have communications requirements throughout their wide area of responsibility with no jurisdictional exclusions, they are best able to identify, acknowledge, and remain cognitive of shortfalls and roadblocks to public safety interoperability in an area. Simply put, the wider area of responsibility, the more knowledge of the area in question (albeit it in a general, less specific sense compared to local users), the jurisdiction will have.

A certain city would not be able to provide expertise to a problem in a rural area 200 miles away within the same state, but the state jurisdiction will have the responsibility of acknowledging unique problems in both areas. So, due to the wide area of responsibility states have, they are best prepared to *identify public safety interoperable quotients throughout a state.*

A second required element of SIEC formation is that it should be inclusive to all users regardless of size, operating band, or discipline. The SIEC structure must be open and consist of participants from all public safety entities throughout the state. It is important to note that the interoperability obstacles identified by the state should be distributed to all users within the state (the inclusive SIEC) body to verify the states interpretation of the scenario. This is where the inclusive environment is beneficial since the local agency has additional detailed information to refute the states interpretation of the portrayed interoperability scenario. The dialogue resulting from these discussions is what improves interoperability. When users representing agencies sit down and discuss the issues, things improve. Those involved representing the local communities should include, but not be limited to, first responders, associations that support first responders, public safety management personnel, non-traditional public safety communications users (outside of Police, Fire and EMS) such as emergency management personnel, health departments etc. The SIEC environment created should be available to all eligible entities, with provisions to include interested members of the public service and critical infrastructure community.

Note Several SIEC's have been formed across the country through state legislation and, per the legislative language, do not operate in an open format enabling input from public safety entities within their jurisdiction. These unique SIEC conditions partly result from a lack of structure and the *optional* SIEC development provided by the FCC. In other states, the designation of a SIEC body was denied as the state had a body already in place to handle communications interoperability issues. Indeed, this was the reason the FCC

cited when asked why they did not mandate an SIEC, as they were hesitant to require something that might be duplicative in nature.

Recommendations: FCC should mandate SIEC's but require certain conditions (inclusive operation, all band interoperability and the creation of a SIEC interoperability plan). Congress should support the FCC's mandate, as it, along with the duties associated with each SIEC, will promote national interoperability.

Purpose

The SIEC concept was introduced on a voluntary basis to administer 700 MHz FCC designated interoperability channels. It was not intended to implement, manage, or document FCC designated channel usage in bands outside of 700 MHz. In the scope of the NCC, it was quickly identified that SIEC's would be appropriate to facilitate *all* interoperability spectrum in states as many of the conclusions reached for 700 MHz spectrum would be applicable for other bands, as well. Public safety communications interoperability is not band specific and **interoperability expansion is an increased dialogue between public safety agencies, is not band specific.** A few of the NCC recommendations that have been conveyed to the FCC under Docket 96-86 identified as beneficial to interoperability are listed below:

Statewide Interoperability Executive Committees It was thought that as some state governments are creating non-inclusive SIEC's that the name of the SIEC should be Statewide rather than State, highlighting the fact that a states role in the SIEC is administrative in nature, and not controlling. It was decided within the NCC that these conditions provided the most interoperability in SIEC development: renaming SIEC's to Statewide Interoperability Executive Committees, an FCC mandate of SIEC's in each state, membership definition, meeting requirements, and expanding the SIEC's authority to the FCC designated interoperability channels in all bands.

State Interoperability Plans The establishment of FCC-required, all band interoperability plans authored by the SIEC's along with the requirement they be retained online on a database (such as Denver University's CAPRAD) and updated every two years in PDF form for viewing by agencies within a state as well as adjacent state public safety users and federal responders. This item will establish the beginning **dialogue** required for improved interoperability at the intra-state and inter-state level. There currently is no requirement for any established body to communicate a state's interoperability plans, in any band, across state lines. This "stovepipe" intra-state legacy approach is responsible for most of the poor level of public safety interoperability and subsequent functionality between states, whether immediately adjacent or not. Conversely, many states National Guard units have inter-state agreements with neighboring states, but public safety agencies lack similar agreements to establish inter-state communications plans. The creation of plans would allow for the inter-state communications between public safety agencies to increase. In addition, SIEC's are an excellent mechanism to serve as a "Point of Contact" for federal agencies to interact with when federal, state and local interoperability solutions need to be identified. The SIEC

should have the intimate information regarding all areas of the state needed to promote interoperability.

Standardized channel nomenclature-The benefits derived from all public safety agencies across the country to name the ninety-eight (98) specific FCC channels designated for interoperability with common standardized channel names is substantial. These channels are used today and quite often interoperability is lessened due to the fact that different agencies have different identifiers for common channels. Congress should support the FCC's requirement for standardized channel names, as, without mandate, they will not continuously provide interoperability potential nationwide.

Standardized technical parameters- The benefits derived from all ninety-eight (98) FCC designated interoperability channels when programmed with consistent technical parameters (CTCSS, Network Access Codes etc) are also substantial. By letting over 50,000 agencies determine how they will each implement the same channels, we lose an opportunity to achieve continuity and interoperability potential across the first responder community. The FCC has previously identified the necessity and placed in the rules common technical parameters with regard to a common nationwide CTCSS tone (156.7 Hz) on the calling channel of the 821-824 MHz interoperability channels contained in Docket 87-112, so past history indicates this is a beneficial requirement.

Standardized Incident Command Strucuture To better facilitate the resource of interoperability channels and their implementation, the NCC recommended to the FCC that Incident Command/Incident Management be utilized, based on regional/local definition, and that certain consistencies with Federal Incident Management practices be acknowledged.

Recommendation: Congress should support the FCC in their mandate of SIEC's, as the FCC, as public safety's advocate, needs to make the decision that enables interoperability despite local hesitations or concerns of un-funded mandates. Recommend seed funding to help facilitate SIEC development be considered in all states to promote interoperability planning and achievement.

Recommendation: States use seed money to create the first round of interoperability plans that might just be the documentation of what is already used in each state. This portrayal of the interoperability landscape within a state would then be available and the results could be analyzed and a common thread of nationwide interoperability, could be considered. This should be an SIEC's first duty.

Recommendation: The FCC, with congressional support, should mandate standardized channel nomenclature for public safety interoperability channels. This is an example of an operational consideration, with little or no expense, that will result in improved interoperability across the country. FCC needs congressional support to make these requirements as they promote interoperability requirements which enable an increase of interoperable potential in a region.

Recommendation: NCC recommendations of technical standards should be required by the FCC in their rules, as they have done in the past. They should receive support in this initiative from Congress as the return in interoperability potential (quotient) far outweighs the minimal costs.

Recommendation: Incident Command structure should be encouraged in conjunction with Law Enforcement, Fire and EMS First Responders. Common applications should be explored and in areas where each disciplines unique requirement will require a particular methodology, those unique requirements should be acknowledged by the other disciplines. First Responders of differing disciplines have unique needs, but operational incident command structure should be encouraged at all levels of government to identify commonalities.

Recommendation. At a time when significant grant monies are being distributed to the local community there is an opportunity for the Federal Government to require the standardization of certain communications parameters at the local level in the implementation of interoperability resources as a condition to the grant award. This will immediately provide a greater common communications thread throughout the nation. The State of Missouri has used the State Interoperability Executive Committee as a resource to review grant funding and make recommendations regarding applications. For example, the Missouri SIEC recommends that grant monies not be directed to VHF portable radios with a channel capacity of less than 48 channels. Many vendors make acceptable models and the desire is not to utilize a specific vendor, but rather a specific capacity. This is due to the number of VHF interoperability channels available today and anticipation of federal interoperability channels in the band in the future. The Missouri SIEC petitioned the vendor community with a list of questions regarding the capabilities of their equipment and asked them to respond indicating which of their products were compliant with SIEC requirements. The list of responses was posted on a website and was utilized during the grant review process to ensure devices purchased with grant monies had the highest interoperability quotient.

Goals

The goals of Statewide Interoperability Executive Committees are to promote interoperable potential within the public safety community. From the Incident Commander perspective, his ability to use the spectrum resource he has available at an incident scene is proportional to how prepared those arriving are. If arriving units, which will include police, fire and EMS, have a certain level of compatibility and commonality with regard to the frequencies programmed in their radios, the ability for the Incident Commander to deploy those units in an effective manner improves. His *expectation* that the arriving units have a common resource will change the way he approaches the protection of life and property at the incident scene.

If each state SIEC developed a short document that outlined interoperability and how it is achieved in their state, all 50 states interoperability quotient would be documented. Only

then could we begin to define and attempt to raise the nations level of public safety communications interoperability, while driving towards a common interoperable thread to promote the first responder community's ability to talk to each other in real time.

Conclusion

SIEC expansion offers local management of interoperable resources and the establishment of a much-needed "dialogue of interoperability" at the local level. The FCC, with congressional funding support should require states to create SIEC's. Those states that already have existing bodies that address interoperability issues in an inclusive statewide manner should be urged to change the name of the body to Statewide Interoperability Executive Committee to be eligible for support funding.

Mr. TURNER. Thank you.

Mr. Nash.

Mr. NASH. Thank you, Mr. Chairman. My name is Glen Nash. I am a senior telecommunications engineer working for the State of California, Department of General Services, where I have over 30 years experience in the design, installation and maintenance of public safety communications systems.

I am a past president of the Association of Public Safety Communications Officials International, also known as APCO. I served as the Chair of the Technology Subcommittee of the FCC's Public Safety National Coordination Committee, served on the joint FCC/NTIA Public Safety Wireless Advisory Committee, served on the National Task Force on Interoperability, and have otherwise been very active on matters related to interoperability between and amongst public safety agencies. I am here today representing the State of California and as a general spokesman for the public safety community.

Communications, and in particular radio communications, is a vital tool used by public safety agencies to exercise command and control of emergent events in the community. Those events range in scale from routine traffic stops by police agencies and calls to EMS agencies for medical assistance to large disasters such as the wildland fires experienced each year in California and in other States and the events our country experienced on September 11, 2001. Public safety radio is the mechanism by which operational commanders and government officials gather information about the event, deploy forces to respond to the event and direct the actions of our Nation's first responders. It also serves as a lifeline in protecting the safety of those first responders. Without effective communications, our Nation's police, fire and EMS personnel cannot perform their primary duties of protecting the American public's life and property.

While the term interoperability has received significant interest since the events of September 11th, it is neither a new issue nor something that the public safety community has not been addressing for many years. Things are far from perfect, and there certainly are many ways that interoperability can be improved across the country. But let us not ignore the successes.

In California, we have implemented mutual aid systems for many years. These have included the California Law Enforcement Mutual Aid Radio System, commonly called CLEMARS, in which the State contributed and licensed radio channels statewide that can be used by any law enforcement agency. All that a local agency need do is sign a standardized agreement regarding use of those channels, then program those channels into their mobile and portable radios. Upon doing so, they are able to talk with personnel from virtually any other law enforcement agency that has similarly joined its system.

This system has been in existence since the early 1960's. And I am proud to say most, if not all law enforcement agencies in California are participants. Is the CLEMARS system perfect? No, it still suffers from technology problems related to the fact that the public safety agencies are spread across multiple frequencies that are mutually incompatible with one another and from training

issues, both of which I will discuss in a moment. Also, it provides only one channel in each major band, which obviously would be inadequate in anything resembling a very large event.

While we are working to resolve some of these limiting issues, the solutions will require the expenditure of time, effort and public tax dollars that are vitally needed in many other areas.

Another success story can be found in the fire community. As many of you are aware, California suffers from several large wildland fires each year. Besides the obvious devastation caused by these fires, the effort required to fight these fires is tremendous. A single agency may deploy a thousand or more firefighters along with hundreds of pieces of apparatus, aircraft and logistical support from local, State and Federal agencies. The State, in conjunction with representatives of local fire agencies and representatives of the U.S. Forest Service and Bureau of Land Management, have developed a communications plan known as FIRESCOPE that lays out procedures for communicating with all these resources. The plan calls for the integration of frequencies licensed to the State and local agencies, along with frequencies controlled by the Federal agencies, and the integration of both the frequencies and the equipment from the National Interagency Fire Center to create an overall communications system that supports the efforts directed toward controlling the wildland fire. While this system has enjoyed great success, it too is being challenged by technological and training issues.

I would like to mention two other efforts underway in California because they are being driven by local agencies coming together to develop a communications plan that addresses their response to events that occur within a more localized region. Those efforts are the Los Angeles Tactical Communications Systems and the Bay Area Tactical Communications System. In both of these efforts, command personnel from the local agencies are coming together to discuss the operational issues that must be resolved so that they can work together as a team on an event; to catalog the capabilities and limitations of their communications systems; and to develop plans that can be readily implemented when the need arises.

These events, by the way, do not need to be large scale events. They could include a pursuit that moves from one jurisdiction to another or the automatic response of the nearest fire unit to a call rather than the unit within whose jurisdiction the call originates. If I were to characterize these events, I would have to say they can happen at any time and any place, often without warning. They start out as local response events and grow into something larger.

I mentioned before that there were technological and training issues that limit public safety agencies and personnel at the State and local levels from implementing the ideal solution. What are some of those issues?

First and foremost is an issue related to the radio spectrum. Local, State and Federal agencies operate across five major frequency bands. Each of these bands is mutually incompatible with the others. In some cases, individual agencies were able to select the band they used based upon operational advantages. But more often than not, the frequency band was determined by what was available at the time they built their system. In many regions of

the country all the agencies have built their systems on frequencies that come from the same frequency band, thus they have an inherent ability to create interoperability, assuming that channels can be identified.

There is a major problem with the interoperability spectrum created in the 700 megahertz band. Don't get me wrong, the 2.6 megahertz of spectrum is a tremendous asset that will be useful in the future. But realize also that no radio currently in use by any public safety agency in America is capable of operating on those interoperability channels.

Mr. TURNER. Mr. Nash, your written statement will be entered into the record. Do you have any other comments you want to sum up at this point?

Mr. NASH. No, that's fine. Thank you, Mr. Chairman.

[The prepared statement of Mr. Nash follows:]

STATEMENT OF GLEN NASH
SENIOR TELECOMMUNICATIONS ENGINEER
STATE OF CALIFORNIA, DEPARTMENT OF GENERAL SERVICES
Before the
UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON GOVERNMENT REFORM
SUBCOMMITTEE ON NATIONAL SECURITY, EMERGING THREATS, AND INTERNATIONAL RELATIONS
July 20, 2004

Thank you Mr. Chairman

My name is Glen Nash. I am a Senior Telecommunications Engineer working for the State of California, Department of General Services where I have over 30 years experience in the design, installation and maintenance of public safety communications systems. I am a Past President of the Association of Public Safety Communications Officials-International, Inc. (APCO). I served as the Chair of the Technology Subcommittee of the FCC's Public Safety National Coordination Committee, served on the joint FCC/NTIA Public Safety Wireless Advisory Committee (PSWAC), served on the National Task Force on Interoperability, and have otherwise been very active on matters related to interoperability between and amongst public safety agencies. I am here today representing the State of California and as a general spokesman for the public safety community.

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responders. It also serves as a lifeline in protecting the safety of those first responders. Without effective communications, our nation's police, fire, and EMS personnel cannot perform their primary duties of protecting the American public's life and property.

While the term "interoperability" has received significant interest since the events of September 11th, it is neither a new issue nor something that the public safety community has not been addressing for many years. Things are far from perfect and there certainly are many ways that interoperability can be improved across the country. But, let us not ignore the successes.

In California, we have implemented "mutual aid" systems for many years. These have included the California Law Enforcement Mutual Aid System, commonly called CLEMARS, in which the State contributed and licensed radio channels statewide that can be used by any law enforcement agency. All that a local agency need do is sign a standardized agreement regarding use of those channels then program the channels into their mobile and portable radios. Upon doing so, they are able to "talk" with personnel from virtually any other law enforcement that has similarly joined the system. This system has been in existence since the early 1960's and, I am proud to say, most if not all law enforcement agencies in California are participants. Is the CLEMARS system perfect? No, it still suffers from technology problems related to the fact that public safety agencies are spread across multiple frequencies that are mutually incompatible with one another and from training issues, both of which I will discuss in a moment. While we are working to resolve some of these limiting issues, the solutions will require the expenditure of time, effort, and public tax dollars that are vitally needed in many other areas.

Another success story can be found in the fire community. As many of you probably are aware, California suffers from several large wildland fires each year. Besides the obvious devastation caused by these fires, the effort required to fight these

fires is tremendous. A single fire may require deployment of a thousand or more fire fighters along with hundreds of pieces of apparatus, aircraft, and logistical support from local, state, and federal agencies. The State, in conjunction with representatives of local fire agencies and representatives of the U.S. Forest Service and Bureau of Land Management have developed a communications plan known as FIRESCOPE that lays out procedures for communicating with all of these resources. The plan calls for the integration of frequencies licensed to the state and local agencies along with frequencies controlled by the Federal agencies and the integration of both the frequencies and equipment from the National Interagency Fire Center to create an overall communications system that supports the efforts directed toward controlling the wildland fire. While this system has enjoyed great success, it too is being challenged by technologic and training issues.

I would like to mention two other efforts underway in California because they are being driven by local agencies coming together to develop a communications plan that addresses their response to events that occur within a more localized region. Those efforts are the Los Angeles Tactical Communications System and the Bay Area Tactical Communications System. In both of these efforts, command personnel from the local agencies are coming together to discuss the operational issues that must be resolved so that they can work together as a team on an event; to catalog the capabilities and the limitations of their communications systems; and to develop plans that can be readily implemented when the need arises. These events, by the way, do not need to be large scale events. They could include a pursuit that moves from one jurisdiction to another or the automatic response of the nearest fire unit to a call rather than the unit within whom's jurisdiction the call originates. If I were to try to characterize these events, I would have to say that they can happen at any time and any place, often without warning. They start out as "local response" events and grow into something larger.

I mentioned before that there were technological and training issues that limit public safety agencies and personnel at the state and local levels from implementing the "ideal" interoperability solution. What are some of those issues?

First and foremost is an issue related to the radio spectrum. Local, state and federal agency communications systems are spread across five major frequency bands. Each of these bands is mutually incompatible with the others. In some cases, individual agencies were able to select the band they use based upon the operational advantages offered by that band. But, more often than not, the frequency band used by an agency was determined by what was available at the time they originally built their system. In some cases, agencies may have changed to a different frequency band as part of a major changeout or upgrade, but the decision to do so often was driven by the fact that they could not get additional channels in the original frequency band. In many regions of the country, all of the agencies have built their systems on frequencies that come from the same frequency band thus they have an inherent ability to create interoperability assuming that channels can be identified.

But therein lies the problem. Oftentimes, there are no unused channels that can be designated for "interoperability" purposes. All of the channels are fully in-use providing the normal day-to-day communications needed by agencies within the area. Thus, to implement an interoperability capability either some agency needs to abandon one or more of its frequencies, possibly meaning that it must move to some other part of the spectrum, or the interoperability system itself must be developed in some other part of the spectrum. In the former case, that one agency becomes an "island" because its day-to-day system is incompatible with both the new interoperability system and with every other agency in the area. In the latter case, few agencies are able to implement the new interoperability capability because they cannot afford the new radios associated with operating in a new part of the radio spectrum.

This is a major problem with the new interoperability spectrum created by the FCC in the 700 MHz band. Don't get me wrong, having 2.6 MHz of spectrum set aside for interoperability is a tremendous asset that will be useful in the future. But, realize also that no radio currently in use by any public safety agency in America is capable of operating on those new interoperability channels. Realize also that those channels are located in a portion of spectrum that is incompatible with the spectrum used by the majority of public safety agencies in America. Thus, even after those agencies replace their existing radios with newer models, it is unlikely that they will be able to access the 700 MHz interoperability channels. What we need is more interoperability spectrum set aside in each of the major frequency bands and a plan to allow interconnecting the interoperability channels in each band together such that an agency that normally operates in one part of the spectrum can be cross-connected to an agency that normally operates in another part of the spectrum.

A new technological problem is developing that few practitioners in America have been forced to address. For the past 60+ years, all public safety radio systems have used a common technology known as analog FM. There have been a few improvements and upgrades to that technology, but basically it has been constant over that entire time. This means that agencies operating in the same frequency band are CAPABLE of interoperating because their share use of a common technology. With recent advances in technology and the push from the FCC to implement systems having greater spectral efficiency, public safety agencies will be migrating to digital technologies. Herein lies the problem, there are several digital technologies currently being marketed and those technologies are themselves mutually incompatible. For interoperability to occur, one and only one digital technology can be employed on the channels designated for interoperability. The NCC recognized this problem when it presented its recommendations to the FCC with regards to the technical standards that

would have to be adopted for operation on the 700 MHz interoperability channels. The NCC recommended adoption of a suite of standards commonly known as Project 25 for operation on not only the 700 MHz interoperability channels, but also the interoperability channels that have been or might be designated in the other bands. The FCC already has implemented some of those recommendations. Others are awaiting action by the Commission. The State of California strongly urges the Commission to implement the remainder of the NCC's recommendations---not just with regard to the 700 MHz band, but to apply those recommendations to all interoperability channels in all of the frequency bands.

I also mentioned that there were issues related to training. Most public safety field personnel and operational commanders are not radio engineers nor they do they, quite frankly, have time to think about the operation of their radios when faced with an emergency situation. Operation and use of the radio must be both simple and second nature. Simplicity of use is something that we engineers must consider as we design new radios and systems, but making use of those radios "second nature" is a training issue. Just as most large events start out as a "local event" that escalates to needing additional resources from neighbors and higher levels of government, the use of interoperable radio systems must grow out of the normal day-to-day use of an agency's radio system by its personnel. They need not only a half-hour lecture at the academy, but regular exercises using the interoperability mode to "talk" with other agencies. The time to find and fix glitches is during an exercise, not during a real event.

Where does the Federal government fit into all of this? We look to you to provide leadership and to help us find solutions to our individually unique circumstances. Don't tell us what to do or how to do it, rather show us alternatives and "best practices" learned by others. Help us to understand the need to come together and develop plans and provide incentives for us to do so. Give us tools and support.

Thank you, Mr. Chairman and the members of your Subcommittee for this opportunity to discuss this critical issue to the safety of the American public.

Mr. TURNER. Thank you so much.

I want to go then to a series of rounds of 5 minutes of questions from members of the committee. I'd like to start with a question really to all of you that you can respond to.

In listening to the opportunities and also the definitions of the problem and how you each have been, and the agencies have been working this issue, there does appear to be a distinction between the issue of equipment, what equipment needs to be put in place, and processes or systems. We've heard the term legacy systems and legacy practices.

And in part, you have an equipment issue and in part you have a management issue. I'd like for you to talk about the management issue aspects of that. You certainly have issues such as, Mr. Nash, you mentioned the issues of culture of command and control. You have structural, local, State and Federal. That seems almost to be a greater impediment than the issues of just equipment.

So you've approached this issue. Could you talk a moment about the issue of the practices, the management versus the equipment aspect?

Mr. JENKINS. Well, I think that the equipment, from our perspective, follows the management. It's not the lead issue. It's the issue of what, after you've decided what you need, after you've decided what the gaps are, the equipment is the alternative solution. You're looking at what the alternatives are and how that equipment helps meet those particular requirements.

But the equipment itself is a means to an end. It's not the end. And the really important part is being able to establish what the needs are and then what the gaps are. And those needs themselves follow from a command incident structure defining who's going to be in charge, who needs to share what information with whom under what circumstances in what kind of event. If that's not laid out, if that foundation is not laid out, the equipment issue is almost irrelevant. Because even if you have the right equipment, as we've said, one of the reasons we're suggesting a common nomenclature is, even if you have the right equipment, if I call it red channel two and you call it purple dot channel five, we don't realize that we can talk to each other, because we use different names.

So these issues of being able to agree on what the nomenclature is, everybody knows, having these data bases that people will know, those are very important issues and they really are sort of external, if you will, to the equipment itself. And the reason that we're suggesting that the States be the mechanism is exactly what Mr. Devine said and others have said, is that to the extent to which local governments have developed their own, and local first responders developed their own systems, they've tended to develop them for their own needs and not looked across jurisdictions, looked on a regional basis. And the States are a mechanism that allow you to do that, that allows you to look beyond individual jurisdiction and how does it fit together.

On a day to day basis, if I'm just responding to an automobile accident or something, this may not be much of an issue. But if you're dealing with a much larger event, like a wildfire that goes across multiple jurisdictions or a plane crash, or September 11th, then these issues that cross jurisdictions become very important in

being able to look at them and have a mechanism in place, an incident command structure for how we're going to deal with that.

So in our view, the management issues are fundamental and have to be addressed before you get to the equipment issues.

Mr. TURNER. Dr. Boyd.

Dr. BOYD. We would agree that the human factors, which includes more than just management issues, has to do with all the cultural relationships at the local level; turf issues involving who's going to control the system, who gets to decide when you get to get on a channel other issues, have to be a first and key component of that. We think all of this needs to be approached through what we call a governance approach.

And that governance approach needs to be one that begins at the lowest level and works up, so that the localities who own, operate and maintain the vast majority of the equipment and have the vast majority of the money and the vast majority of the people have a real incentive to be part of larger, county-wide, State-wide systems. It has to be more than just going through the motions, just saying, you can come in and come to a meeting with me. planners have to listen to those users at the local level first. They're the people who are going to respond, they have most of the people—even when the State level is considered. So you have to start with a structure that builds from the bottom up in order to build a serious State-wide plan that everybody really wants to sign onto.

Mr. Tierney made a reference to an $18 billion figure mark that came out a study some years ago by PSWAC. That study now is very old, and it only looked at land mobile radio systems, that is, the equipment that goes into a car and the equipment an officer carries. It covered none of the infrastructure. It covered none of the new towers, none of the new repeaters, none of the other things that would need to go with it.

So one of the things you also have to understand is that another part of the problem really is a funding issue, because the local communities are going to have to come up with the money. They have to make a decision that they're going to help pay for some of this, which means that whatever strategy you develop has to be one that takes into account legacy equipment. We can't leave it out, even as we try to move in a coordinated direction to get to modern systems, because communities cannot afford to abandon these older systems.

So the human management piece is first and foremost. The technology piece then follows almost naturally. But you can't lose track of either of them. You can't lose track of the fundamental costs of decisions that may be made at a higher level that don't meet the immediate needs of the first responder in their locality. They have to be part of however you design the national or the State structures.

Mr. TURNER. Mr. Muleta.

Mr. MULETA. My colleagues here have explained the situation. I think the FCC, we have since the late 1980's been working on promoting interoperability while being cognizant of the fact that there is a lot of sort of local involvement in trying to not overly mandate a solution that might be over-inclusive or under-inclusive. So what we've developed is a system in which we are asking States and the representatives to participate through these, like the National Co-

ordination Committee to develop interoperability in effect allowing the local folks to opt into solutions that we're providing.

So we think that's the right approach, and I support the statements that all my colleagues here have made.

Mr. TURNER. Mr. Devine.

Mr. DEVINE. I think planning can't be underestimated. Often people talk about a national interoperability plan, and indeed, we have one. We have 50 individual plans that are stuck in somebody's drawer some place that we don't communicate across State lines or even in many areas within those States.

In Missouri, I've got Kansas City and St. Louis who don't agree on much. I don't really need for them to do the same thing, I just need to identify with what each of them do that there is some commonality between them. They don't necessarily have to do everything the same, there just has to be some continuity. I think that dialog at that human level, as Dr. Boyd indicated, the planning level, is what promotes that. They're more than willing to share what they're doing. And the disparities are one thing. But to find that common thread that when people from St. Louis have to go to Kansas City, it's probably a drastic incident and there will be some commonality there.

So it's all about local planning and getting them involved, not as much changing what people do but finding out what they do, identifying it, laying it all out on the table and finding where the common threads are.

Mr. TURNER. Mr. Nash.

Mr. NASH. I totally agree with those comments. We've often talked about interoperability really as being a system of systems. And we take the local systems, we integrate them together, through a county-wide or State-wide overlay system that brings them together. You can then integrate that into a nationwide system. I think one of the things we need to keep in mind is that we're not looking for the ability of the officer on the street to talk to the firefighter on the end of the hose. That kind of communication usually is, quite frankly, in appropriate.

We do need to have a way for commanders to integrate and talk amongst themselves. And just as a good example, again, of something that happened just recently, the funeral of President Reagan in the Ventura area brought a lot of people and a lot of resource requirements to a very small community. But they developed a plan, they worked it out, they had some ideas in place. And it wasn't a matter that everybody talked directly with each other. But they all had an agreement that they would communicate with each other.

And there was a system of systems there with different agencies operating on different systems, performing their part of the job and doing it very effectively and for some very good reasons. For example, the Secret Service and the FBI would not want to be integrated directly with locals, for security reasons. So there are some very valid reasons why we need to be thinking about a system of systems that allow us to communicate at the levels at which it's appropriate to communicate.

Mr. TURNER. Mr. Tierney.

Mr. TIERNEY. Thank you all for your testimony here.

Dr. Boyd, I understand that within the Department of Homeland Security now there is the Office of Interoperability and Coordination, but it seems tom e that the mission and the structure of it may not be completely defined. There's also SAFECOM, there's the Office of Domestic Preparedness and the Office of State and Local Coordination and Preparedness. Of those groups, who's in charge of this interoperability aspect?

Dr. BOYD. The Secretary has indicated two things. One is, at the executive level, that SAFECOM is in charge of accomplishing its three fundamental missions, which are a national architecture, a standards process and the coordination of Federal activities. So direction from OMB has gone in the passback to every agency to include that common grant guidance.

With the creation of the Office of Interoperability and Compatibility, the Secretary has made clear that interoperability management and interoperability standards will be the responsibility of the new office. To that end, we work directly with the Office of Domestic Preparedness, with the State and local government coordination office and in fact, with all of the activities within the Department.

Mr. TIERNEY. Do you have a target date for completing your work?

Dr. BOYD. Let me break that into two parts. Our target date for when the office is fully operational is not later than the end of this fiscal year. The reason I put you off on the other is that interoperability is something that's going to take a very long time to accomplish correctly nationally. So I don't want to provide an end date for that. In fact, one of my favorite stories is to point out that when I was first commissioned as second lieutenant in the U.S. Army—and I won't say how long ago that was, but it was quite a while—the Department of Defense had really decided that DOD was going to become interoperable. I retired from the U.S. Army after a full career 12 years ago, and DOD is today almost interoperable. That's a single department, with four Federal agencies, funded essentially by one committee. And still, more than 40 years later, they're not fully interoperable.

So this is going to take a while. We don't intend to take 40 plus years. We think we can do it a lot faster than that. But it's not going to happen in one or 2 or 3 years either.

Mr. TIERNEY. I wouldn't expect it to happen as rapidly as that, but I'm certainly discouraged to hear that it may take as long as you think.

Let me ask you, your first date was that for the target date of actually collecting the data? Do you have a date where you figure that you're going to get all the data you need to start working with?

Dr. BOYD. We expect to release the RFP, the solicitation to bring on board the research activity that will actually do the baseline research this month. So I would expect we would have an award before the end of this fiscal year. We'll have the report back probably mid to late fiscal year next, in 2005.

Mr. TIERNEY. Mr. Jenkins, what does GAO think about that scenario and that process? Does that seem to be moving reasonably on a good timeframe?

Mr. JENKINS. It's difficult for us to make an assessment of that. Part of the reason is what Mr. Boyd said, the real functions of this office, what its funding is going to be, what its authority is going to be, what its structure are going to be is still being developed. So whether or not they can do what Dr. Boyd says and do it within a particular timeframe depends very much on how that office is structured, what its authority is, what its funding is. Those are all open questions at the moment.

Mr. TIERNEY. Mr. Boyd, what do you think about that?

Dr. BOYD. That's part of why I broke it into two parts: the when we'll have the office stood up rather than when we would complete the mission. We had a meeting just this week with the Assistant Secretary for Science and Technology so that we can lay those dates out. We have put in a mark for 2006—we're little late for the 2005 process, because the decision to create the office was made later—so now we're dependent for how much we're going to be able to do in 2005 on what happens in the final appropriation this year.

Mr. TIERNEY. Thank you. Thank you all for your testimony.

Mr. SHAYS [resuming Chair]. First, if you gentlemen would like to take your coats off, feel free. I'm serious.

What I'd like to do, Mr. Tierney, do you have other questions you'd like to ask?

Mr. TIERNEY. No.

Mr. SHAYS. OK. What I'd like to do is ask the professional staff, Grace Washbourne, to ask a few questions, then I have questions of my own.

Ms. WASHBOURNE. Thank you, Mr. Shays.

Mr. Devine, you talked about the importance of having an understanding about the state of interoperability or the state of communications that are around you, whether it's in your State or across borders. I understand, Dr. Boyd, that DHS intends to assess the state of interoperability by the year 2005 by means of a nationwide survey. Can you tell us a little bit about what questions this survey will contain and how does DHS plan to establish a baseline measure of first responder communications capabilities nationwide?

Dr. BOYD. Part of what the research will be responsible for is developing the specific questions to be asked in the fields. In general, these are the kinds of things that we're asking them to do as part of this baseline. We want to know the degree to which they actually have interoperable equipment, if they actually have plans for interoperability, the degree to which they have both agreements with adjacent jurisdictions and the degree to which they're actually able to communicate with them. And we're also going to ask them about future funding plans, where they're either putting together plans they're going to propose, or they're putting together plans which they actually knows will be funded.

This will probably be a scientific sample survey, but it won't be a written survey. I have a bias against written surveys because in the Justice Department, we learned very early on that if you use a written survey, it tends to go to the person the agency can spare to fill the survey out, because they get lots of requests to complete surveys.

So we'll actually be putting teams on the ground, going to, looking at and helping agencies to identify what this model level of

interoperability is. Because we want to be able to characterize where the Nation is now so that we actually have a starting point against which to measure our performance and against which we can take the statement of requirements and figure out what the real shortfalls are nationally, so when we come back to you we can answer some of those questions that Congress is regularly asking us, and that is, what is the scope of the problem and what is the cost of fixing it. No one can reliably do that now. We will be able reliably to make that kind of identification by the end of next year.

Ms. WASHBOURNE. I know a data base will probably be highly technical. Is it the FCC or DHS that will be responsible for this data base, and who will fund it and upgrade it and require that people put information in it that's helpful in their communities, since it's going to take long for us to get our act together on this?

Dr. BOYD. Well, there are two data bases that we're concerned about. One of them is the data base for the baseline. We will create that data base. Out of it we intend them to create as well a set of self assessment tools that localities can use to determine for themselves what their interoperability gaps are. Then we intend to try to create a voluntary reporting process, we have no authority to require one, but to ask the States if when they're able to collect and use this information, they would also share it with us.

The other data base is the CAPRAD data base, which of course is a frequency data base. We intend to continue to support that.

Ms. WASHBOURNE. Mr. Muleta, do you have a responsibility to collect this data or are you interested in it?

Mr. MULETA. I think, we have a licensing data base in which as we issue licenses we record the information, the sort of core information as to who the licensee is, whether or not they're a public safety agency. Because a lot of different rules and regulations are triggered by whether, under the Telecommunications Act, based on the definition of the licensee.

I think the underlying issues are data bases don't go to actual use and actual types of systems that are being used. We can sort of guess fairly well if somebody's signing up for 800 megahertz or for 450 what kind of systems they're using. But their technology choices and things like that are not recorded, they're not required because we don't go to regulating specific types of equipment. We do, as you use certain channels, we do have that.

I think we also try and balance sort of mandatory reporting of this, because we have an obligation not to be overly burdensome on the localities that are using it. So we are using, like I said earlier, the sort of planning and the State coordination committees to help us develop and provide opt-in information to the extent people feel this is important that they want to provide us with that education. That's the process we've been using in the past.

Ms. WASHBOURNE. Thank you. I have one more question for all of you. With the recent advances in technology and the push from the FCC to implement systems having greater spectral efficiency, public safety agencies will be migrating to digital technologies. Mr. Nash, in your written testimony you stated that most digital technologies currently being marketed are mutually incompatible and therefore just designating channels or allocations for public safety users is not enough, that for interoperability to occur, one and only

one digital technology can be employed on each channel. And the FCC must regulate technical rules for all public safety bands.

Can each one of you comment on Mr. Nash's observation?

Dr. BOYD. We like the standards based approach, because we believe there needs to be some minimal level of communications capability. We would, however, encourage some caution in establishing any kind of standards or rules that are too rigid, because we don't want to interfere with innovation.

The approach we likely would take is to try to ensure that as people build new systems, that they ensure that they also build in a capability to be interoperable with other disciplines and other jurisdictions. But we would not want to limit too much what the new technologies, which may be dramatically improved, in the future if we don't cripple innovation.

But it's conceivable that something we haven't thought of might also come along. So we wouldn't want to limit that innovation, even though we would want to make sure that they took into account interoperability requirements as they put the systems in place.

Mr. MULETA. As I stated in my testimony, starting January 2005 we will require new systems that have interoperability built into it. I think that the sort of bigger issue is something that, as part of both the personal level coordination, there's a need to do sort of backward compatibility. Because a lot of local authorities have sort of long term funding cycles. So you sort of get a bond issue and it takes, it's designed for a 10 year system. And we're in an environment for which the technology for radio communications is rapidly evolving. It's down to about 3 to 5 year life cycles. So part of the challenge is, if you mandate something, and say you have to move in 5 years, you might leave a whole bunch of people behind, because they might not be in the right funding cycle to be able to support these things.

So we have to deal with legacy systems. So the Commission has in the past adopted transition mechanisms that have provided a long lead times and we hope, through all of the initiatives that Dr. Boyd and other folks, both at the State and local and Federal level are doing, that we can provide positive incentives for people to adopt technologies a lot faster. Our rules are really designed to get that as an opt-in measure to get everybody to buy in and move along as fast as possible.

But we are concerned not only about new technologies, but making sure that old technologies can work with new technologies.

Mr. DEVINE. The identification of the baseline and the interoperable quotient, as it were, is something that's important. Different areas, California has different needs than Missouri than Connecticut. It's important that while we find the common thread we don't necessarily try to put users in those areas into boxes that aren't appropriate for them to be effective.

So the systems that are out there, funding, as Mr. Muleta indicated, you've got fire departments that generate revenue from bake sales. You've got to keep in mind their funding mechanism, and if they need to be elevated to a different interoperable baseline, then they'll need some assistance in funding. But every area has to be looked at as its unique needs move on. And then of course look toward the future and whether technology will be available for them.

Mr. NASH. It's my comment, so I obviously support it. I think we are faced here with this dilemma that we move to digital technology, it is very desirable to be able to migrate our systems with the advance in technology. But we're also faced with the reality of government funding. And government funding at a local level, where money is just not available. We often talk about a 10 year replacement cycle. The reality, when you get down into the very small communities, is yes, they have a 10 year replacement cycle, they're buying the equipment that the State just discarded after being 10 years old. So their equipment is now 20, 25 years old.

When you're dealing with those kinds of time lines, it's critical that you have a stable standard that you're using for interoperability purposes. Because as we look to interoperability requirements and bringing together people from not only widely dispersed geographic areas in a very large event, but we're bringing together people from many different levels of jurisdiction on a localized basis.

If we look simply at a wildland fire, those fires often, they occur in forest lands. The first people on the scene are often a volunteer fire department of the people that live in that community. They are then augmented by State and Federal forces that come with more resources. But a large number of the people there are, they're local volunteers, they don't have the money to be buying equipment every 3 years.

So we do need that stable level of interoperability. We need to set the standards, and we need to have a process that says yes, we're going to review those standards and periodically update them. But we need to give serious thought to the impact that a change in the standard is going to have on the broad community that is using it.

Mr. SHAYS. At this time the Chair would recognize Congresswoman Watson.

Ms. WATSON. I want to thank the Chair. And also the gentlemen at the table for providing us with what I feel is most needed information.

I represent Los Angeles, California. And Mr. Muleta, I am addressing my comments to you and I would like to extend an invitation to possibly all of you. Being a part of Pacific Rim, and the city of Los Angeles, the largest city in our State, as Mr. Nash knows, we have a lot of vulnerability. I hosted a meeting at the Culver City city hall last year where we brought together the first responders. Culver City is in my district as well.

And we were talking about a radio and that will be used for homeland security, for first responders independently of the others. And I suggested to them that we look at our major organizations beyond first responders, like school districts that roll out hundreds of thousands of students per day, and being able to communicate with enroute and being able to communicate with these school districts. Because if there is a biological attack, for instance, they certainly are in jeopardy, and I would think that those who meant to do us harm would probably go to places where the most people congregate. We want to tie not only first responders together but other large organizations.

So Mr. Muleta, would you comment on what kinds of communication systems are already in place? We feel that we, being so far to the west, we're the last to receive our full funding for homeland security. They tell me it's in the pipeline, I want it there at the destination. And we need to have a system. Our State could be divided up into three States, Mr. Nash knows that well. And we're at the southern part of the State. But we are the major city, like San Francisco is the major city in the midland part of the State.

So it's absolutely critical that we focus on securing our communications. And I'll just, in my comments for now, the fact that on September 11 my office was at Carpet Point, which is near the airport, and we were evacuated. The plane of course never reached its destination. But it was so sensitive, that area was so sensitive that they evacuated every facility near the airport.

So who knows where and when the next attack will be? But I know now we need to look at our communication systems, and I'd like you to comment, please.

Mr. MULETA. Thank you. I spend a lot of time in California. I've built a personal relationship with one of the public safety officials in Los Angeles, and also with the folks in San Bernardino County and Mr. Nash here as well. The issue that you talked about is, do we have systems for dealing across other organizations that influence the public safety system, such as schools and other things. The FCC is looking comprehensively at how all these systems interact with each other. One of the key steps is not that there is not a lack of spectrum. I believe most school systems have probably a private wireless system that they use to communicate with their buses and things like that.

I think the key step that's actually needed is something that we've all focused on here, which is sort of integrated planning, so that if an incident takes place, I was in Pasadena in April and there was an incident at a school. I was watching it on TV, in which somebody had come in with a gun or something like that, and the whole school system was shut down. So you had all the worst possible kinds of things, parents trying to get their children, schools under lockdown and nobody knowing what the incident was. All you had were these terrible visual images.

I think yes, it's necessary. So I think there are enough resources and enough communication systems available, but what's really needed ultimately is a plan that says what do we do with our children if we're under a lockdown situation, and how do we communicate that to all the commanders that need to take action, whether it's fire department, it's hazmat, it's Federal, State, local, police, fire, whatever it is.

So I do think there are enough resources, but the planning around the kinds of incidents we have to worry about is, I think, probably the most important ingredient. Part of what we have been driving at the FCC is to force and sort of opt in all of the organizations that are involved to participate through the statewide planning. Because that's where it's got to start. You've got to have all the regional groups understand, here are the kinds of threats, here's how we respond to them and here's all our communication facilities, such as the baseline that Dr. Boyd described. How do we make it all work for us seamlessly the day we need it.

So I believe that thinking is beginning to permeate across the 40,000 public safety agencies and all of the things we've talked about today will encourage that and help that along.

Ms. WATSON. Thank you for that.

We are used to all kinds of natural disasters, we throw an earthquake, we have a fire going here and we have floods when it rains. All these things we get used to, and we do a pretty good job in responding. The sheriff in L.A. County started this dedicated radio band. And when we met last year, I suggested they bring other organizations. So I really need you to probably come out again and let's do it. I think a dedicated radio band, because you don't have a television always available, but you can have a transistor radio. But a band dedicated, so nothing else comes on that band but responding and directing under homeland security.

It has already been started by our county sheriff, Sheriff Baca. But I think we need to have other entities brought into it. And I would be willing to hold a meeting, I did tell them I'd followup with a meeting, bring some of the Feds in to talk about it, and I'd like to invite you to take part in that and we'll talk.

Mr. MULETA. I'd be happy to participate. Thank you very much.

Mr. SHAYS. In my community that I represent, the Fourth Congressional District in Connecticut, it's near New York City, it's 17 towns. A few years ago we had a tabletop exercise in Bridgeport, Connecticut. The thing that was most stunning, it was a great tabletop exercise, lasted 2 days and had about 200 participants. It was really amazing. We had a chemical explosion on an Amtrak train in Bridgeport, and we had people who were first responders become ill and some of them were theoretically killed.

But the thing that came out there was, the Department of Health had no communication, forget whether it was interoperable. And it was stunning, because they were a huge part of the challenge.

And we had another tabletop exercise in Stanford, Connecticut, and there it was an explosion at the railroad station that was so close to the railroad tracks, obviously, but also I–95, that both became inoperable, the transportation network. The thing that was so stunning in that one was that the Department of Education wasn't even at the table. And the first thing that came up, in the middle of the day, was all those workers who wanted to find their kids. And there was no communication available to call the schools, to direct and so on.

It pointed out the value of these tabletop exercises, both communities are a lot better off because they've gone through that. But it also pointed out some major weaknesses.

The GAO, in their report, says lives of first responders and those whom they are trying to assist can be lost when first responders cannot communicate effectively as needed. So we're obviously talking just about first responders, we're talking about their mission. It may fail.

And then GAO recommends that the Secretary of the Department of Homeland Security continue to develop a nationwide data base and common terminology for public safety interoperability communications channels, two, assess interoperability in specific locations against defined requirements and, three, through Federal

grant awards, encourage States to establish and support a statewide body to develop and implement detailed improvement, and four, encourage that grant applicants be in compliance with statewide interoperability plans once they are developed. Those are just pretty sensible recommendations.

I'm curious, and I want a candid answer, I know it would be honest, but do you think that if we had this hearing in 5 years that we would be a long way from where we are today? Do you think honestly, given the challenge and given the resources and given the attention that we'll be pretty close to where we're at right now? And 5 years from now, if you say it's different, I want you to tell me what will be different. I'm going to start with you, Mr. Jenkins.

Mr. JENKINS. I think in the absence of some changes that will be not much further along than we are, and those two changes that have to be made, or one is that there has to be some clear notion of how all the participants are going to get together to address this issue.

Mr. SHAYS. How the what get together?

Mr. JENKINS. How all the participants, Federal, State, local, first responders get together to address this issue in a comprehensive, coordinated way. There's still not a real way to do that. There is some progress that has been made, but there is still not a real way to do that.

This Office of Interoperability and Compatibility can possibly——

Mr. SHAYS. OK, let's go to the next one. Go to the next one. That's one. It will depend on how all the participants get together.

Mr. JENKINS. How all the participants get together, if they can overcome these cultural barriers. The cultural barriers being that, if it's not my system, I don't want to play, essentially. I want to be, or if I can be in control, I want to play. But if somebody else is in control in a particular incident, I don't want to play.

Mr. SHAYS. OK, that's one. What's the other one?

Mr. JENKINS. The other one has to do with setting time lines, target dates. There need to be very specific target dates for getting certain tasks done. And that there has to be some sort of carrot and stick approach in terms of accomplishing those tasks. That's one of the reasons we recommend that grant guidance is one mechanism in order to do that.

For example, right now it's not possible really for people to not be able to buy equipment because they don't have a plan. So we don't recommend that you not get the money to buy equipment because you don't have a plan. But there should be a point in the future where if you don't have a plan, a clear, comprehensive plan, then you shouldn't get money to buy equipment.

Mr. SHAYS. Before I go to the others, who can get all the participants together? Whose shoulder does that rest on?

Mr. JENKINS. In terms of getting the people together, right now it rests on the States and Federal Government together, I think.

Mr. SHAYS. I may not hear you well. But I want to know, is it like everyone's in charge so no one's in charge? Does someone, if a commission was looking back 5 years from now and they were saying, well, nothing happened, would they be able to identify one person at this table or one organization, say, it was your job to

bring people together? Or is it just not defined? Is that part of the problem?

Mr. JENKINS. I think it's the latter. I don't think it is defined. It is not really defined who is in charge and what their authority is to make it happen or to get people together. It's a very amorphous thing.

Mr. SHAYS. Is that a failure of our designing the Department of Homeland Security? Because the Department of Homeland Security is clearly responsible.

Mr. JENKINS. I think it's partly inherent in the structure of it. We have some work ongoing now in terms of how the Department is trying to look at and implement an all hazards approach in its programs across the Department. But there are instances where it's difficult to say who's in charge. When we were doing our work on this job, the report that was issued today, there did seem to be some disconnect between ODP and SAFECOM with regard to a couple of projects, the ODP project in Kansas City and the SAFECOM project in Virginia.

Mr. SHAYS. OK.

Mr. JENKINS. Those two efforts did not seem to be coordinated.

Mr. SHAYS. I'm really happy I asked the question I asked, I'm happy you gave me the answer you gave, if it's right. Because it depends, I don't want to be here—I want to be here 5 years from now. Let me say that again. I would like to be back. I would like to be here 5 years from now, but I don't want you all back here 5 years from now saying the same thing.

And so, Dr. Boyd. The question is, where will we be, will there be much progress in the next 5 years, and if not, why not?

Dr. BOYD. I think the answer to that is that things are already significantly different. Let me talk a little bit about my history with interoperability. Back in 1993, while I was still in Justice, we thought it would be useful based on what the public safety guys were telling us to create an interoperable solution for law enforcement, just for law enforcement.

Mr. SHAYS. When was this?

Dr. BOYD. This was in 1993. And we decided we would try to do it in a single county, just to see what was involved in doing it, to see whether it was feasible to achieve interoperability in a practical way because it had already been identified, a considerable time before that as a fairly serious issue.

We worked with the Navy the fire dispatch center, who provided us a panel on the condition that we would provide the funding to implement a fairly straightforward and fairly primitive switching system which nevertheless, provided more interoperability than existed in the county. Implementing the technology took about 30 days. Getting the players in the county to work together—the local, State and Federal players—took 2 years. That was just to get everybody to agree they would be part of it.

Now, let's move forward—at that time, the money I had to use to fund that was general money that we could scrape off other programs. Now, let's move forward to now. DHS stood up, of course, in March. We just took formal responsibility in S&T for SAFECOM in July.

Here's how dramatically things have changed. At the direction of the Secretary of Homeland Security, we have a program called RAPIDCOM 9/30. What we've been asked to try to achieve, is a command level incident based interoperability capability for emergencies, something the footprint of about a Twin Cities, and to be able to do that by the end of this year in the 10 cities where the intelligence tells us the threat is greatest. We're not going to stop there, but that's where we're going to try to be by the end of September.

Mr. SHAYS. You're losing me a little bit. Where is this story going?

Dr. BOYD. The point I want to make is now when we go to these cities, we're accepted immediately by all the players who are involved. All of them want to work with us to fix the problem. There is, I think a much, much better understanding of the importance of interoperability, and of course, we've had interoperability money from Congress for the last 2 years for the first time. Before there was never any money designated specifically for that.

So I think you've seen some dramatic changes. And in the Department, with the creation of the Office of Interoperability and Compatibility, I think you're looking for the first time at the development of a serious central office that's going to be responsible for pulling all of these things together.

Mr. SHAYS. OK. I'm going to come back to you, but I want you to respond to Mr. Jenkins' comments about it will depend on if we get all the participants together, and that we need to set targets and dates. I want you to tell me who gets all the participants together.

Dr. BOYD. We frankly think that it's in large measure our role to bring together folks at the national level, at the Federal level, and to provide a model to help the States actually bring people together in their States. In the State of Virginia, for example, we were asked to come in and help to use the SAFECOM model to bring folks in from the bottom up in the development of a model State interoperability plan for Virginia. We'll be publishing that report probably within the next month or so.

And we hope to use Virginia as a model that we can provide to others, in particular to those States that don't yet have statewide interoperability plans, to help them understand——

Mr. SHAYS. It makes me a little uneasy though, as I think about it, you were asked. I mean, it's nice you were asked. But if you weren't asked, you wouldn't have done it. And that's what makes me uneasy. And it may be you weren't given the authority.

Dr. BOYD. We have no authority. We had to be asked in this case, because we have no authority to cause any of these things to happen.

Mr. SHAYS. Mr. Muleta.

Mr. MULETA. I'm a glass half full kind of guy. So I have to tell you, actually, I think in 5 years at least at one level we will have a lot of success, which would be on the planning level. I think there is a wide level of recognition across all of the people that are involved that planning is integral and we have to do all the things we've been talking about.

I think the actual systems implementation is a very long cycle. I don't think in 5 years it would be fair to actually even measure whether we're successful or not. I think we can look at the highest density population, New York City types of areas, and we can actually probably make some measurement, Kansas City, L.A. are all places we can probably see some significant advances in terms of systems implementation.

But on the planning level, I actually do think interoperability is something that all of the public safety officials are always now talking about, whether it's e–911 interoperability or public safety radio interoperability. It is a focus of all of our attention. And that is, primarily because I think Congress is now focused on it and has provided the funding, has provided the guidance.

Mr. SHAYS. I thought you had the capability to clear bands and to make some extraordinarily significant decisions that would protect communication bands.

Mr. MULETA. I think we're already putting those in place already. However, I don't think we can compel any one individual actor whether or not to use their system. So if they decide to use it, yes, our rules, for example, 700 will provide that mechanism for doing that.

Mr. SHAYS. Is that the be all and end all, or is that just an indication that you did something dramatic that was helpful and that you could do more of that?

Mr. MULETA. I think we need to do more of that. All of the FCC decisions are driving toward that. The focus on the States for planning purposes, the issue of moving to mandatory, I think one of the core issues that Mr. Devine mentioned was should we make State planning mandatory. It's under our system of government, mandating that the States do something is something that I think requires close, careful deliberation. I think Congress can also be helpful, like I said, by providing funding and guidance. We will do what we're authorized to do under the Communications Act.

Mr. SHAYS. If we just see progress in terms of planning in 5 years, I'll consider that a gigantic failure. It's got to be more than just planning in 5 years. And the glass if half full to you. But I don't think the glass would be half full. I think it would be one quarter full.

Mr. MULETA. If I can respond to that. I have, there are 40,000 public safety agencies, different geographies. So I just want to make sure that we set out reasonable targets for folks to achieve, if we plan. I would say that's 80 percent of the issue. For us, 80 percent of the issue comes to people not knowing what to do when an incident happens.

Mr. SHAYS. But right now you have 40,000 agencies that are planning and implementing. And if they're just waiting for you to plan, it just strikes me that they're going to be implementing bad things.

Mr. MULETA. I think we're all in agreement, sir, that the planning today is uncoordinated. When I say planning in 5 years will be the fact that everybody here on the table can actually hopefully pull out and say, here's the incident response and the systems that we're all using, the baseline is there and everybody can work off of that. I think that's a different type of planning than what's done

today. What's done today is very local, doesn't take into account all the types of incidents that we have to worry about. I think if you look 10 years back and say, what were we worried about, it would be a very different set of things locally than what we do today. That's why I think in 5 years it will be a significant achievement for us to get the planning right.

Mr. SHAYS. Thank you. Mr. Devine and Mr. Nash, I'd like you both to jump in. Where are we going to be in 5 years, as you see it now, not trying to be optimistic or pessimistic, just realistic.

Mr. DEVINE. I'll go first. To me, it's directly proportional to the mechanisms and the way we do business. If outreach and dialog are increased and, such as Mr. Muleta indicated, the planning, when a State has to create a plan, and invites the local people to it, that's far more receptive at the local level than somebody saying, you will do this. When it's an inclusive environment and they come and they want to participate in the creation of that plan, I think all of a sudden you're ahead of the game, because now people want to contribute and they realize that in the contribution, there's a betterment and something for them in it.

So in that type of mandatory planning, I think all of a sudden now you've got a dialog. Without the dialog, we will be at the same place we are now in 5 years or worse. Any dialog and outreach is an improvement. Then people begin to realize, you know, we have these things in common, and the only thing that stopped us from identifying that previously is because we never talked to each other.

Mr. SHAYS. OK, let me just say to you that Senator Nunn said that, I'm describing a little bit of progress here, is what, people are starting to talk. But Senator Nunn said, a cheetah chasing a deer, a deer running away from a cheetah may be running in the right direction. The question is, how fast is it running and how fast is the cheetah running. I'm not encouraged by what you're telling me. I want some concrete sense of where we are today versus where will be, then which is more than just that we're communicating with each other. What that says to me is things are so pathetic that gosh, if we just started to talk with each other we would be a lot better off.

Mr. DEVINE. I think that's the greatest impediment, frankly. The lack of dialog is non-existent.

Mr. SHAYS. But the dialog is a process to get to something else. And you're telling me that we don't even have the dialog.

Mr. DEVINE. Correct. What I'm saying is once the dialog is created, I think we'll find that in many areas, they are not too far part, the solutions aren't that far away. But until it's ever communicated, they'll never realize that.

Mr. SHAYS. OK. Mr. Nash.

Mr. NASH. I would agree. I think what's going on right now is that there are several funding programs——

Mr. SHAYS. You would agree with what?

Mr. NASH. I don't think things are going to be much better. In some ways, I think they could be worse, because we think they're better. And that's what concerns me, is that funding programs today are very short cycled. People are throwing money at it. They're buying equipment based on some salesman's promise that

it's going to make things better. Yet they really don't understand what the problem is, or how the solution fits the problem. But they have a solution. So now they believe they have it taken care of. And that's what really concerns me.

I think we really do need some serious level planning, and we need to have people sit down and whether it's tabletop exercises or what it is, that you sit down and work through some of these things, and you figure out who do you need to talk to and why do you need to be able to talk to them. Then you look at how can I do that. It is not necessarily everybody together on one big radio system. Because quite frankly, one big radio system, where everybody's trying to talk at once, you have no communication.

I mentioned that I was recently at a presentation about the communications aspect of President Reagan's funeral. Something that really caught my attention there was, the comment was made that the different agencies came together and they agreed to communicate with each other. That was the essential point. It wasn't a matter of they were all on one radio system or that they could all talk to each other. They agreed to communicate with each other. And in some cases that meant they were in different rooms of a building, they were in different trailers parked around that building, they were on different radio systems.

But it all came off very well because they had agreed to communicate with each other and expressed their needs, and asked each other for help to do those things. That's what's critical. I really think the planning aspect of it is very critical, and we need to support the planning aspect and get not just public safety officials, but as you mentioned, when you deal with a big disaster, it goes beyond simply police, fire and EMS. You now have utilities involved, you have the telephone companies, you have businesses, you have the schools, you have the hospitals, you have health care officials, you have disaster organizations. It gets huge very quickly.

Mr. SHAYS. Well, I'm left with the fact that 5 years from now, it's not going to be all that different. And I'm a pretty optimistic person. Because what I think is happening right now is, I think the Department of Homeland Security has to exert authority almost like the courts did a long, long time ago, and then have someone say they don't have the right to do it. They have to just, I think when I voted for the Department of Homeland Security, I voted for believing that we had this huge challenge and that the Department needed to be there to get all these disparate players cooperating.

So that's one view I have. The other view I have is the FCC's got to make some decisions. And every year they wait, it's going to be more costly. And that they are going to be tough decisions, and they are going to be criticized by a lot of people. You're going to be criticized anyway.

So that's kind of what I'm getting from this panel. I mean, I've got a lot of important information, but that's kind of what I'm left with. And it tells me I think what our committee could, the full committee could be recommending when we write a report.

Any comment? I'd like to get to the next panel. This room is going to be used at 2 by another subcommittee. There's lots more we could ask. Is there anything that any of you would like to put on the record? Mr. Devine.

Mr. DEVINE. Yes, Mr. Chairman. Mr. Muleta indicated earlier that with regard to SIEC and mandating of that, in many States there are planning committees. And to make sure, I think what he had indicated was, the FCC is probably hesitant to require something of a State, whether it has something or not. But if it has something currently existing, they are hesitant to duplicate that or force that down upon the State in the form of a mandate.

So what it might require is some communication with the States to say, you need one of these bodies. If you have one, it should be inclusive, it should include locals, it shouldn't be just State government. It should include everybody, all of the people who are going to be responding, and maybe they can use that in a way to communicate to the State and say, if you have one, just make sure it does these things, rather than forcing another entity on them or another body.

Mr. SHAYS. I hear you. And I also am struck by the fact that maybe the Department of Homeland Security, it gets criticized by local communities. But maybe it needs to step in and acknowledge what States are really doing a great job and are good models, and which States are just simply dropping the ball.

Mr. DEVINE. We agree entirely. In fact, part of what we're working to do now and as we've done with Virginia and other States, South Dakota, some of the experiences out of California and Missouri, is to try to collect those best practices. Because they provide a variety and enough range of flexibility among them that we think a lot of States could take some really valuable lessons from these. So a key part of what we're trying to do is sort of bottle that information so we can share it with all the rest of the States.

As you've heard, a number of States not only don't have a body to coordinate this, they don't have an SIEC, neither do they have any other kind of a structure to help coordinate these things at the State level.

Mr. SHAYS. And in the State of Connecticut, we don't even have counties to help organize.

Anybody else who would like to put something in the record? Mr. Jenkins.

Mr. JENKINS. This point has been made in our report, but I think it's very important, and that is that to the extent that the grant guidance itself and the way the Federal grants are structured actually encourages this sort of fragmented approach, and they do, the way that they're structured. They're part of the problem, they're not part of the solution. And I think one of the things that needs to be looked at is the way that grants are structured, the number, the purposes that they can be used for and the accountability for them.

Right now, the fragmented nature of Federal grant structure actually makes it difficult for localities or regions to come together and use those different grants for a common purpose. That is something that needs to be addressed as well.

Mr. SHAYS. Mr. Devine.

Mr. DEVINE. Just one more quick note, with regard to Mr. Jenkins' comment. In Missouri, we had an 18 county region wanting to apply for communications equipment through the grant process

as a region. And literally, the guidelines didn't allow that. It required up to a county level.

So here you're actually negating the cooperation and coordination between these people by the regulations saying, no, you can't apply for that as one, as an 18 county entity. It has to be 18 separate requests, which bleeds down into a whole bunch of other complicated matters. So it's an interesting point.

Mr. SHAYS. Well, we have our work cut out for us. We're all people of good will here, I know. But ultimately, I'm struck, Dr. Boyd, by the fact that somebody has to be in charge of this. And I will tell you, I believe ultimately, most Members of Congress thought it was the Department of Homeland Security that would help be the basis of it. If you are so inclined to start to exert more authority on this, you'll find a number of people, or at least get the Department to, that will say you're doing your job.

Thank you all very, very much. We appreciate it a lot.

We have our second panel, which is Mr. Hanford Thomas, director of the New York Statewide Wireless Interoperability Network; Mr. William Gardner, radio shop supervisor, Suffolk County, NY, Police Headquarters; Mr. Glenn Corbett, Department of Public Management, John Jay College of Criminal Justice, City University of New York. We invite all three to stay standing and we will swear you in.

Thank you very much. I'd just like to say, for the first panel and second panel, we will be writing letters of questions that we didn't get to and it would be helpful to get a response. Thank you all.

Mr. Thomas, Mr. Gardner, Mr. Corbett, if you'd stay standing, please. If there is anyone else that is joining you in that dialog, we have Mr. Gardner in the middle.

Please raise your right hands.

[Witnesses sworn.]

Mr. SHAYS. Note for the record that all three witnesses have responded in the affirmative.

You all have been here for the first panel and that's helpful, because you might want to make comments about that as well. Mr. Thomas, we'll go with you and then Mr. Gardner and then Mr. Corbett. We welcome your comments, your statement will be on the record if you want to just ad lib based on what you've heard already, feel free. It's your choice.

Mr. Thomas.

STATEMENTS OF HANFORD C. THOMAS, DIRECTOR, STATEWIDE WIRELESS NETWORK PROJECT, NEW YORK STATE OFFICE FOR TECHNOLOGY; WILLIAM J. GARDNER, SUPERVISOR, SUFFOLK COUNTY POLICE DEPARTMENT, TECHNICAL SERVICES SECTION, SUFFOLK COUNTY, LONG ISLAND, NY; AND PROFESSOR GLENN P. CORBETT, JOHN JAY COLLEGE OF CRIMINAL JUSTICE

Mr. THOMAS. Good afternoon, Chairman and members of the subcommittee. I want to thank the subcommittee chair for the opportunity to testify today regarding the New York State statewide wireless network, an integrated, statewide land mobile and radio network for both State and local emergency first responders.

My name is Hanford Thomas. I'm the Director of the Statewide Wireless Project under the Office for Technology. I was appointed in January 2000 and I'm responsible for the development and implementation of an integrated wireless land mobile radio network with statewide coverage, which will provide a common communication platform for New York State's public safety and public service agencies.

The project is one of the largest technology projects ever undertaken in the State, and the first comprehensive upgrade of statewide radio communications in more than 30 years.

Mr. SHAYS. Mr. Thomas, I'm going to interrupt you. We have Carolyn Maloney, who wanted to make sure that this panel was going to be part of our hearing. Regretfully, the stock option goes to the Floor and she has an amendment. I would like her to be able to make a statement then I'll come right back to you.

Mrs. MALONEY. I made an opening statement. I just want to thank the chairman again and all of you for your work. I can't think of anything more important than having a communication system that works. I just find it, I'm mystified that there hasn't been more of an effort focused on communications and to getting the systems working.

I specifically asked for a panel on New York, because we still remain target No. 1, and we still have radios. The radios that didn't work on September 11 still do not work. And any insight that you can give us on how we can move this forward will be greatly appreciated.

I am saddened that I can't stay to hear your testimony. I have, literally I have to debate on the Floor on something that I feel is very important to the safety and soundness of our financial markets. So I regret that I have to leave. My staff assistant is here, and I thank the chairman.

Mr. SHAYS. We'll make sure they pay close attention. [Laughter.]

Thank you.

I'm sorry, Mr. Thomas, I wanted that to be on the record. Thank you.

Mr. THOMAS. The State of New York is working on many fronts involving enhanced operability. With the Canadian border to our north and New York City in the south, we are working to develop operational plans and technical capability to address all issues.

The Canadian border activity brings together New York State Police, Federal agencies and the Royal Canadian Mounted Police to control border crossings and apprehend terrorists. These activities required shared, secure radio communications. My office is engaged in the development of a statewide wireless radio network. We are near the end of an extensive procurement practice. We have selected a prime contractor for the proposed award and are currently in final contract negotiations. SWN will be used by all State agencies and will also be available for use by other government entities, including authorities, counties and other local government and Federal agencies.

The systems that exist today do not provide adequate coverage throughout the State. As a matter of fact, there are areas where coverage is spotty or non-existent. It is currently possible in some areas of the State that an emergency medical services team

enroute to a medical facility with a critically ill patient might at times be unable to communicate or a police officer would be unable to relay vital information regarding a pursuit.

To address these issues which place both the public and the public safety community at risk, the Statewide Wireless Network specifications require that the network provide 90 percent coverage on road and navigable waterways and 95 percent area coverage in each county in order to eliminate any potential for lost communications. In addition, the Statewide Wireless Network requirements call for 97 percent portable coverage in street in New York City.

Just as standard voice communications have given way to electronic transfer of data in the office environment, the need for data transport to supplement voice and mobile communications is equally important. The purpose of interoperability is not whether government agencies can communicate, but whether or not they can communicate in a way that enhances their ability to respond effectively in a public safety crisis. Today, that capability is severely constrained by outmoded technology and disparate radio systems operating on different frequency bands. Individual agencies in New York State have a basic ability to communicate, but their ability to communicate between agencies in real time over wide areas is extremely limited.

The most robust form of interoperability today is achieved by having all or a large number of agencies operating on the same or similar communications networks. Interoperability is seamless with no technology or geographic limitations. For those agencies whose current communications systems require replacement, joining a multi-agency shared network such as the Statewide Wireless Network is a cost effective way to achieve the highest level of interoperability. For those agencies that elect to maintain their own networks, the wireless network will offer them the option of linking to the statewide network. This will allow those agencies to communicate to other public safety agencies which they otherwise would not be able to do easily or on an expansive basis.

An important public policy goal is fostering State and local partnerships. The Statewide Wireless Network encourages voluntary partnerships with local governments. The SWN advisory council and other outreach activities have been and will continue to be used to identify and address local government needs.

The Statewide Wireless Network will replace the outdated standalone State agency systems and will be used for day-to-day operations, as well as disaster and crisis situations. The new radio network will make it easier for all agencies to communicate in both day-to-day and crisis situations and allow agency to agency communications where none exist today. New York State's Statewide Wireless Network will bring public safety communications in New York State into the 21st century by bringing as many as 65,000 Federal, State and local government users under one modern communications network, and providing links into other existing Federal and local government communications and data networks. SWN will facilitate full, seamless interoperability between the Statewide Wireless Network participating agencies any time, any place in New York State.

New York State continues to seek use of public safety communication spectrum promised under the 1997 Balanced Budget Act in the 700 megahertz band width as part of crucial homeland security planning. To gain useful access to the spectrum, two actions must occur. First, the commercial television broadcasters must be compelled to vacate the spectrum no later than the current 2006 deadlines. Second, the FCC must facilitate frequency harmonization with Canada.

To date, the FCC continues to license use of 700 megahertz public safety spectrum to low powered television stations in the New York City area, even though the wireless network is already licensed to operate on these same frequencies. This will only create additional obstacles which must be overcome as we build out the statewide wireless network.

The FCC is currently negotiating with Industry Canada to harmonize use of 700 megahertz public safety band frequencies across the U.S.-Canadian border. It is critical that these negotiations be completed as soon as possible. At the same time, resolution of this issue alone will not allow New York State public safety agencies access to the new spectrum. Commercial television broadcasters must be compelled to vacate the spectrum again no later than the 2006 deadline.

The Office for Technology has supported the development of the consensus plan and anxiously awaits the final details. The Statewide Wireless Network holds approximately 450 licenses that will be affected by the plan, and is one of the major public safety license holders in the country. As was accommodated within the FCC 700 megahertz plan, New York State would like the FCC to issue New York State's 800 megahertz frequency replacements in a block for statewide use.

Large scale shared-use systems provide optimum efficiency in the use of spectrum. Trunking systems provide better spectrum utilization. In addition, the system can be designed and built for the future, which presently includes benchmarks for mandatory conversion to narrow band channels. By participating in a single large scale system, interoperability between the multiple agencies' systems users is inherently optimized.

Interoperability systems to date have been constructed on a limited basis to meet minimal requirements. Systems that have been implemented for mobile coverage will be inadequate for portable coverage inside buildings. However, this limited deployment does not ensure that units arriving from distant areas will be equipped for operation on the implemented channels. In order to acquire the significant quantities of equipment necessary to build large area radio coverage on the FCC and NTIA designated interoperability channels, funding support will be required.

That is the conclusion of my comments.

[The prepared statement of Mr. Thomas follows:]

1. Introduction

Good Afternoon, Chairman Christopher Shays and distinguished members of the Subcommittee.

I want to thank the Subcommittee Chair for the opportunity to testify before you today regarding the New York State Statewide Wireless Network (SWN), an integrated statewide land mobile radio (LMR) network for both state and local first responders.

My name is Hanford C. Thomas. I am the Director of the Statewide Wireless Network Project under the NYS Office for Technology. I was appointed in January 2000 and am responsible for the development and implementation of an integrated (public safety) wireless land mobile radio network with statewide coverage which will provide a common communications platform for New York State's public safety and public service agencies. The project is one of the largest technology projects ever undertaken in the State and the first comprehensive upgrade of statewide radio communications in more than 30 years.

Prior to joining the NYS Office for Technology, I served as the Deputy Superintendent (Colonel) for Administration for the New York State Police. I am a 35 year veteran of the State Police, and have served on numerous workforce and strategic planning workgroups at both the State and Federal level and have an extensive background in law enforcement, public safety, communications, finance and public administration.

2. Interoperability

Interoperability involves both technical and operational aspects. The technical aspect involves equipment and operating channels, single frequency(ies) or frequency paired channel(s), on which agencies communicate.

The operational aspect involves operational protocols, including channel nomenclature, usage, operational sharing and use agreements, and memoranda of understandings.

Operational issues may include the shared use of FCC or NTIA licensed agency channels, or may include common channels that are designated by FCC or NTIA rule for interoperability use. A very important operational issue is the common nomenclature that these channels will be identified by. A common nomenclature plan[1] has been recommended by the FCC's Public Safety National Coordination Committee (NCC), and is awaiting regulatory action to include this in the FCC's Public Safety rules.

[1] See Appendix A for a table of designated interoperability channels, their usage, and recommended nomenclature

Interoperability can take different forms:

- Multi-jurisdictional: Wireless communications involving two or more similar agencies having different areas of responsibility. Some examples include a fire agency from one city communicating with a fire agency from another city and the Federal Bureau of Investigation (FBI) communicating with a County Sheriff.

- Multi-disciplinary: Wireless communications involving two or more different agencies. Some examples include a police agency communicating with a fire agency and a parks agency communicating with an emergency medical services agency.

An interoperability communication link can be either of the following types:

- Infrastructure independent: The communications link occurs between subscriber units over a direct RF path.

    - An example is portable-to-portable tactical communications at the scene of an incident.

- Infrastructure dependent: The communications link requires the use of some items(s) of equipment, other than a subscriber unit, for establishment of the link and for complete subscriber operation. Some examples include:

    - a communications link for which a repeater station is required;
    - a communications link which provides full system coverage for a visiting subscriber unit within a host conventional or trunked radio system; and
    - a communications link which provides interconnectivity between two or more otherwise incompatible radio systems by cross-connecting the audio signals and/or appropriate signaling functions at some central point.
        - This capability may be provided by a central infrastructure capability; or
        - This capability may be provided by a field deployed unit, e.g. an Emergency Communications Vehicle (ECV).

According to the Public Safety Wireless Advisory Committee final report, section 4.3.2.5, interoperability is defined as:

> An essential communication link within Public Safety and public service wireless communications systems which permits units from two or more different agencies to interact with one another and to exchange information according to a prescribed method in order to achieve predictable results.

Obviously, a large scale, multi-agency trunked radio system, in and of itself can provide ultimate interoperability between all system users, and whether the system is based on proprietary or standard technology does not impact those users. However, to accommodate supporting units from outside that multi-agency user community, dedicated equipment must be provided that can

link the incoming units with the system users. This can involve linking a specific system with a multi-agency system or it can involve base stations and/or repeater stations operating on designated interoperability channels that operate with standards based technology and are capable of communicating with units responding from anywhere in the country. The statewide system being constructed in New York State incorporates all these concepts.

3. Spectrum Issues

The Federal Communications Commission and the NTIA have designated certain channels for Interoperability use. These channels are distributed across the range of Public Safety bands. Some are allocated for specific service categories, e.g., Police Radio Service, Fire Radio Service. These dedicated-use channels are important for ordered communications protocols. However, over time these separations of use in the face of severely limited public safety spectrum in the lower bands have tended to result in parochial attitudes that must be overcome. How to overcome these attitudes is going to require service representatives to come together and develop operational plans that will produce the best collective practices for Public Safety. The "Statewide Interoperability Executive Committee" concept presented by the FCC's Public Safety National Coordination Committee (NCC) is now an FCC Rule (47 C.F.R §90.525) for the 700 MHz Public Safety band. The authority given by this rule to the States, to manage 700 MHz FCC-designated interoperability channels, should be extended to include the interoperability channels in all Public Safety bands.

a. FCC- and NTIA-designated interoperability channels

As can be seen from the following listing, interoperability channels have been made available in all Public Safety bands. The ability to operate on all of these interoperability channels would require a formidable quantity of radios using presently available equipment. In the future, it may be possible to facilitate this broad spread of channels using Software Defined Radio (SDR) mobile and portable units. However, in order to implement such broad capability, cost is a major issue.

Inland VHF Public Coast Service Areas (VPCAs) preclude use of a sizeable number of channels in the Southern NYS areas, e.g. Greater NYC Metropolitan Area. (in fact not anywhere in the eastern US) FCC 47 C.F.R. §90.20(g)(2)

i. Low – Band VHF (30-50 MHz)

39.46 Base/Mobile Police
39.48 Base/Mobile Fire Proposed
45.86 Base/Mobile Police
45.88 Base/Mobile Fire

ii. High – Band VHF State & Local (150-174 MHz)

151.1375 Base/Mobile Any Public Safety
152.0075 Base/Mobile Special Emergency

154.265 Mobile Fire]
154.2725 Base/Mobile Fire
154.28 Base/Mobile Fire
154.2875 Base/Mobile Fire
154.295 Mobile Fire
154.3025 Base/Mobile Fire
154.4525 Base/Mobile Any Public Safety Eligible
155.34 Base/Mobile EMS
155.3475 Base/Mobile EMS
155.475 Base/Mobile Police
155.4825 Base/Mobile Police
155.7525 Base/Mobile Any Public Safety Eligible
157.25 Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs
157.275 Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs
157.225 Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs
158.7375 Base/Mobile Any Public Safety Eligible
159.4725 Base/Mobile Any Public Safety Eligible
161.85 Base/Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs
161.825 Base/Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs
161.875 Base/Mobile Allocated for Public Safety Use in 33 inland VPCSAs/EAs

iii. High – Band VHF Federal (150-174 MHz)

167.0875 Base/Mobile NTIA Law Enforcement
162.0875 Mobile NTIA Law Enforcement
162.2625 Mobile NTIA Law Enforcement
167.25 Base/Mobile NTIA Law Enforcement
162.8375 Mobile NTIA Law Enforcement
167.75 Base/Mobile NTIA Law Enforcement
163.2875 Mobile NTIA Law Enforcement
168.1125 Base/Mobile NTIA Law Enforcement
163.425 Mobile NTIA Law Enforcement
168.4625 Base/Mobile NTIA Law Enforcement
164.7125 Mobile NTIA Incident Response
169.5375 Base/Mobile NTIA Incident Response
165.25 Mobile NTIA Incident Response
170.0125 Base/Mobile NTIA Incident Response
165.9625 Mobile NTIA Incident Response
170.4125 Base/Mobile NTIA Incident Response
165.575 Mobile NTIA Incident Response
170.6875 Base/Mobile NTIA Incident Response
167.325 Mobile NTIA Incident Response
173.0375 Base/Mobile NTIA Incident Response

iv. UHF Federal (406-450 MHz)

414.0375 Base/Mobile NTIA Law Enforcement
418.9875 Mobile NTIA Law Enforcement
409.9875 Base/Mobile NTIA Law Enforcement
419.1875 Mobile NTIA Law Enforcement
410.1875 Base/Mobile NTIA Law Enforcement
419.6125 Mobile NTIA Law Enforcement
410.6125 Base/Mobile NTIA Law Enforcement
414.0625 Mobile NTIA Law Enforcement
414.3125 Base/Mobile NTIA Law Enforcement
414.3375 Base/Mobile NTIA Law Enforcement
419.2375 Base/Mobile NTIA Incident Response
410.2375 Mobile NTIA Incident Response
419.4375 Base/Mobile NTIA Incident Response
410.4375 Mobile NTIA Incident Response
419.6375 Base/Mobile NTIA Incident Response
410.6375 Mobile NTIA Incident Response
419.8375 Base/Mobile NTIA Incident Response
410.8375 Base/Mobile NTIA Incident Response
413.1875 Base/Mobile NTIA Incident Response
413.2125 Base/Mobile NTIA Incident Response

v. UHF State & Local (450-470 MHz)

453.2125 * Base/Mobile Any Public Safety Eligible
453.4625 * Base/Mobile Any Public Safety Eligible
453.7125 * Base/Mobile Any Public Safety Eligible
453.8625 * Base/Mobile Any Public Safety Eligible
458.2125 * Mobile Any Public Safety Eligible
458.4625 * Mobile Any Public Safety Eligible
458.7125 * Mobile Any Public Safety Eligible
458.8625 * Mobile Any Public Safety Eligible

vi. UHF (470 – 512 MHz)

NONE

vii. 700 MHz Public Safety Narrow Band

These are paired channels, only the low frequency side is listed
Channel 23 & 24 Base/Mobile General Public Safety Service (secondary trunked)
Channel 103 & 104 Base/Mobile General Public Safety Service (secondary trunked)
Channel 183 & 184 Base/Mobile General Public Safety Service (secondary trunked)
Channel 263 & 264 Base/Mobile General Public Safety Service (secondary trunked)

Channel 39 & 40 Base/Mobile Calling Channel
Channel 119 & 120 Base/Mobile General Public Safety Service
Channel 199 & 200 Base/Mobile General Public Safety Service
Channel 279 & 280 Base/Mobile Mobile Data
Channel 63 & 64 Base/Mobile EMS
Channel 143 & 144 Base/Mobile Fire
Channel 223 & 224 Base/Mobile Police
Channel 303 & 304 Base/Mobile Mobile Repeater
Channel 79& 80 Base/Mobile EMS
Channel 159 & 160 Base/Mobile Fire
Channel 239 & 240 Base/Mobile Police
Channel 319 & 320 Base/Mobile Other Public Service
Channel 657 & 658 Base/Mobile General Public Safety Service (secondary trunked)
Channel 737 & 738 Base/Mobile General Public Safety Service (secondary trunked)
Channel 817 & 818 Base/Mobile General Public Safety Service (secondary trunked)
Channel 897 & 898 Base/Mobile General Public Safety Service (secondary trunked)
Channel 681 & 682 Base/Mobile Calling Channel
Channel 761 & 762 Base/Mobile General Public Safety Service
Channel 841 & 842 Base/Mobile General Public Safety Service
Channel 921 & 922 Base/Mobile Mobile Data
Channel 641 & 642 Base/Mobile EMS
Channel 721 & 722 Base/Mobile Fire
Channel 801 & 802 Base/Mobile Police
Channel 881 & 882 Base/Mobile Mobile Repeater
Channel 697 & 698 Base/Mobile EMS
Channel 777 & 778 Base/Mobile Fire
Channel 857 & 858 Base/Mobile Police
Channel 937 & 938 Base/Mobile Other Public Service

viii. 700 MHz Public Safety Wide Band

These are paired channels, only the low frequency side is listed
Channel 28 768.4 **50 KHz use with aggregation to 150 kHz**
Channel 29 768.45 **50 KHz use with aggregation to 150 kHz**
Channel 30 768.5 **50 KHz use with aggregation to 150 kHz**
Channels 28,29 768.4 + 768.45
Channels 29,30 768.45 + 768.5
Channels 28,29,30 768.4 + 768.45 + 768.5
Channel 37 768.85 **50 KHz use with aggregation to 150 kHz**
Channel 38 768.9 **50 KHz use with aggregation to 150 kHz**
Channel 39 768.95 **50 KHz use with aggregation to 150 kHz**
Channels 37,38 768.85 +768.90

Channels 38,39 768.90 + 768.95
Channels 37,38,39 768.85 + 768.90 + 768.95
Channel 82 771.05 **50 KHz use with aggregation to 150 kHz**
Channel 83 771.1 **50 KHz use with aggregation to 150 kHz**
Channel 84 771.15 **50 KHz use with aggregation to 150 kHz**
Channels 82,83 771.05 + 771.1
Channels 83,84 7771.1 + 771.15
Channels 82,83,84 771.05 + 771.1 + 771.15
Channel 91 771.5 **50 KHz use with aggregation to 150 kHz**
Channel 92 771.55 **50 KHz use with aggregation to 150 kHz**
Channel 93 771.6 **50 KHz use with aggregation to 150 kHz**
Channels 91,92 771.5 + 771.55
Channels 92,93 771.55 + 771.6
Channels 91,92,93 771.5 + 771.55 + 771.6
Channel 46 769.3 **50 KHz use with no aggregation**
Channel 47 769.35 **50 KHz use with no aggregation**
Channel 48 769.4 **50 KHz use with no aggregation**
Channel 73 770.6 **50 KHz use with no aggregation**
Channel 74 770.65 **50 KHz use with no aggregation**
Channel 75 770.7 **50 KHz use with no aggregation**

Note: Channels 46 & 48 and 73 & 75 are reserved as 50 KHz Nationwide Common Channels

ix. 806-821/851-866 MHz Band

NONE

x. 821-824/866-869 MHz (NPSPAC) band

821.0125 Mobile Any Public Safety Eligible
821.5125 Mobile Any Public Safety Eligible
822.0125 Mobile Any Public Safety Eligible
822.5125 Mobile Any Public Safety Eligible
823.0125 Mobile Any Public Safety Eligible
866.0125 Base/Mobile Any Public Safety Eligible
866.5125 Base/Mobile Any Public Safety Eligible
867.0125 Base/Mobile Any Public Safety Eligible
867.5125 Base/Mobile Any Public Safety Eligible
868.0125 Base/Mobile Any Public Safety Eligible

4. Past State Level Activity

a. Police

i. NYSLETC

The New York Statewide Law Enforcement Telecommunication Committee originally formed in the 1970s. The committee is composed of representatives from the State Police, the New York City Police Department and regional representatives from the Police Chiefs and Sheriffs, with ex-officio membership from the NYS Division of Criminal Justice Services.

NYSLETC filed a State Plan: "NY Statewide Law Enforcement Emergency Communications Plan" for the use of frequencies 39.46 MHz, 155.370 MHz and 155.475 MHz with the Federal Communications Commission in February of 1979, which is still in place today.

ii. Division of State Police

The NYS Division of State Police (NYSP) supports the NYSLETC "NY Statewide Law Enforcement Emergency Communications Plan" throughout New York State on their VHF system. The VHF system also supports other law enforcement agencies, both state and local.

In the New York City Metropolitan Area, NYSP operates a 5 channel, multi-site, simulcast trunking system, which also supports other state agency users. This system incorporates automatic interfaces to one of the NYC Police Department (NYPD) Citywide Channels and to the NYSP VHF Statewide Emergency Channel. Included in the system are the 5 international mutual aid channels (I-Call, I-TAC1 thru I-TAC4). The system radio sites are linked by a hot standby, loop protected microwave system, which also supports the Port Authority of NY and NJ's trunking system and their 5 international mutual aid channels.

5. Current State Activity

The State of New York is working on many fronts involving enhanced interoperability. With the Canadian border to the North, and New York City in the South, we are working to develop operational plans and technical capability to address all issues.

The Canadian border activity brings together NYSP, Federal Agencies, and the Canadian Royal Canadian Mounted Police (RCMP) to control border crossings and apprehend terrorists. This activity requires shared, secure radio communications.

Statewide Wireless Network

Currently, New York State is engaged in the development of a Statewide Wireless Network (SWN). We are near the end of an extensive procurement process. We have selected a prime contractor for the proposed award, and are currently in final contract negotiations. SWN will be used by all State Agencies and will also be available for use by other governmental entities, including Authorities, Counties and other Local Government, and the Federal government.

Statewide Coverage

The systems that exist today do not provide adequate coverage throughout the State. As a matter of fact, there are areas where coverage is spotty or non-existent. It is currently possible in some areas of the State that an Emergency Medical Services (EMS) team in route to a medical facility with a critically ill patient might at times be unable to communicate, or a police officer would be unable to relay vital information regarding a pursuit.

To address these issues, which place both the public and the public safety community at risk, the SWN specifications require that the network provide 97 percent coverage on-road and navigable waterways and 95 percent area coverage in each county in order to eliminate any potential for lost communications. In addition, SWN requirements call for 97 percent on-hip in-street coverage in New York City.

Digital Voice and Data

Just as standard voice communications have given way to electronic transfer of data in the office environment, the need for data transport to supplement voice in mobile communication is equally important. One need only think of the value to a police officer of having access to a suspect's photos; firefighters able to arrive with building floor plans or emergency medical crews able to remotely connect their monitors directly to hospitals on a real time basis, with little fear of loss of signal, to understand the value of a ubiquitous, integrated voice and data wireless communication system for use not only every day but during catastrophic events as well.

Communications' Interoperability

Now, add to the above the ability for multiple disciplines such as fire, police, and medical teams to be connected into one seamless communications/talk group for the duration of a specific emergency. For example, it could tie together all public safety first responders in a small community, or it could connect various communities' public safety responders to a group seeking mutual aid assistance for a limited period of time. In the case of a catastrophic event, multiple communications groups could be created to include police, fire, medical, federal, military and other authorities as needed.

The issue of interoperability is not whether government agencies can communicate, but whether or not they can communicate in a way that enhances their ability to respond effectively in a public safety crisis. Today that capability is severely constrained by outmoded technology and disparate radio systems operating in different frequency bands. Individual agencies in New York State have a basic ability to communicate, but their capability to communicate between agencies in real-time over wide areas is extremely limited.

The most robust form of interoperability today is achieved by having all or a large number of agencies operating on the same or similar communications networks. Interoperability is seamless, with no technological or geographical limitations. For those agencies whose current communications systems require replacement, joining a multi-agency shared network such as SWN is the most cost effective way to achieve the highest level of interoperability.

During normal operations, the SWN would provide support ranging from basic voice communication to other capabilities such as data communications and more flexible talk group control. In the event of a natural or man made disaster, the SWN could be reconfigured on the fly to interconnect various agencies and departments assigned to deal with the specific event. Local police, fire, EMS would work within a coordinated communications system that would connect them to other organizations such as the State Emergency Management Office (SEMO), the Federal Emergency Management Agency (FEMA) and the National Guard when necessary.

For those agencies that elect to maintain their own networks, SWN will offer them the option of linking to the statewide network. This will allow these agencies to communicate to other public safety agencies which they otherwise would not be able to do easily or on an expansive basis.

Interoperability with other agency systems will be facilitated via SWN. State and FCC designated interoperability channels will be supported according to area usage. This will permit interoperability with units not on SWN and with units from other States.

The Office for Technology, through the SWN Project Office, is chairing the Statewide Interoperability Executive Committee and bringing together a broad group of Public Safety radio service representatives to develop the necessary interoperability protocols and procedures for a Statewide Plan.

Similarly, the local agencies in the New York Metropolitan Area have formed a committee to develop interoperability plans that are unique to the New York City Metropolitan Area.

Fostering State and Local Partnerships

An important public policy goal is fostering State and local partnerships. The Statewide Wireless Network (SWN) encourages voluntary partnerships with local governments. The SWN Advisory Council and other outreach activities have been and will continue to be used to identify and address local government needs.

We envision a network that would include police; sheriffs; conservation officers and rangers; parole, probation and correction officers; full time and volunteer Fire Departments; Emergency Medical Services and Homeland Security Personnel and Border Patrol Officers, as needed.

In addition to helping public protection agencies, we also see the opportunity for the needs of public service entities to be met by SWN. As the need for coordinating public safety response increases during times of natural disasters, so does the need to coordinate the use of our public service providers. Catastrophic snow and ice storms that frequently occur in parts of our State require mobilization and redirection of massive amounts of equipment used by agencies such as the NYS Department of Transportation (NYSDOT) and the NYS Thruway Authority. These units are brought into areas to provide additional support to local DOT personnel as well as local government units normally responsible for day-to-day activities. In many cases, NYS National Guard personnel are deployed, and seamless communications between all is a necessity.

Today that communications is fractured at best, with each unit having its own system, and individuals forced to carry multiple radios or use runners or telephone lines (if available) between dispatch centers in order to communicate.

6. Current Activity – Federal Funding Grants and Related Programs

a. Byrne Grant

Currently, the State of New York has received a State and Local Emergency Preparedness Grant. Among the communications items covered by this grant are the Rapid Mobile Emergency Response (RAMER) project, secure in-building and disadvantaged locations (underground, in-tunnel) communications, and a Public Safety radio paging prototype.

The RAMER project provides a complete emergency on-scene radio equipment response program for locations that have experienced communications failure or that need temporary expansion in coverage and levels of functionality.

b. UASI

The NY State point of contact for the UASI program has been assigned to the Office for Technology and its Statewide Wireless Network Project Office.

7. Summary

SWN will replace the outdated stand-alone State agency systems and will be used for both day-to-day operations, as well as disaster and crisis situations. The new radio network will make it easier for all agencies to communicate in both day-to-day and crisis situations and allow agency-to-agency communications where none exists today.

New York State's Statewide Wireless Network will bring public safety communications in NYS into the 21st Century by bringing as many as 65,000 federal, state and local government users onto one modern communications network and providing links into other existing federal and local government communications and data networks.

SWN will facilitate full, seamless interoperability between SWN participating agencies, anytime, anyplace in New York State. At the same time it will permit network based:

- Interoperability with non-SWN participating agencies through network gateways.
- Fully integrated voice and data communications over 97% of the State's roadways and 95% of its geographic area, eliminating many of the communications dead spots that plague public safety responders today.

- The capability for a wide array of mobile data applications, e.g. – automatic vehicle location, mug-shot images, computer aided dispatching, report generation and transmission directly from the field, etc.
- Direct communications between police, fire, EMS, transportation, public works and other governmental responders for day-to-day or emergency operations.

Spectrum – 700 MHz Issues

New York State continues to seek use of public safety communications spectrum promised under the 1997 Balanced Budget Act in the 700 MHz bandwidth as part of crucial homeland security planning. To gain useful access to the spectrum two actions must occur:

- Commercial television broadcasters must be compelled to vacate the spectrum no later than the current 2006 deadline.
- The FCC must facilitate frequency harmonization with Canada.

The Office for Technology (OFT) continues to work through the Governor's Office and the Washington Congressional Delegation to focus the FCC's attention on resolving these and other issues.

To date the FCC continues to license use of 700 MHz public safety spectrum to low power television stations in the New York City area, even though SWN is already licensed to operate on those same frequencies. This will only create additional obstacles which must be overcome as we begin the build-out of SWN.

The FCC is currently negotiating with Industry Canada to harmonize use of the 700 MHz public safety band frequencies across the U.S. - Canadian border. It is critical that these negotiations be completed as soon as possible. At the same time, resolution of this issue alone will not allow New York State public safety agencies access to the new spectrum. Commercial television broadcasters must be compelled to vacate the spectrum no later than the current 2006 deadline if emergency first responders are to have the tools they need.

Consensus Plan

The Office For Technology has supported the development of the "Consensus Plan" and anxiously awaits the final details. SWN holds approximately 450 licenses that will be affected by the Plan and is one of the major public safety license holders in the country. As was accommodated within the FCC's 700 MHz Plan, New York State would like the FCC to issue SWN's 800 MHz replacement frequencies in a block for statewide use.

a. Multiplicity of Operational Bands

There is a significant quantity of interoperability channels spread over 8 Public Safety radio bands. It is interesting to note that PSWAC in their final report had recommended the use of a single 6 MHz VHF band (at the present TV channel 7) in order to develop a uniform nationwide interoperability channel system. Unfortunately that did not materialize. We did, however, get

additional channels in the Federal and non-Federal VHF and UHF spectrum, and additional channels in the 700 MHz Public Safety band.

To fully implement the multiplicity of operational bands of FCC- and NTIA-designated interoperability channels will require significant dedicated equipment for base stations and control equipment.

b. Overcoming Parochial Attitudes

The Statewide Interoperability Executive Committee provides an environment to bring representatives of all the radio services together to work out procedures and protocols. The authority given to States to manage the 700 MHz FCC-designated interoperability channels in 47C.F.R. § 90.525 should be expanded to encompass the designated interoperability channels in all Public Safety bands. In addition, the NCC recommendation for standard nomenclature to be applied to all of these designated interoperability channels should be accepted by the FCC.

c. Benefits of Common, Shared-Use Systems

Large scale shared-use systems provide optimum efficiency in the use of spectrum. Trunking systems provide better spectrum utilization. In addition, the system can be designed and built for the future, which presently includes established bench marks for mandatory conversion to narrow-band channels. By participating in a single, large scale system, interoperability between the multiple agencies' system users is inherently optimized.

d. Need for Further Funding Support

Interoperability systems to date have been constructed on a limited basis to meet minimal requirements. Systems that have been implemented for mobile coverage will be inadequate for portable coverage inside buildings. However, this limited deployment does not ensure that units arriving from distant areas will be equipped for operation on the implemented channels. In order to acquire the significant quantities of equipment necessary to build large area radio coverage on the FCC- and NTIA-designated interoperability channels, funding support will be required.

FREQUENCY (MHz) OR CHANNEL SET		BASE/MOBILE	RADIO SERVICE	CHANNEL LABEL	USE/MISC NOTES
			FCC 30-512 MHz Public Safety		
Bands					
39.46		Base/Mobile	Police	**3LAW1**	90.20(c) [FN 15]
39.48		Base/Mobile	Fire Proposed	**3FIR2**	90.20(c) [FN 19]
45.86		Base/Mobile	Police	**3LAW3**	90.20(c) [FN 15]
45.88		Base/Mobile	Fire	**3FIR4**	90.20(c) [FN 19]
151.1375		Base/Mobile	Any Public Safety Eligible	**1TAC5**	90.20(c) [FN 80]
152.0075		Base/Mobile	Special Emergency	**1EMS6**	25 kHz BW PAGING 90.20(c) [FN 19]
154.265		Mobile	Fire	**1FIR7**	90.20(c) [FN 19]
154.2725		Base/Mobile	Fire	**1FIR8**	90.20(c) [FN 19]
154.28		Base/Mobile	Fire	**1FIR9**	90.20(c) [FN 19]
154.2875		Base/Mobile	Fire	**1FIR10**	90.20(c) [FN 19]
154.295		Mobile	Fire	**1FIR11**	90.20(c) [FN 19]
154.3025		Base/Mobile	Fire	**1FIR12**	90.20(c) [FN 19]
154.4525		Base/Mobile	Any Public Safety Eligible	**1TAC13**	90.20(c) [FN 80]
155.34		Base/Mobile	EMS	**1EMS14**	90.20(c) [FN 40]
155.3475		Base/Mobile	EMS	**1EMS15**	90.20(c) [FN 40]
155.475		Base/Mobile	Police	**1LAW16**	90.20(c) [FN 41]
155.4825		Base/Mobile	Police	**1LAW17**	90.20(c) [FN 41]
155.7525		Base/Mobile	Any Public Safety Eligible	**1CAL18**	CALLING CHANNEL 90.20(c) [FN 80]
157.25		Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC19D**	90.20 Tables A and B
157.275		Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC20D**	90.20 Tables A and B
157.225		Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC21D**	90.20 Tables A and B
158.7375		Base/Mobile	Any Public Safety Eligible	**1TAC22**	90.20(c) {FN 80]
159.4725		Base/Mobile	Any Public Safety Eligible	**1TAC23**	90.20(c) {FN 80]
161.85		Base/Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC24**	90.20 Tables A and B
161.825		Base/Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC25**	90.20 Tables A and B
161.875		Base/Mobile	Allocated for Public Safety Use in 33 inland VPCAs/Eas	**1TAC26**	90.20 Tables A and B
453.2125	*	Base/Mobile	Any Public Safety Eligible	**4CAL27D**	CALLING CHANNEL 90.20(c) [FN 80]
453.4625	*	Base/Mobile	Any Public Safety Eligible	**4TAC28D**	90.20(c) [FN 80]
453.7125	*	Base/Mobile	Any Public Safety Eligible	**4TAC29D**	90.20(c) [FN 80]
453.8625	*	Base/Mobile	Any Public Safety Eligible	**4TAC30D**	90.20(c) [FN 80]
458.2125	*	Mobile	Any Public Safety Eligible	**4CAL31**	CALLING CHANNEL 90.20(c) [FN 80]
458.4625	*	Mobile	Any Public Safety Eligible	**4TAC32**	90.20(c) [FN 80]
458.7125	*	Mobile	Any Public Safety Eligible	**4TAC33**	90.20(c) [FN 80]
458.8625	*	Mobile	Any Public Safety Eligible	**4TAC34**	90.20(c) [FN 80]

Note: VPC channels pairs 25,84 and 85 used in VPC service area 10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42

NTIA VHF Law Enforcement

channels				
167.0875	Base/Mobile	NTIA Law Enforcement	**1FTAC35D**	FCC Public Notice DA 01-1621
162.0875	Mobile	NTIA Law Enforcement	**1FCAL35**	FCC Public Notice DA 01-1621
162.2625	Mobile	NTIA Law Enforcement	**1FTAC36**	FCC Public Notice DA 01-1621
167.25	Base/Mobile	NTIA Law Enforcement	**1FTAC36D**	FCC Public Notice DA 01-1621
162.8375	Mobile	NTIA Law Enforcement	**1FTAC37**	FCC Public Notice DA 01-1621
167.75	Base/Mobile	NTIA Law Enforcement	**1FTAC37D**	FCC Public Notice DA 01-1621
163.2875	Mobile	NTIA Law Enforcement	**1FTAC38**	FCC Public Notice DA 01-1621
168.1125	Base/Mobile	NTIA Law Enforcement	**1FTAC38D**	FCC Public Notice DA 01-1621
163.425	Mobile	NTIA Law Enforcement	**1FTAC39**	FCC Public Notice DA 01-1621
168.4625	Base/Mobile	NTIA Law Enforcement	**1FTAC39D**	FCC Public Notice DA 01-1621

NTIA VHF Incident Response

channels				
164.7125	Mobile	NTIA Incident Response	**1FCAL40**	FCC Public Notice DA 01-1621
169.5375	Base/Mobile	NTIA Incident Response	**1FCAL40D**	FCC Public Notice DA 01-1621
165.25	Mobile	NTIA Incident Response	**1FTAC41**	FCC Public Notice DA 01-1621
170.0125	Base/Mobile	NTIA Incident Response	**1FTAC41D**	FCC Public Notice DA 01-1621
165.9625	Mobile	NTIA Incident Response	**1FTAC42**	FCC Public Notice DA 01-1621
170.4125	Base/Mobile	NTIA Incident Response	**1FTAC42D**	FCC Public Notice DA 01-1621
165.575	Mobile	NTIA Incident Response	**1FTAC43**	FCC Public Notice DA 01-1621
170.6875	Base/Mobile	NTIA Incident Response	**1FTAC43D**	FCC Public Notice DA 01-1621
167.325	Mobile	NTIA Incident Response	**1FTAC44**	FCC Public Notice DA 01-1621
173.0375	Base/Mobile	NTIA Incident Response	**1FTAC44D**	FCC Public Notice DA 01-1621

NTIA UHF Law Enforcement

channels				
414.0375	Base/Mobile	NTIA Law Enforcement	**1FCAL45**	FCC Public Notice DA 01-1621
418.9875	Mobile	NTIA Law Enforcement	**1FTAC46**	FCC Public Notice DA 01-1621
409.9875	Base/Mobile	NTIA Law Enforcement	**1FTAC46D**	FCC Public Notice DA 01-1621
419.1875	Mobile	NTIA Law Enforcement	**1FTAC47**	FCC Public Notice DA 01-1621
410.1875	Base/Mobile	NTIA Law Enforcement	**1FTAC47D**	FCC Public Notice DA 01-1621
419.6125	Mobile	NTIA Law Enforcement	**1FTAC48**	FCC Public Notice DA 01-1621
410.6125	Base/Mobile	NTIA Law Enforcement	**1FTAC48D**	FCC Public Notice DA 01-1621
414.0625	Mobile	NTIA Law Enforcement	**1FTAC49**	FCC Public Notice DA 01-1621
414.3125	Base/Mobile	NTIA Law Enforcement	**1FTAC50**	FCC Public Notice DA 01-1621
414.3375	Base/Mobile	NTIA Law Enforcement	**1FTAC51**	FCC Public Notice DA 01-1621

NTIA UHF Incident Response

channels				
419.2375	Base/Mobile	NTIA Incident Response	**1FCAL52**	FCC Public Notice DA 01-1621
410.2375	Mobile	NTIA Incident Response	**1FCAL52D**	FCC Public Notice DA 01-1621
419.4375	Base/Mobile	NTIA Incident Response	**1FTAC53**	FCC Public Notice DA 01-1621
410.4375	Mobile	NTIA Incident Response	**1FTAC53D**	FCC Public Notice DA 01-1621
419.6375	Base/Mobile	NTIA Incident Response	**1FTAC54**	FCC Public Notice DA 01-1621
410.6375	Mobile	NTIA Incident Response	**1FTAC54D**	FCC Public Notice DA 01-1621
419.8375	Base/Mobile	NTIA Incident Response	**1FTAC55**	FCC Public Notice DA 01-1621
410.8375	Base/Mobile	NTIA Incident Response	**1FTAC55D**	FCC Public Notice DA 01-1621
413.1875	Base/Mobile	NTIA Incident Response	**1FTAC56**	FCC Public Notice DA 01-1621
413.2125	Base/Mobile	NTIA Incident Response	**1FTAC57**	FCC Public Notice DA 01-1621

FCC 700 MHz Public Safety Band

Channel 23 & 24	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC58**
Channel 103 & 104	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC62**
Channel 183 & 184	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC66**
Channel 263 & 264	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC70**
Channel 39 & 40	Base/Mobile	Calling Channel	**7CAL59**
Channel 119 & 120	Base/Mobile	General Public Safety Service	**7TAC63**
Channel 199 & 200	Base/Mobile	General Public Safety Service	**7TAC67**
Channel 279 & 280	Base/Mobile	Mobile Data	**7DAT71**
Channel 63 & 64	Base/Mobile	EMS	**7EMS60**
Channel 143 & 144	Base/Mobile	Fire	**7FIR64**
Channel 223 & 224	Base/Mobile	Police	**7LAW68**
Channel 303 & 304	Base/Mobile	Mobile Repeater	**7MOB72**
Channel 79& 80	Base/Mobile	EMS	**7EMS61**
Channel 159 & 160	Base/Mobile	Fire	**7FIR65**
Channel 239 & 240	Base/Mobile	Police	**7LAW69**
Channel 319 & 320	Base/Mobile	Other Public Service	**7TAC73**
Channel 657 & 658	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC74**
Channel 737 & 738	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC78**
Channel 817 & 818	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC82**
Channel 897 & 898	Base/Mobile	General Public Safety Service (secondary trunked)	**7TAC86**

Channel 681 & 682	Base/Mobile	Calling Channel	**7CAL75**
Channel 761 & 762	Base/Mobile	General Public Safety Service	**7TAC79**
Channel 841 & 842	Base/Mobile	General Public Safety Service	**7TAC83**
Channel 921 & 922	Base/Mobile	Mobile Data	**7DAT87**
Channel 641 & 642	Base/Mobile	EMS	**7EMS76**
Channel 721 & 722	Base/Mobile	Fire	**7FIR80**
Channel 801 & 802	Base/Mobile	Police	**7LAW84**
Channel 881 & 882	Base/Mobile	Mobile Repeater	**7MOB88**
Channel 697 & 698	Base/Mobile	EMS	**7EMS77**
Channel 777 & 778	Base/Mobile	Fire	**7FIR81**
Channel 857 & 858	Base/Mobile	Police	**7LAW85**
Channel 937 & 938	Base/Mobile	Other Public Service	**7TAC89**

Note: Pairs 319/320 (7TAC73) and 937/938 (7TAC89) are available nationwide for coordination with non-public safety entities (utilities etc.)

FCC 800 MHz NPSPAC Band

821.0125	Mobile	Any Public Safety Eligible	**8CAL90**	CALLING CHANNEL Docket 87-112 90.617(a)(1) and 90.619(c)(1
821.5125	Mobile	Any Public Safety Eligible	**8TAC91**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
822.0125	Mobile	Any Public Safety Eligible	**8TAC92**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
822.5125	Mobile	Any Public Safety Eligible	**8TAC93**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
823.0125	Mobile	Any Public Safety Eligible	**8TAC94**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
866.0125	Base/Mobile	Any Public Safety Eligible	**8CAL90D**	CALLING CHANNEL Docket 87-112 90.617(a)(1) and 90.619(c)(1
866.5125	Base/Mobile	Any Public Safety Eligible	**8TAC91D**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
867.0125	Base/Mobile	Any Public Safety Eligible	**8TAC92D**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
867.5125	Base/Mobile	Any Public Safety Eligible	**8TAC93D**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)
868.0125	Base/Mobile	Any Public Safety Eligible	**8TAC94D**	Docket 87-112 90.617(a)(1) and 90.619(c)(1)

FCC 700 MHz Wideband Data

Channels CHANNEL SET(S)	CHANNEL LABEL	FREQUENCY		**USAGE PARAMETERS**
28	7WDAT1A		768.4	**50 KHz use with aggregation to 150 kHz**
29	7WDAT1B		768.45	**50 KHz use with aggregation to 150 kHz**
30	7WDAT1C		768.5	**50 KHz use with aggregation to 150 kHz**
28,29	7WDAT1E	768.4 + 768.45		
29,30	7WDAT1F	768.45 + 768.5		
28,29,30	7WDAT1G	768.4 + 768.45 + 768.5		
37	7WDAT2A		768.85	**50 KHz use with aggregation to 150 kHz**

38	7WDAT2B		768.9	**50 KHz use with aggregation to 150 kHz**
39	7WDAT2C		768.95	**50 KHz use with aggregation to 150 kHz**
37,38	7WDAT2E	768.85 +768.90		
38,39	7WDAT2F	768.90 + 768.95		
37,38,39	7WDAT2G	768.85 + 768.90 + 768.95		
82	7WDAT5A		771.05	**50 KHz use with aggregation to 150 kHz**
83	7WDAT5B		771.1	**50 KHz use with aggregation to 150 kHz**
84	7WDAT5C		771.15	**50 KHz use with aggregation to 150 kHz**
82,83	7WDAT5E	771.05 + 771.1		
83,84	7WDAT5F	7771.1 + 771.15		
82,83,84	7WDAT5G	771.05 + 771.1 + 771.15		
91	7WDAT6A		771.5	**50 KHz use with aggregation to 150 kHz**
92	7WDAT6B		771.55	**50 KHz use with aggregation to 150 kHz**
93	7WDAT6C		771.6	**50 KHz use with aggregation to 150 kHz**
91,92	7WDAT6E	771.5 + 771.55		
92,93	7WDAT6F	771.55 + 771.6		
91,92,93	7WDAT6G	771.5 + 771.55 + 771.6		
46	7WDAT3A		769.3	**50 KHz use with no aggregation**
47	7WDAT3B		769.35	**50 KHz use with no aggregation**
48	7WDAT3C		769.4	**50 KHz use with no aggregation**
73	7WDAT4A		770.6	**50 KHz use with no aggregation**
74	7WDAT4B		770.65	**50 KHz use with no aggregation**
75	7WDAT4C		770.7	**50 KHz use with no aggregation**

Note: Channels 46 & 48 and 73 & 75 are reserved as 50 KHz Nationwide Common Channels

Mr. SHAYS. Thank you, Mr. Thomas.

Mr. Gardner.

Mr. GARDNER. Thank you for the opportunity to submit my testimony and to be present at this meeting. My name is William Gardner, and I'm a lifelong resident of Suffolk County, New York. I'm the Supervisor of the Technical Services section of the Suffolk County Police Department, 13th largest police department in the country.

When I joined the Department in 1977, we had five single site base stations for police communications, one shot of microwave radio and a handful of computers. In the year 2004, today, the police communications system has a 22 channel, 800 megahertz trunk system with 8,000 users on it, 179 different base stations at 13 different sites, we have a mobile data computer system with 700 computers in sector cars.

There is also a separate infrastructure that runs that mobile data computer system using 13 UHF frequencies at 13 different sites. In addition, we have a digital microwave radio system with a 6,000 channel capacity at 17 different sites.

Since 1993, Suffolk has invested more than $50 million in these systems. Some of that money has come from COPS MORE grants. We had a $15 million grant back in 1997 or 1998, but at that level of investment, I was picking up on what the gentleman from New York was saying, the State, I think we're at odds a little bit about building the statewide infrastructure. We've got $50 million invested in our system. Our neighbor, Nassau County, currently has an RFP out on the street. They're looking to spend $48 million to build out their system. I think this problem of communication and who's in charge here, who's running the show, gets to be problematic.

As our systems expanded, so did interoperability. The trunk system ties together, the Suffolk County trunk system ties together Federal, State, county, town and village agencies. All 23 individual police departments in our county have access to the trunk system. Any of the 8,000 users can talk to any other user on that system.

For mass response situations, there are law enforcement only talk groups, for county-wide disasters, we have county-wide talk groups that allow all agencies access to any other agency. We also have the capability of direct communications to fire rescue dispatch. This has all been done since 1995.

Radio communications with our neighbor, Nassau County and New York City still are very much lacking. I'm sorry to say that if a similar event to September 11 happened tomorrow, we would be in exactly the same communications problem that we were almost 3 years ago. We have no radios that are compatible with the system. Nassau County has only a handful of radios that are compatible with the system.

Only recently, we established a radio link to Nassau Police headquarters. But without some intermediate intervention, such as that by a duty officer or watch commander, there is no direct radio communication between the departments. Similar circumstances exist for communications with NYPD.

There are many reasons and causes for this lack of interoperability. Agencies build or are forced to build systems that they

know cannot communicate with other agencies due to their own frequency, monetary or operational constraints. To improve our own interoperability in our area, the Suffolk police requested and were granted a Federal grant through Congressman Steve Israel's office, specifically to assist with interoperability with NYPD and Nassau County. The grant will allow the Suffolk police agencies to utilize the NYMAC UHF channels. Those channels were granted to us by the FCC.

This grant request was a direct result of the events of September 11 where some 200 police from Suffolk County traveled to New York City, only to find a black hole of communications. The officers were out of range of the Suffolk system and they could not talk to any New York city officers, as we did not have any radios that were compatible with their system.

Again, should a similar situation arise today, utilizing the grant radios which, if I can just backtrack a bit, it took 2 years from grant approval to grant procurement. We only got the final OK from our own legislature last month in June. It took us 2 years from start to finish to make that grant and get the money. And we still don't have the equipment on the street.

With the grant money, should a similar situation arise today, utilizing these grant radios, officers will now be able to communicate directly to any of the five city boroughs and directly to New York City police dispatch. The grant will also extend that UHF system out into Nassau and Suffolk Counties. This will allow NYPD officers and NYPD personnel as they come out onto Long Island, they will be able to utilize their own radios to talk on a system that we will maintain. They can commenced to us and we can communicate to them.

Finally, the grant will also enhance the coverage of the 800 megahertz national channels. We will extend the backbone of the national channels to three new locations, one in Nassau and two in Suffolk. NYPD will be provided with radio control stations which will tie in directly to these national channels.

State participation, from my point of view, up to this point has been minimal, almost non-existent in the metropolitan area. Now it is pursuing a statewide wireless system intended to provide connectivity throughout the State for certain State agencies and local agencies and provide improved communication to other localities. Personally, I have reservations about this from a local perspective, but the general idea of improving interoperability and interconnectivity is a worthwhile pursuit.

The FCC has been active locally through the efforts of Region 8 planning committee. By opening up the 800 megahertz spectrum, much needed new spectrum became available in the region. However, that available spectrum was quickly used up and there are no new frequencies available in the region on the 800 megahertz spectrum.

Fire departments in Suffolk County, for example, cannot be accommodated without additional frequencies. This and similar problems led to the opening of they 700 megahertz spectrum and the 4.9 gig spectrum, and Region 8 is now setting rules and guidelines for its use. We desperately need this new frequency spectrum.

In my opinion, a major component of the FCC's future involvement is the adoption of the consensus plan for rebanding users within the 800 megahertz spectrum. Public Safety is a strong advocate of the consensus plan, which will separate the useable spectrums of commercial and public safety, greatly reduce interference, add more frequencies to the public safety pool, and make the 800 and 700 megahertz spectrums a contiguous spread of public safety only spectrum. I consider the consensus plan to be an extremely critical component of improving communications period, as well as having the capability of greatly improving future interoperability.

I just want to take 1 second and say personally, this is, while it's not totally analogous, I think back to what we did in Y2K. I hear these stories about planning for 3 years and 5 years and 7 years, and why we can't do this and we can't do that now. I know that when we worked to solve what was really a Y2K problem, we came together, we discussed issues at all levels of government. We had meetings, conferences. We brought together State, local and Federal Governments, commercial agencies, public agencies. We exchanged ideas, discussed issues. We identified problems and solutions and we implemented them.

Much was made of the alleged scare tactics relative to Y2K when nothing of major proportions happened. However, I am firmly convinced that nothing major happened because of the efforts at all levels of government. We did such a great job that we overcame those obstacles in our path. If we can apply the same dedication and same level of cooperation, we can also overcome the obstacles of full interoperability.

Thank you.

[The prepared statement of Mr. Gardner follows:]

WRITTEN TESTIMONY OF
WILLIAM J. GARDNER, SUPERVISOR
SUFFOLK COUNTY POLICE DEPARTMENT
TECHNICAL SERVICES SECTION
SUFFOLK COUNTY, L.I., N.Y.

BEFORE THE
UNITED STATES HOUSE OF REPRESENTATIVES
COMMITTEE ON GOVERNMENT REFORM

SUBCOMMITTEE ON NATIONAL SECURITY, EMERGING THREATS, AND INTERNATIONAL RELATIONS

July 20, 2004

Thank you for the opportunity to submit my testimony and to be present at this proceeding this morning. My name is William J. Gardner, and I am a life-long resident of Suffolk County, New York. I am the supervisor of the Technical Services Section of the Suffolk County Police Department, the 13th largest Police Department in the country.

I joined the Police Department in 1977 as a Communications Technician. At that time we used five single-site base stations for all Police Communications, including all dispatch and all car-to-car type conversations. We used a single shot of microwave radio, point-to-point over one mile, and had a handful of prehistoric computers within the entire Department. Communications were almost entirely within the Police department, with only a minimal level of interoperability. Fast forward to the year 2004, and the Police (and County) communications system now consists of a twenty-two (22) channel 800 MHz trunked Public Safety radio system with almost 8000 users on it; there are 179 bases stations in that system at eight (8) different radio tower sites. In addition, we have a Mobile Data Computer system that has over seven hundred (700) computers in sector cars and unmarked cars.

There is a separate infrastructure for that mobile computer system, utilizing thirteen (13) different UHF frequencies at 13 sites. We own and use a digital microwave radio system as a communications backbone to support both of those communications systems; it has a six thousand-channel (6,000) capacity and connects seventeen (17) different sites

throughout the County of Suffolk. Since 1993, Suffolk County has invested some $50,000,000.00 in these systems, most of that through local taxes and bond issue. The Federal Government has contributed some $15,000,000.00 of that money through COPS MORE grants. Police and Public Safety Communications have come a long way in Suffolk County, but we still have many miles to travel.

As communications systems were expanded within the County, so did the level of interoperability. The trunked radio system now ties together Federal, State, County, town and village agencies. All twenty-three Suffolk County Police Departments can intercommunicate on the trunked system; any one of the 8,000 users can communicate directly with any other radio or user. For regional disasters or mass response situations, there are Law Enforcement ONLY talk groups on the system to help promote and produce a unified structure of command and control. There are countywide talk groups that allow ALL agencies on the system access to every other agency. We also have the capability of direct communications to Fire Rescue dispatch. The trunked system is available to all public safety entities within Suffolk County, a fairly loose definition that allows all levels of government and governmental agencies to utilize the system if they so desire. No agency is forced to use the system.

Radio communications with our neighbor Nassau County are not nearly as robust nor at all as far-reaching as that within Suffolk County. Only recently have we established a direct radio link to Nassau Police Headquarters. Without some intermediate intervention, such as that of a Duty Officer or a Watch Commander, there is NO direct radio communication between Suffolk and Nassau Police. A similar circumstance exists with communications between Suffolk and NYPD.

There are many reasons and causes for the lack of interoperability, some are simply explained while others tend to be more complicated and complex. In some cases, jurisdictions simply do not care about interoperability as long as they can intra-communicate, that is the focus of their efforts. Agencies build out systems that they know cannot communicate with other local systems due to frequency, monetary, or operational

constraints. I am not saying that any of these decisions are wrong or misguided, but they do not contribute to interoperability.

Suffolk County has received a grant through Congressman Steve Israel for the specific purpose of improving interoperability primarily between Suffolk County Police and the NYPD, and also to help with communications with Nassau County. This grant will allow Suffolk County Police, and other County Police agencies, to utilize the NYMAC (New York Metropolitan Advisory Committee) UHF "interop channels" granted the region by the FCC. This grant request was a direct result of the events of 9/11, where some 200 Police from Suffolk traveled in to NYC only to find a black hole of communications. The officers were out or range of the Suffolk system and could not talk to any NYC officers as we did not have any radios compatible with their system. Should a similar situation arise, utilizing the radios funded by the grant officers will now be able to communicate directly to any of the five city boroughs, and be directed by NYPD to available channels. Additionally, the grant will extend that UHF backbone out into Long Island into both Nassau and Suffolk County. These frequencies will be monitored by Police and allow NYPD officers to utilize their radios in this area, and communicate directly to both PD's. Finally, this grant will also enhance the coverage the 800 MHz National Channels on the Island and allow for some communications directly with NYPD. We will be extending the backbone of the National Channels to three other locations, one in Nassau and two in Suffolk. NYPD will be provided with radio control stations, which will tie in directly to the National Channels.

New York State participation to this point has been minimal within the Metropolitan area. It is pursuing a statewide wireless system intended to provide connectivity throughout the State for certain State agencies, and provide improved communications to other localities. By connecting to locally owned systems, such as Suffolk County's, it is hoped that a high degree of intercommunications can be achieved. Personally, I have reservations about this from a local perspective, but the general idea of improving interoperability and inter-connectivity is a worthwhile pursuit.

The FCC has also been active locally, through the efforts of Region 8 planning committee (RPUC...Regional Planning and Update Committee). By opening up the 800 MHz spectrum nationally, much needed new spectrum became available in this Region. Suffolk County took full advantage of the spectrum and moved primary radio communications form the crowded, interference-rife VHF spectrum up to the 800 MHz spectrum. However, available spectrum was quickly used up, and there are no frequencies available in this Region to newcomers to the 800 MHz spectrum. Fire Departments within Suffolk County, for example, cannot be accommodated on the County system without additional channelization (i.e., frequencies) to handle the increased volume of radio traffic. This has led to the opening of the 700 MHz spectrum in the area, and Region 8 is now setting rules and guidelines for its use.

A major component of the FCC's involvement, nationally as well as locally, is the adoption of the "consensus plan" for 'rebanding' users within the 800 MHz spectrum. There is a mix of commercial and public safety users through the operational spectrum there, fully legal and licensed by the FCC. However, we do not mix well and interfere with each other's operations. Public Safety is a strong advocate of the consensus plan, which will:

- separate the usable spectrums of commercial and public safety
- greatly reduce interference
- add more frequencies to the public safety pool
- and make the 800 MHz and 700 MHz spectrums a contiguous spread of public safety ONLY spectrum.

I consider the consensus plan to be an extremely critical component of improving communications **period,** as well as having the capability of improving interoperability.

I know in my heart, and my experience that we can achieve better and long lasting resolutions to the problems of interoperability. I have been through the Suffolk fires, TWA 800, visits from then-President Clinton, and most recently 9/11. In addition to these very unique events, the US Open golf tournament in June had Federal, State, County,

Town, and Village Police officers involved. In all of these cases, we were able to manage some level of interoperability, but in no case was it ever as good as it could have been. Personally, I think back to the events leading up to and preceding the Y2K problem. We had many meetings, many conferences, brought together all levels of government, exchanged ideas and discussed issues. We identified the problems, identified solutions, and implemented them. Much was made of the alleged "scare tactics" relative to Y2K when nothing of major proportions happened. However, I am convinced that nothing major happened because of the efforts at all levels of government, and we did such a great job that we overcame all obstacles in our path. If we can apply the same dedication and same level of cooperation, we can also overcome the obstacles to full interoperability.

Thank you for your time.

Mr. SHAYS. Thank you, Mr. Gardner.

Mr. Corbett.

Mr. CORBETT. Chairman Shays and members of the House Subcommittee on National Security, Emerging Threats and International Relations, my name is Glenn P. Corbett. I'm the Assistant Professor of Fire Science at John Jay College in New York City. I also serve as a captain in the Waldwick, New Jersey fire department and as technical editor of Fire Engineering magazine, a 127 year old fire service trade journal. I want to thank you for inviting me to speak on this very important topic of public safety communications. I'd like to provide yo my observations of emergency communications in the New York City metropolitan area as well as provide you with a set of general recommendations.

As has been noted before, effective communications are the life blood of all emergency responses, determining the level of success that is achieved. As has been well documented, gaps in communications had disastrous results at the World Trade Center on September 11. More than 100 firefighters likely never heard evacuation orders to leave the north tower, although police officers in the same structure were able to escape. Lack of radio interoperability and separate command structures in New York City's fire department and police department stood in the way of survival of these firefighters.

Nearly 3 years have passed since the disaster at the World Trade Center, with some progress having been made in New York City and the metropolitan region. We still have a very long way to go, however. Significant monetary, technical, bureaucratic and political hurdles are in our path. Since September 11, the NYPD and FDNY have taken steps to integrate their communications at large scale incidents. They have for example ensured that NYPD helicopters will carry FDNY chiefs, who can then communicate to FDNY units on the ground. They've also provided radio equipment to senior level FDNY and NYPD officers who can communicate with each other.

The FDNY itself has instituted the use of a post-radio system, a portable signal amplifier that allows for better communications in high rise structures. The unit is, however, currently limited to command officer to command officer radio transmissions and must be physically taken up in the building to a floor near the fire floor or floor where the incident is taking place.

Utilization of this equipment replaces an extra middle man in the communications chain. For example, orders to evacuate a building from the lobby command post must first go through the chief officer on the fire floor and then be re-communicated to the firefighters themselves. Many consider this to be, this post radio to be a temporary fix with a long term permanent solution still years away.

These improvements still leave significant problems to overcome. The FDNY still cannot communicate effectively in subway locales, although plans are apparently underway to improve the situation. This is the case despite the fact that the metropolitan transit authority has had subway communication system radio capabilities for some time. It must be pointed out that poor communications are not just a radio problem, but an issue involving radios, antennas,

signal amplifiers, repeaters and the like. For example, achieving proper communications in a tall high rise building may necessitate the use of powerful radios in conjunction with a repeater installed inside the building.

Who pays for this equipment is also at issue. While the radio is typically a city purchase, the repeater may need to be purchased and installed by the building owner.

Perhaps even more problematic is the issue of interoperability in the context of New York City's new city-wide incident command system, or CIMS. This new response protocol in my opinion greatly complicates response to chemical, biological and radiological terrorist attacks and what would be considered to be normal hazardous materials releases. It places the NYPD in charge of assessment, while placing FDNY in charge of life safety of such incidents. The net result is that both the FDNY and NYPD have personnel operating in dangerous hot zones of the incident, both under separate tactical level commanders and operating with different communications equipment.

Communications problems are woven throughout this New York City battle of the badges, most recently surfacing during a mock drill involving a subway attack. A firefighter was thrown to the ground when he attempted to pass a police officer who was securing an area due to the presence of a suspected secondary explosive device. It's very possible that firefighter never understood that because it wasn't communicated to him.

Communication challenges remain outside New York City as well. Bergen County, where I serve as a fire captain, has 69 fire departments and over 100 police and emergency medical service agencies. This multiplicity of emergency response organizations obviously complicates communications. While nine mutual aid organizations have existed for decades to coordinate the 69 fire departments within Bergen County, radio frequency and channel standardization has been difficult at best. Although Bergen County has established a common frequency for all fire apparatus, this single one frequency would be quickly overloaded in any major disaster.

Only recently have portable radios been issued to coordinators of these nine mutual aid groups to organize large scale responses. These radios, however, only allow for communication between the mutual aid coordinators and Bergen County's Office of Emergency Management. Interoperability between the multitude of agencies within Bergen County at a large scale incident, especially at the tactical level, remains an elusive need.

Considering that another major terrorist attack on the order of September 11 in the New York City area would necessitate a region wide response involving multiple counties and possibly States, the problems grow exponentially. Although some progress in terms of integrating a multi-jurisdictional response has been made at the State level in both New Jersey and New York, I do not believe that the tangled communications snake pit has been straightened out.

While New York City and its metropolitan regions are unique in many respects, many of the public safety communications issues that I have identified are applicable across the country. I have prepared the following recommendations to address these concerns.

The first one is that the Department of Homeland Security Office of Interoperability and Compatibility must take a proactive role in equipment purchases at the State and local levels. Secretary Ridge recently announced the creation of this office within DHS. There is a critical need for this entity to take a close look at how Federal funds are being disbursed for acquisition of communications equipment at the State and local levels, specifically how these purchases fit into the region wide big picture in each State.

This review could take place as part of DHS' role in the review of local emergency operations plans through the enactment of the National Incident Management System protocol. DHS also must play a more forceful role in encouraging interstate communication agreements where appropriate.

The second idea is that States should be more forceful in assuring proper communications planning at the county and local levels. The States play a crucial role in overcoming turf battles within the borders. Too often, inter-jurisdictional jealousies lead to improper response protocols with a corresponding communications gap.

A third idea would be that we need to ensure interoperability at the responder tactical level. This is something I didn't really hear a lot about today. This is the issue where basically, we have a concern that although one jurisdiction can talk to another, we don't have the interoperability between jurisdictions at the lower levels, the firefighters and police officers.

Not that police officers and firefighters have to talk together, but if I would find myself, for example, in Stanford, Connecticut responding from Bergen County for whatever reason, I have no idea what channels or radios or equipment would even be utilized there. So we've got to make sure that this is not just a senior level State or county-wide situation, that this is in fact something that goes all the way down to the actual people where the rubber meets the road, basically.

And the fourth suggestion I would have is that SAFECOM should increase their efforts to ensure the equipment is interchangeable. Proprietary technology creates immense barriers to purchases by State and local governments. Jurisdictions should not find themselves locked into a particular vendor and equipment purchases should not be an impediment to interoperable communications.

That's something also I didn't hear a lot about today but I would encourage it. That's a very important thing, that whatever equipment is purchased needs to be interchangeable, that we can't have operating platforms, radio platforms that don't match across jurisdictions.

Thank you very much for the opportunity to testify. I welcome any questions that you might have.

[The prepared statement of Mr. Corbett follows:]

Statement of

Professor Glenn P. Corbett
John Jay College of Criminal Justice

Before the

Subcommittee on
National Security, Emerging Threats, and International Relations
Committee on Government Reform
House of Representatives
United States Congress

"Look Who's Talking Now"

July 20th, 2004

Chairman Shays, Ranking Member Kucinich, and Members of the House Subcommittee on National Security, Emerging Threats, and International Relations: my name Glenn P. Corbett. I am an Assistant Professor of Fire Science at John Jay College of Criminal Justice in New York City. I also serve as a Captain in the Waldwick, New Jersey Fire Department and as Technical Editor of Fire Engineering magazine, a 127 year old fire service trade journal. I want to thank you for inviting me to speak on the very important topic of public safety communications. I would like to provide you with my observations of emergency communications in the New York City metropolitan area as well as provide you with a set of general recommendations.

Effective communications are the lifeblood of all emergency responses, determining the level of success that is achieved. As has been well documented, gaps in communications had disastrous results at the World Trade Center on 9/11. More than 100 firefighters likely never heard evacuation orders to leave the North Tower, although police officers in the same structure were able to escape. Lack of radio interoperability and separate command structures of the New York's Fire (FDNY) and Police (NYPD) Departments stood in the way of the survival of these firefighters.

Nearly three years have passed since the disaster at the World Trade Center, with some progress having been made in New York City and the metropolitan region. We still have a very long way to go, however. Significant monetary, technical, bureaucratic, and political hurdles are in our path.

Since 9/11, FDNY and the NYPD have taken steps to integrate their communications for large-scale incidents. They have, for example, ensured that NYPD helicopters will carry FDNY chiefs who can communicate to FDNY units on the ground. They have also provided radio equipment to senior level FDNY and NYPD officers who can communicate with each other.

The FDNY itself has instituted the use of the "post" radio, a portable signal amplifier that allows for better communications in high-rise structures. The unit is, however, currently limited to command officer to command officer radio transmissions and must be physically taken up in the building to a floor level near the "fire floor." Utilization of this equipment places an extra "middleman" in the communications chain. For example, orders to evacuate the building from the lobby command post must first go through the chief officer on the fire floor and then re-communicated by this chief to the firefighters themselves. Many people consider the post radio to be a temporary fix, with a long-term permanent solution still years away.

These improvements still leave significant problems to overcome. The FDNY still cannot communicate effectively in many subway locales, although plans are apparently underway to improve this situation. This is the case despite the fact that the Metropolitan Transit Authority has had subway radio communications capabilities for some time.

It must be pointed out that poor communications are not just a "radio problem" but an issue involving radios, antennas, signal amplifiers such as repeaters, and the like. For example, achieving proper communications in a tall high-rise might necessitate the use of powerful radios in conjunction with a repeater installed in the building. Who pays for this equipment is also an issue; while the radio is typically a "city purchase," the repeater may need to be purchased and installed by the building owner.

Perhaps even more problematic is the issue of interoperability in the context of New York City's new "Citywide Incident Command System" (CIMS). This new response protocol – in my opinion – greatly complicates responses to chemical/biological/radiological terrorist attacks and "normal" hazardous materials releases. It places the NYPD in charge of "assessment" while placing the FDNY in charge of "life safety" at such incidents. The net result is that both FDNY and NYPD have personnel operating in the dangerous "hot zone" of the incident, both under separate tactical level commanders and operating with different communications equipment.

Communications problems are woven throughout this New York City "battle of the badges," most recently surfacing during a mock drill involving a subway attack. A firefighter was thrown to the ground when he attempted to pass a police officer who was securing an area due to the presence of a suspected secondary explosive device.

Communication challenges remain outside of New York City as well. Bergen County, New Jersey (where I am a Fire Captain) has 69 fire departments and over 100 police and emergency medical service agencies. This multiplicity of emergency response organizations obviously complicates communications. While nine mutual aid organizations have existed for decades to coordinate the 69 fire departments within the county, radio frequency and channel standardization has been difficult at best. Although Bergen County has established a common frequency for all fire apparatus, this one single frequency would be quickly overloaded in a major disaster.

Only recently have portable radios been issued to "coordinators" of the nine mutual aid groups in order to organize large-scale responses. These radios, however, only allow for communications between the mutual aid coordinators and Bergen County's Office of Emergency Management. Interoperability between the multitude of agencies within Bergen County at large-scale incident, especially at the tactical level, remains an elusive need.

Considering that another major terrorist attack on the order of 9/11 in the New York City area would necessitate a region-wide response involving multiple counties and possibly states, the problems grow exponentially. Although some progress in terms of integrating a multi-jurisdictional response has been made at the state level in both New York and New Jersey, I do not believe that the tangled communication snake pit has been straightened out.

While New York City and its metropolitan region are unique in several respects, many of the public safety communication issues that I have identified are applicable across the country. I have prepared the following recommendations to address these concerns:

- *The new Department Of Homeland Security (DHS) Office of Interoperability and Compatibility must take a proactive role in equipment purchases at the state and local levels:* Secretary Ridge recently announced the creation of this office within DHS. There is critical need for this entity to take a close look at how federal funds are being dispersed for acquisition of communication equipment at the state and local levels, specifically how these purchases fit into the big region-wide picture in each state(s). This review could take place as part of DHS' role in the review of local "emergency operations plans" through the enactment of the National Incident Management System protocol. DHS should also more forcefully encourage interstate communications agreements where appropriate.
- *States should be more forceful in ensuring proper communications planning at the county and local levels:* The states play a crucial role in overcoming turf battles within their borders. Too often, inter-jurisdictional jealousies lead to improper response protocols with a corresponding communications gap.
- *Ensure interoperability at the responder tactical level:* While improvements have been made for interoperable communications at the jurisdiction-to-jurisdiction levels and strategic levels, this capability has not reached the tactical level in many cases. When large-scale incidents occur, it is necessary for lower level personnel working together from multiple jurisdictions to communicate with each other.
- *SAFECOM should increase their efforts to ensure that equipment is interchangeable:* Proprietary technology creates immense barriers to purchases by state and local governments. Jurisdictions should not find themselves "locked into" a particular vendor and the equipment purchased should not be an impediment to interoperable communications.

Thank you very much for the opportunity to testify. I would welcome any questions that you may have.

Mr. SHAYS. Thank you. Professor Corbett, because of your honesty, I'd like to ask unanimous consent to bestow on Professor Glenn Corbett an honorary doctorate in national security communication. Your degree will be your name plate that says Dr. Corbett.

Mr. CORBETT. Thank you.

Mr. SHAYS. Without objection, so ordered.

Mr. CORBETT. Thank you.

Mr. SHAYS. It's great to have this power. [Laughter.]

I want to ask you, Mr. Gardner, the communications that you have with Nassau, should I in a sense visualize it like a red phone that you pick up and the only way you can communicate with Nassau is through that red phone? Or do you have the capability just integrated into your existing system and can Nassau communicate with any of your players or just the one holding the phone?

Mr. GARDNER. Two parts. It starts out as a hot phone, basically. It's from duty officer to duty officer. It cannot be activated by anybody out in the field, it has to be requested of somebody at the duty officer's position, for instance, in Suffolk County they can get on a talk group which is a radio channel dedicated specifically to talk only to Nassau County duty officer. On the Nassau County end, the Nassau County PD can then take one of their frequency bands, highway band, precinct band, whatever they want, patch it onto that talk group, patch it onto our system through the patch that the duty officers just made, and they can talk to any player in Suffolk County.

Mr. SHAYS. So if the two gatekeepers choose to, almost anyone in Suffolk can talk to anyone in Nassau?

Mr. GARDNER. Correct. But it must have that third party intervention. It must be activated on both ends. But those are both, those are 7 day, 24 hours a day positions. There is always someone there at both of those positions. And basically it's not a phone, it's actually getting on a radio.

Mr. SHAYS. I understand.

Mr. GARDNER. It's just basically me talking to you, when you hear that radio, you know it's me talking to you, pick it up, activate a patch on your end, and I do it on mine and we're in business.

Mr. SHAYS. OK. Would both of you comment about the SWN system, what New York is doing? What are its positives, what are its negatives?

Mr. GARDNER. The hangups that I see is, and again, this is only my personal opinion, and I'm not nearly as smart as I'd like to be, we have invested locally, and I'm going to say Nassau and Suffolk County, over $100 million if you include Nassau's bid that just hit the street last week. We have an extremely robust infrastructure that talks for the length and breadth of Suffolk County. We have Federal, State and local agencies on it. There are 8,000 radios already utilizing it.

I can't see a statewide system coming in and replacing that and doing anything better than we do. I don't know the full extent of what they're going to do within Suffolk County, whether they just want to talk or latch onto our system. But then if that's the case, then from a personal and taxpayer perspective, the amount of

money that it's going to cost to build this system statewide does not benefit me to the amount of investment that I'm going to be getting from Nassau, Suffolk and New York City to put into this project.

Mr. SHAYS. Professor Corbett.

Mr. CORBETT. I'm not knowledgeable enough, I think, to speak on that issue as far as statewide communications within New York State goes.

Mr. SHAYS. In New York City itself, can someone speak to this issue, have they resolved how you communicate around buildings and the obstructions that occur? Is that a solvable problem without a lot of expense?

Mr. GARDNER. If I may, I'm a member of NYMAC, New York Metropolitan Area Advisory Committee for the FCC. We work fairly well together with the city. The city doesn't necessarily have coverage problems as much as they have the interoperability problems. Their coverage problems are not nearly as bad as they used to be. Their system has gotten more robust, and robust to the point where they can almost fully operate on portable radios throughout the city. That's always been their intention. And that is not nearly as much a problem as the interoperability questions.

But we've even approached them, the FCC almost serendipitously, the day before September 11, those licenses, they're called the INTEROP channels in New York City, they operate in the UHF range, because those are radios that New York City already had. It was a question of the tail shaking the dog here.

We have an 800 megahertz system that they can't talk to. We can't talk to their UHF system. Nassau couldn't talk to us. But you had this big 8,000 pound gorilla in New York City with almost 30,000 radios. You weren't going to ask them to change and go to the national system.

So what we did is through the efforts of the NYMAC committee and the FCC, we got 6 INTEROP channels specifically for interoperability with and within New York City. Those channels are dedicated to interoperability and are manned 24 hours a day by the city.

Going back to one of the problems that was mentioned earlier, these timeframes that it takes to get this things going, those frequencies had only been established for probably 7 or 8 days as being legally usable within the city by the FCC. If they had been done 6 months prior, maybe other radios could have been programmed in time to utilize them while we went into the city. Maybe other city agencies could have used them. Maybe the fire department could have used them.

We worked at that problem for almost 7 years to get it resolved. It did ultimately get resolved, but it just takes so long to get these things done.

Mr. SHAYS. Professor Corbett.

Mr. CORBETT. I would actually disagree with Mr. Gardner as far as the city goes. The fire department, I don't believe, is anywhere near where they need to be as far as communications within the subways.

Mr. GARDNER. I don't want to argue, but we were talking police. I didn't mention fire.

Mr. SHAYS. OK. I know, you were talking police. So let me just say, so the police we think are OK but the fire we think we've got a challenge?

Mr. CORBETT. Yes. And I think that was, the police have a much more robust system within New York City. The fire department doesn't have near as much ability to communicate throughout the city. That's one of the major challenges that they have before them. And again, this post radio was an attempt, I guess a temporary fix to try to address that issue, at least in high rises. But they have significant gaps.

To tell you the truth, I mean, I haven't seen evidence that they've actually identified where all these areas are within New York City. I mean, the logical places, but I don't know that they've done a comprehensive effort to try and identify every square inch of New York and where those problems are.

Mr. SHAYS. Mr. Gardner, is there within Suffolk County the capability for fire and police and everyone to communicate with each other?

Mr. GARDNER. Yes, we can. Not on an individual radio to radio basis, but we can talk to fire dispatch and fire dispatch can communicate on all the police precinct channels and all the police county-wide channels.

Mr. SHAYS. Is that same gatekeeper model where——

Mr. GARDNER. No, sir. Those are established talk groups on the radio system. They are usable without any level of intermediate action. They are in the radios and ready to go.

Mr. SHAYS. So the $50 million you're talking about is just basically within the police department in Suffolk?

Mr. GARDNER. Not necessarily, sir. I am a member of the police department, but we also manage, because of the money invested in it, our system, as I said earlier. It takes in Federal agencies, State agencies, county agencies, town and village agencies.

Mr. SHAYS. But it doesn't include fire?

Mr. GARDNER. It doesn't include any of the local fire departments, no. When the system originally was designed and requested, there were not frequencies available to accommodate that extra loading that the fire departments would have had on the system. And in addition, because it had big brother and cultural issues that were mentioned, they didn't want to be part of it as a whole. They actually opted out of it when we designed it.

Mr. SHAYS. Interesting. They opted out.

Mr. GARDNER. Yes.

Mr. SHAYS. How long ago did they opt out? When was this decided?

Mr. GARDNER. Our system went on line in 1993.

Mr. SHAYS. So pre-September 11th?

Mr. GARDNER. Yes, sir.

Mr. SHAYS. Thank you. Mr. Thomas.

Mr. THOMAS. The Statewide Wireless Network was never conceived as a, or scaled to replace all the radio systems in the State of New York, one, just due to cost. It's also in recognition of the fact that a lot of municipalities, a lot of counties, public safety and emergency first responders, agencies within that sphere have very

good communications systems. They have, like Suffolk County, a modern digital 800 megahertz radio system.

The purpose of the Statewide Wireless Network as it was initiated was to replace the State's aging infrastructure for its public safety and emergency first responder agencies, New York State Police, Department of Transportation, DAX, ENCON and several other agencies.

Decisions were made at the front end that once this network was put out, or as it was put out to cover the State agency needs, and to upgrade our systems, that because it had a statewide footprint with statewide coverage, it would also serve to enhance interoperability between agencies on a statewide basis, either through gateways with existing modern systems or for those agencies in other parts of the State which unfortunately aren't as sophisticated as Suffolk County's, and where there is not enough funding to adequately upgrade those systems that we would offer them the opportunity on a voluntary basis to partner with us in the wireless network and come onto the network and have us be their radio system. But again, on a voluntary basis.

Having this statewide footprint out there creates a radio umbrella for us on a statewide basis where we can, using a digital trunked radio system, set up talk groups, set up interoperability with any locality that needs it. It also provides us the opportunity to foster those partners and produce efficiencies such as the ability to coordinate upstate resources as we move them or downstate resources as we move State resources around the State, whether we're involved in a problem in the western part of the State in the Niagara Frontier, the Adirondacks or the greater metropolitan New York area.

We've also got several other things going currently with respect to the city of New York. We have a partnering arrangement we're working on now with the MTA in New York City. I spoke earlier about the use of the 700 megahertz frequencies that we've been allocated, and the need to have the DTB transition completed so that we get better access to those frequencies. For the purposes of the MTA, those are available right now, and we are working with the MTA to assist with their radio system in the tunnels within New York City, where we can in fact use those frequencies right now.

Mr. SHAYS. Professor Corbett, you don't have any horse in this race. How do you react to what Mr. Thomas said?

Mr. CORBETT. Well, I think he pointed out, made a very important point that this seems to be a system where they're trying to get coverage across the State as far as point to point goes. But again, I go back to the issue of when it comes down to moving groups of people, firefighters, police officers, what have you, I think that's where it drops off the map here. Because we're still lacking, again, at those lower levels, that interoperability to talk to each other.

This is a system where, and there are other systems out there, I know for example in New Jersey they've connected all the hospitals together. But that doesn't necessarily mean that they can go hospital to hospital, it doesn't mean that we can take a group of people in one area and talk to another. I think that's my observation, I think that's where we still lack a lot of capability basically.

Mr. THOMAS. This is not a point to point radio system. This will support any level of interoperability right down to individual and users. It will support 65,000 users at any given time on a statewide basis. It will support a quarter of a million pieces of equipment or unique addresses. It is specifically designed to provide that level of interoperability.

Mr. SHAYS. We're not having a debate, so what's interesting is what you hear him say then he can clarify, then I'd love you to just react to that. Does that make it a more valuable effort?

Mr. CORBETT. Yes, I mean, that certainly explains it a little better. I think I understand it a little better now. But again, this, and correct me if I'm wrong, but I think the issue is not that the platform perhaps is there to communicate, but we actually don't have that communications capability. I mean, radio to radio, if one particular jurisdiction said, I want to be able to communicate from one group of firefighters to another, is that possible. I think the system exists, but I——

Mr. THOMAS. For one, the system doesn't exist. But ultimately yes, it will do what you're talking about.

Mr. CORBETT. Right.

Mr. SHAYS. So before we close, give me an assessment of what I should learn from this panel. Hearing what we learned from the first panel, I'm kind of thinking that there may be some valuable pieces of information that I may not be picking up. What do you think this panel is sharing with the committee? In general, we have a statewide system—I'll tell you what I'm hearing. I'm hearing that we have a statewide system that will allow communities to communicate, that you can provide specific communication between community A and community T, I'm making an assumption that could mean fire or police communicating from place to place.

I'm hearing Mr. Gardner tell us that they've got a pretty robust system in Suffolk, particularly as it relates to police, that it is totally modernized, digital and so within the county, they've got a pretty good communication, and now they have an agreement with Nassau to basically be able to tap in and vice versa. They can tap into your good system and you can tap into their good system and basically accomplish the same thing county by county. That's what I'm hearing.

What is the negative I'm hearing and what's the positive? All three of you jump in. Mr. Thomas, what isn't happening that should happen? And let me put it this way, all of you think about it. Given what you heard in the first panel, where are we? Should I say, this is pretty good, we've got a good statewide system in New York, an important State, we've got an important county that's got a good system, we're on our way? What should I be hearing?

Mr. THOMAS. Well, I would think, I would be encouraged at the fact, the work that Suffolk County has already done. One thing that needs to be said with respect to the wireless network, we have had an advisory council for a very long time with different people involved. In fact, we've had Suffolk County serving on the advisory council, as we've produced the specifications for this system. A procurement of this size and magnitude, it's actually unprecedented.

Mr. SHAYS. On a statewide basis?

Mr. THOMAS. On a statewide basis.

Mr. SHAYS. What are we talking about in terms of dollars?

Mr. THOMAS. Estimates for the project run well over $1 billion.

Mr. SHAYS. Wow!

Mr. THOMAS. Now, having said that, I can't give you any more detail, because we're currently in contract negotiations. What I'd like to point out to public safety community here and in New York State, is we have, because of the procurement, and the way procurements are structured, had a need to not discuss the technology solutions that we are working on here that have been proposed by the vendors and so on. Those will be available as we conclude our negotiations and get this contract signed in the next few months.

It is our intent and I think it will serve a lot of people's purposes once we can get out there, tell them exactly what the technology is, and they can avail themselves of this network to the extent that it serves their best interests, or they don't have to use it at all.

Mr. SHAYS. If you haven't designed it well, or it will be outdated shortly, that will be one heck of a billion dollar expenditure.

Mr. THOMAS. This has been a very long procurement, and it has been very long because we've put an extensive amount of effort into correcting every problem we've seen develop in other States to ensure that we have a system that is current, it is sophisticated with respect to the technology, is spectrally efficient, but also that will be refreshed over the term of this contract, so that we're never again in the position of having 20 year old technology and having to do this type of upgrade again.

Mr. SHAYS. When we've tried to upgrade our computer, IT systems in the Federal Government, it is a continual process of taking so long by the time we get it, it is an outdated system. It really is kind of pathetic.

Any other reaction?

Mr. GARDNER. I would echo what we heard earlier from the earlier panel, too. The crying need is for frequencies. We have the need for frequency and frequency spectrums. And to make those spectrums able to talk to each other.

The 700 megahertz, for instance, right now, there is no equipment made that will operate in those frequency ranges. So we can talk all we want about them and where they're going to be and who's going to use them. But there is no equipment you can buy today that will operate on those frequencies. We need to do things today and we also know what we can do 2 or 3 or 4 years from now.

We need the FCC, if at all possible, to speed up their decisions, speed up their regulatory process. We can't be waiting 3, 4, 5, 10 years, even when they make guidelines you'd like to be able to budget out what can I do 3 years from now, what I can do 5 years from now. If I don't know that they're going to make a decision, for instance, at all, new radios must be digital by year whatever, I can't plan now to upgrade my system, to begin changing out my system, to begin buying radios.

If I had to go home today and buy radios, I couldn't because it would be a capital project, I'd have to put it in next year, and the earliest I would see the money would be 2006. So these processes need to work hand in hand, and we need to get things in place as

quickly as we can as far as planning goes and implement those plans.

I also agree with what the panel I think earlier came up with about there needs to be some leadership, either at a Federal level or within the State. We have systems that can talk to each other that don't because they chose not to. We have systems that could have talked to each other but frequencies weren't available for them to buy or purchase or use, whether it's a commercial system or another town or a local government.

Nassau County, again, our neighbor to our west, they're putting almost $40 million into a UHF system. We are a trunked system. They're going to be trunked with UHF, we're going to be trunked 800.

In a perfect world, every one of those radios should be able to talk together with just a flick of a switch or a changing of the channel on a radio. Right now it's not going to be able to be done.

I have another town to the east of us that built an 800 system but chose not to build it onto ours. And I mean ours by Suffolk County. God bless them, they can make their own decisions and do whatever they want. But they made the deliberate decisions not to be part of a bigger county-wide system and enjoy the benefits of that. That would have allowed them access to the 8,000 radios on our system. They can't do that now, because they chose to build a standalone system.

Same county, different towns, same State. There needs to be somebody who can sit and say, you will do this, you should do this, be sure to look at these options, have you looked at this, have you thought of this. Too much money is being spent, too much money in my opinion is being wasted.

Mr. SHAYS. Anybody else want to make comments before we adjourn?

Mr. CORBETT. Yes. I would just echo what Mr. Gardner just said, but I would mention that DHS has to take that active role, as you mentioned earlier. That's the critical point.

But it's got to get all the way down to the local level. It can't just be the States. Because I don't think the States have stepped up to the plate, at least in New Jersey, I don't believe we have, to address these issues. It's got to get all the way down, and I think there's mechanisms that do that, as I mentioned earlier through the NIMS enactment as well as through the funding that they provide. There's a mechanism to ensure that this is taken care of.

Mr. SHAYS. Thank you all very much. You've been a wonderful panel and been very helpful. I appreciate it. Thank you.

With that, this hearing is adjourned.

[Whereupon, at 1 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

[The prepared statement of Hon. Dennis J. Kucinich and additional information submitted for the hearing record follow:]

Statement of Rep. Dennis J. Kucinich
Ranking Minority Member
House Subcommittee on National Security, Emerging Threats, and International Relations

Hearing on "Public Safety Interoperability: Look Who's Talking Now"

July 20, 2004

Good morning and thank you to all of the witnesses who are testifying here today.

It's been almost three years since the tragic events of September 11. The attacks on our nation that day showed many of the vulnerabilities and weaknesses in our emergency response plans at the federal, state, and local levels.

Sadly, the findings of the 9/11 Commission indicates that many of the policemen, firefighters, and other heroic victims lost in New York and Washington, DC that day might have been saved had they communicated better with each other. In those first precious minutes following the attacks, decisions were made with little or inaccurate information. Emergency 9-1-1 phone lines, cell

phone towers, and police and fire rescuer radio frequencies were jammed by the volume of traffic back and forth.

In part, this was a failure of planning and coordination at all levels of government and among first responders. To achieve the interoperability that we all hope for requires the right equipment, clear airwaves, and quick and accurate information.

We in the Congress and in the federal government have been trying to improve and increase the wireless spectrum allotted for public safety use for decades. This limited commodity had to compete against the growing technological demands of our nation's consumers and military, and was often put on the backburner. We can no longer allow that to happen, and must push the needs of public safety to the forefront.

The GAO tells us, however, that the situation has not improved much in recent years, and significant barriers remain to interoperability. Project SAFECOM, which was intended to achieve federal interoperability in emergency communications, has been passed back and forth among agencies and management

teams since its inception. It does not have much support within the Administration or much funding, and even has to compete against the Office of Domestic Preparedness within the Department of Homeland Security.

Simply put, we must all do better. It has taken us far to long to get our hands around this issue, and it would be tragic if more lives were lost if we simply could not work out our differences. The Congress, the Administration, and state and local governments and responders cannot fix this problem on its own, but we must continue to all work together in order to solve the interoperability problem.

Thank you, Mr. Chairman, for your continued work to enhance our nation's emergency response capabilities. I look forward to listening to the testimony before the Subcommittee today, but even more importantly, I hope that the witnesses listen to each other as well.

Federal Communications Commission
Office of Legislative Affairs
Washington, D.C.20554
October 1, 2004

The Honorable Christopher Shays
Chairman
Subcommittee on National Security, Emerging
Threats, and International Relations
Committee on Government Reform
U.S. House of Representatives
B-327 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Shays:

Please find attached the Federal Communications Commission's written responses to post-hearing questions posed by the Subcommittee on National Security, Emerging Threats, and International Relations, in connection with the July 20, 2004 hearing appearance of John Muleta, Chief, Wireless Telecommunications Bureau.

Sincerely,

Martha R. Johnston
Director

Enclosure

U.S. House of Representatives: Committee on Government Reform
Subcommittee on National Security, Emerging Threats, and International Relations
"First Responder Interoperability: Look Who's Talking Now" - July 20, 2004

Responses to Questions for Mr. John Muleta
Federal Communications Commission
September 30, 2004

Question: We understand that the FCC has allowed to be established both Statewide Interoperability Executive Committees, (known as SIEC's) and Regional Planning Committees, and that both types of organizations are composed of volunteers – that there is no or limited funding for their operational expenses. We also understand that the FCC has taken action on the issue of private interference with public safety communications in the 800 MHz band and has narrowed public safety spectrum channels in certain frequency bands to increase spectrum efficiency – and that these actions may affect the workload of SIECs and RPCs.

We also understand that both organizations can exist in the same state, but that there are frequency bands used by public safety which neither organization is responsible for administering or planning. Apparently, the SIECs cover the 700 MHz band, but not the 800 MHz band, while the RPCs cover 700 and 800 MHz bands, but neither SIECs nor RPCs cover public safety spectrum in those bands below 512 MHz.

Is the FCC monitoring SIEC and RPC operations closely? What do you know about how SIECs and RPCs are developing across the country? Who do you share this information with? DHS? Others?

Response: We continue to believe that the states, in the first instance, are better poised to address interoperability issues that have local importance. As a result, we are committed to working with them to achieve our mutual goals of effective public safety communications and interoperability. In this connection, we endeavor to remain apprised of the ongoing efforts of State Interoperability Executive Committees (SIECs) and Regional Planning Committees (RPCs). We continue to support these groups by fostering effective working relationships through open lines of communication with the communications specialists that comprise them. SIECs are applicable to the 700 MHz band, while separate RPCs exist for the 700 MHz and 800 MHz bands.

To date, thirty-seven states have implemented SIECs or in the alternative, an equivalent working group, to administer the 700 MHz public safety spectrum designated as interoperability channels. In states that have elected not to

implement an SIEC or an equivalent working group, the SIEC function defaults to the relevant 700 MHz RPC.

RPCs are required to file regional plans for approval by the FCC, as well as, any subsequent amendments to the plans. RPC meetings are publicized and are open to the public. The FCC, when notified in advance by the RPC, releases a Public Notice announcing the scheduled meeting and agenda. Providing this service allows the FCC to observe the level of regional planning activities and progress of plan development.

Several 700 MHz RPCs have been formed and initial organizational meetings have been held in forty-eight of the fifty-five regions. Seven regions [New Mexico, North Dakota, Pennsylvania, South Dakota, West Virginia, Puerto Rico and the Virgin Islands] have either not yet formed RPCs or the RPCs have not yet held an initial meeting. To date, two 700 MHz RPCs [Southern California and Missouri] have filed regional plans for approval. We have approved the plan submitted by Southern California and are continuing to work with Missouri regarding finalization of its plan.

With respect to the 800 MHz band, we have approved plans for all fifty-five regions. We have also reviewed and, when appropriate, approved amendments to such plans. In addition to these steps, we have served as a facilitator, when necessary, assisting with dispute resolution among parties of adjoining regions.

A significant amount of this information is a matter of public record and is accessible via the FCC web site – www.fcc.gov. Specifically, information on the status of the regional planning process for a given region, as well as, regional planning documents and amendments can be accessed through the web site. The Commission maintains its web site for the purpose of sharing information with DHS and other Federal, state and local governmental agencies, including both, Federal and non-Federal first responders. In addition to these efforts, members of the Commission's staff meet regularly with representatives from the Department of Homeland Security's National Communications System, which is housed in its Information Analysis and Infrastructure Protection Directorate.

In addition, the Commission actively participates in various outreach, informational and training initiatives for public safety, and more specifically, interoperability matters. For instance, we participate in public safety training for regional planners sponsored by various public safety organizations and the National Institute of Justice's AGILE Program. Active involvement in such forums provides the Commission with the opportunity to make our staff accessible to the public safety community and allows us an opportunity to provide guidance on matters related to RPC responsibilities and other issues of interest to RPCs and their membership.

Question: Why can't the FCC take steps immediately to ensure that first responders use a common set of terms and radio protocols when responding to emergencies?

Response: We are aware of the interest in common nomenclature for radio channels among public safety organizations. In this regard, we note that this issue has been the subject of filings to the Commission. We further note that the Public Safety National Coordination Committee (NCC) provided a specific list of channel names. Given that the NCC's final recommendations remain under review by the Commission, we cannot discuss the merits of this measure at this time. We nonetheless note that when the Commission previously considered this issue, it expressed concern about the practical and administrative burdens that could flow from such a requirement. We continue to believe that such issue must be evaluated in the context of today's public safety communications. Specifically, there are over 40,000 public safety licensees in this country, with each licensee having its own organizational culture and operational requirements. As a result, in addressing this issue we must carefully balance the interest of having a common set of terms with the administrative and practical impact on the thousands of public safety entities that will be affected. We plan to seek comment on the development of common nomenclature for radio channels among public safety organizations in an upcoming Further Notice. This Further Notice will be presented to the Commission for consideration in November.

Question: Is the FCC engaged in discussions with DHS, DOJ, Commerce and other federal agencies in looking for a solution to these interoperability problems? Is the FCC actively working to resolve these issues or is it staying at arms length to protect its independence and to maintain its regulatory role?

Response: We continue to believe that effective coordination and communication regarding public safety issues are key determinants of sound public policy in this context. The FCC participates with Federal agencies in informational exchanges on spectrum matters affecting public safety communications, including interoperability. Earlier this year, Commission staff took part in a DHS – SAFECOM Executive Committee meeting in an effort to effectively communicate and coordinate public safety interoperability initiatives within the Commission's purview.

Dr. Boyd and I are committed to establishing an informal working group comprised of representatives from our respective staffs to meet on a regular basis to work collaboratively on interoperability and other issues of relevance to the FCC and SAFECOM. I am pleased to report that we have taken steps to this end. Just recently, Commission staff met with representatives from SAFECOM and has initiated this effort. We are encouraged by these actions and confident that this interagency team will prove beneficial to both groups.

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. Furthermore, we note that the Departments of Justice and Homeland Security both have programs that fund R&D for public safety communications interoperability. We have actively monitored these programs and, where appropriate, have actively been involved therein. For example, the Commission facilitated the development of public safety interoperability standards in the 700 MHz public safety band through the NCC. This group recommended, and the Commission adopted, narrowband standards for all radios that operate on the 700 MHz band interoperability channels. The NCC also made a recommendation for a wideband data standard which is pending Commission consideration. The wideband data standard was one of the NCC's final recommendations. We plan to seek public comment and will be the subject of a Further Notice. This Further Notice will be presented to the Commission for consideration in November. The NCC worked with the Telecommunications Industries Association (TIA) to develop these interoperability technical standards and TIA performed the related research and background work.

Question: The FCC approach seems to be to rely on volunteers to perform FCC functions. Why did the FCC decide to rely on the volunteers to administer public safety spectrum?

Response: While "volunteers" play a critical role in the regional planning and SIEC processes, they do not "administer" public safety spectrum. The FCC approach has been for the RPCs to provide recommendations to the FCC, which are advisory in nature and subject to FCC review and action. The role played by the RPCs and their members has contributed significantly to the effectiveness of the FCC's licensing processes for both the 800 MHz and 700 MHz public safety bands. Further, these volunteers are usually employees of local and state emergency communications agencies, many of whom perform RPC and SIEC duties as part of their regular employment. Our experience has been that they provide an invaluable service to the FCC because they are most familiar with the public safety communications needs in their local areas. Without the help of these volunteers, the Commission would be dictating a national policy from "inside the beltway." We do not believe that this approach to policymaking is as effective as an approach that would include individuals with detailed, first-hand knowledge of their local public safety agencies and requirements.

Question: What does the FCC think of the State of Missouri's actions to develop the role of the SIEC – what did the FCC intend that the SIECs do, and are the actions Missouri has taken consistent with the role the FCC intended that the SIEC play?

Response: For your convenience, we provided the FCC's vision for the SIECs in the attached Appendix. One of the benefits of the FCC's rules for the SIECs is

flexibility. Each state has unique requirements. The SIEC concept is flexible enough for states to adopt measures that make sense for that state's specific circumstances, its constituents and region.

Different states have different perspectives on the role of the SIECs and scope of their jurisdiction. Missouri is one of the most active states in advancing the SIEC effort. It appears that Missouri envisions its SIEC playing an expanded role developing interoperability policies for all public safety bands, not only the 700 MHz band. We are encouraged by Missouri's commitment to the process and impressed with the manner in which this state has taken its responsibility. We are always interested in hearing about creative solutions to public safety communications challenges. We believe the Commission's rules governing the SIECs are flexible enough to support such efforts. We are pleased by these developments.

Question: What more can DHS and FCC do to better coordinate service to state and local first responders?

Response: The FCC has significant accomplishments in this arena and continues to build upon its achievements. We believe that teamwork and strong working relationships among key governmental agencies are essential elements in achieving our common interests of promoting homeland security and interoperability. The FCC intends to continue its extensive outreach efforts to the appropriate governmental entities, including DHS – SAFECOM and the public, and work cooperatively with these groups to strengthen its working relationships. Such efforts would include, attending conferences; engaging in valuable informational exchanges on staff, mid-management and executive levels; and coordination of and participation in key deliverables, including relevant rulemakings, reports, etc. In addition to providing input to interagency efforts, we will further encourage technological developments that enhance interoperability.

Question: Some of our state witnesses have indicated frustration at the lack of FCC regulations in public safety bands, arguing the FCC will provide opportunities of new spectrum, but will not sufficiently mandate structure, standards or technical rules need for interoperability even when asked to by the public safety community. In other words, individual and local agency decisions are then made in a vacuum.

Should or will FCC or DHS take a more aggressive role in administering interoperability strategies at the state and local levels? What should Congress do?

Response: The FCC is aggressively exploring opportunities that would facilitate widespread deployment of interoperable communications for the public safety community. It is important, however, to recognize the inherent tension that exists in being overly prescriptive and lending sufficient guidance through

policymaking. Current dynamics require a delicate balance of these two approaches for favorable results in public safety spectrum administration.

As stated previously, the Commission adopted narrowband standards for all radios that operate on the 700 MHz band interoperability channels and is currently considering an NCC recommendation for a wideband data standard and other suggested cost-effective, operational and technical parameters. We believe that examination of these measures and continued collaboration with SAFECOM regarding interoperability strategies will promote effective and efficient interoperable communications. Along these lines, the Commission will continue to monitor state and local responder actions and will strive to facilitate the work of these groups in furtherance of achieving interoperable communications. Moreover, we believe that opportunities provided by Congress's key committees, such as the Committee on Government Reform, as well as other prominent groups, that bring the critical players to one forum actually elevates the dialogue and raises awareness of the issues, challenges and next steps in the process. We believe that Congress's endorsement of activities that foster discussion, particularly with respect to coordination and funding issues, lend support to the overall effort.

Question: GAO and the FCC have recognized the important role of the state in public safety interoperability planning. However states are not required to establish statewide management structures or to develop interoperability plans. In addition, no requirement exists that interoperability of federal communications systems must be coordinated with state and local government communications systems.

Will DHS and the FCC seek to help standardize state management for public safety communications with recommended best management practices?

Response: We have lent support to key public safety organizations in this regard. Currently, spectrum management for local frequency coordinators and public safety communications staff is available through public safety trade associations. State management of public safety communications training is held on a continuous basis in several locations throughout the country. These training opportunities are usually advertised in public safety periodicals.

The appropriate requirements of communications systems varies widely as a function of population, geography, etc. A "one size fits all" set of management practices is not practical. Accordingly, management practices tailored by the state and local governments to meet individualized local requirements appear far preferable to federal directives on how systems should be managed. The FCC's expertise in communications systems extends to technical aspects and we have assisted industry groups in producing, for example, Best Practices for resolution of 800 MHz interference. However, management practices - - as opposed to technical aspects - - would seem best addressed by DHS in conjunction with such

other agencies as FEMA. To the extent that these agencies require technical assistance in the formulation of Best Practices, the FCC would willingly provide such information.

Question: What do you all think should be the makeup of a state interoperability management office? Should these offices be mandated and if so, who should mandate them?

Response: We believe that these decisions fall within the purview of the office of a state governor.

Question: The FCC has recommended the use of state interoperability executive committees to help regulate the 700 MHz band and Regional Planning Committees for the 800 MHz band.

Can you recommend any state committees currently in place that are doing a good job? Why are these states doing better than others?

Response: As we stated previously, the majority of have designated SIECs or equivalent state working groups. Thus, we believe that this shows considerable progress regarding state involvement and consideration of interoperability issues. From our observations, it appears that some states are further along in the process than others. Specifically, we have observed that Georgia, Ohio, Illinois, Florida, Missouri, California, and Minnesota are among the states that appear to be fairly active. That is, these states have, at a minimum, initiated planning efforts. We have also observed that many SIEC members attend and are engaged in the 700 MHz and 800 MHz RPC meetings. We believe that this is an important and significant development, as partnership and planning among key players are critical elements to state and regional interoperability planning.

Question: How can states best be empowered by the federal government to become the focal points for making sure that intra- and inter-state regions have interoperable wireless communications capabilities?

Response: There are several components to successful deployment of interoperable wireless communications systems. Mainly, adequate spectrum reserves, current technology and equipment, coordination among inter-governmental agencies at the Federal, state and local levels, training and funding are key elements in this complex equation. The FCC has directed its efforts to 1) providing additional spectrum for public safety systems; 2) nurturing technological developments that enhance interoperability and 3) participating in valuable informational exchanges with other agencies and organizations. From our observations, it appears that coordination and funding (for training and equipment) are needed to enable public safety communities to share information and interoperability solutions at the local, state and multi-state levels. Currently, informal networking, in addition to public safety journals and periodicals, is

frequently used among public safety agencies to share interoperability solutions and field experiences.

Question: The National Coordination Committee, a federal advisory committee made up of state and local officials has made recommendations to the FCC to help statewide interoperability.

Has the FCC formally regulated all these FACA recommendations? And if not, why not?

Response: The NCC served to provide the Commission with recommendations for its review and consideration. The FCC is appreciative of the significant contributions the NCC provided over a period of three-plus years, through its development of technical standards, creation of tools to streamline the development of regional plans, such as a pre-coordination database and RPC guidebook. We closely examine all of the feedback and guidance provided by this group and give serious consideration to them. In fact, the FCC has evaluated and implemented many of the NCC's recommendations (e.g., technical standards and narrowband voice and data applications). The outstanding NCC recommendations, which were submitted in July 2003, will be considered in the context of the open rulemaking proceeding regarding 700 MHz public safety issues. In addition, we note that several of the NCC's recommendations, both administrative and technical, are in use by the public safety community today without formal adoption, action, or endorsement by the FCC.

Question: Are the NCC recommendations sufficient to improve interoperability in the short term, and should compliance with NCC interoperability parameters, both operational and technical, be required for grant application award? If so, who will facilitate that at the state level? The SIEC set up by the FCC? How can they, if they are not mandated?

Response: The NCC's recommendations provide a strong foundation for improvement of widespread deployment of interoperable wireless communications capabilities. The FCC does not administer grants. Hence, it is difficult to definitively respond to the question of whether the NCC recommendations should be a condition of grant approval or award. We believe establishment of criteria for grants is the responsibility of a grant administering agency/program. The NCC recommendations that were approved by the FCC were adopted into the FCC's rules. As for the other NCC recommendations, grant administrators could require compliance with the NCC recommendations as a condition of grant. We note that the 700 MHz band will not be widely available for use until incumbent television systems are cleared from the band, hence imposing grant conditions at this time might await greater experience with the manner in which the band develops and the identification of what specific grant conditions may be most appropriate.

Question: Does the FCC currently provide or might be thinking to provide training to state and regional first responder spectrum managers?

Response: Currently, spectrum management for local frequency coordinators and public safety communications staff is available through public safety associations and FCC certified frequency coordinators. This type of training is held at several venues throughout the country and is well advertised in public safety periodicals. We actively support the efforts of these organizations. In addition, we participate in various fora involving informed exchanges on spectrum management issues. All of these efforts support our continuing commitment to the development of policies that will aid public safety organizations in achieving interoperability and seamless communications between and among cooperating organizations.

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Appendix

Excerpts from Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements through the Year 2010, Fourth Report and Order and Fifth Notice of Proposed Rule Making, 16 FCC Rcd 2020 (2001) (footnotes omitted).

State Interoperability Executive Committees

Background. In the Fourth Notice, we discussed the NCC's recommendation that each state should form a **State Interoperability Executive Committee** (SIEC) to administer the Interoperability channels. Under this approach, the NCC recommends that entities desiring a license to operate on the Interoperability channels would enter into a Memorandum of Understanding (MOU) with the relevant SIEC. The SIEC would be charged with enforcement of the MOU's terms, with final authority vested with the Commission. The NCC recommended that, among other duties, SIECs develop interoperability operational plans. If a SIEC or another state agency elected not to oversee development of such plans for a state, then the NCC recommended that the RPC perform this function.

Discussion. Based on the record, we agree with the NCC and the majority of the commenters and support the creation of SIECs. The states best know their own capabilities and the best management of their resources. Some states already have a mechanism in place that could administer the Interoperability channels. In such cases, requiring a SIEC would be duplicative and overly burdensome for the states. Although we support the idea of creating a SIEC or another equally effective state level agency to administer the Interoperability channels, we decline to require the formation of SIECs. However, we adopt the NCC's recommendation that if a SIEC or other state agency elects not to oversee the administration of its Interoperability channels, the RPCs will assume this responsibility. We believe a voluntary framework that allows each state to determine its requirements is the best approach. As previously noted, however, the state does not have an unlimited amount of time to determine whether they will establish the SIEC, or equivalent state agency. Therefore, if the state has not set forth a plan for establishing its SIEC, or its equivalent, by December 31, 2001, effective January 1, 2002, then the RPCs will have the responsibility for administering the Interoperability channels.

August 18, 2004

Chairman
House Committee of Government Reform
2157 Rayburn House Office Building
Washington, DC 20515-6143

Questions for Response (QFR)
Stephen Devine, State of Missouri
Resulting from testimony provided in Subcommittee on National Security, Emerging Threats and International Relations entitled "Public Safety Interoperability: Look Who's Talking Now" on Tuesday, June 20 2004.

Public Safety Communications Interoperability

1. What do states need from the DHS to better plan for statewide interoperability?
States need assistance with outreach and education with regard to interoperability from both an operational and technical perspective. Educating agencies, on a regional basis, as to the use of cross-connect devices in areas where there are multiple bands in operation is an example of beneficial education. The education will allow agencies to better utilize their spectrum resources when needed, given the particular incident. Regional interoperability teams that can provide local assistance will be beneficial, but local agencies do not have the manpower to support this needed function. States can support this (in many areas they already do such as Command Bus deployment to local areas, disaster communications construction etc) it they have federal support. The Federal Government can support these type of activities in the form of annual funding for state personnel and states that do not bring such a resource to their localities do not qualify for the funding. Steering interoperability capabilities from the state level is what most benefits local agencies regarding spectrum planning. They need a strategy that provides them an obvious benefit, while fitting into a statewide strategy. Local agencies need to have input to the planning process, and that requires manpower. One way to approach regional interoperability is to federally fund a regional interoperability coordinator. The role of the regional coordinator w would be to bring together multiple states and regions and find points of commonality between different agencies and different systems designs to promote interoperability. The first phase of the Regional Coordinators would be to identify *current* commonalities in an area, and then to work with existing agencies in bringing their individual systems consistencies together. This placement can be made on a per capita basis and they will be responsible for interoperability education, outreach and representation each regions interoperable needs. DHS can help in assisting local agencies with interoperability.

I would recommend the DHS as a resource, but to tell a local agency that someone in Washington is representing them regarding interoperability is not as attractive as someone living in the next county over. Local support breeds a better end product.

2. What do states need from the FCC to better achieve statewide interoperability?

The FCC needs to enable consistent interoperable opportunities and let local agencies implement them in the manner they see best suits their needs, with some common inter-changeable parameters. The FCC should have an ongoing user group (ongoing FACA that addresses public safety interoperability) that represents local, State and Federal users to ensure the rules they implement are consistent with all user groups. This is to ensure the Commissions rulemaking procedure is kept abreast of the real world scenarios and conditions the people the rules effect have to deal with every day. The rules need to be reviewed by this ongoing committee to ensure compatibility with real world public safety communications. The manner in which the FCC currently operates is to make recommendations and hope they are implemented in an interoperable fashion. This is wishful thinking. Without the rules explicitly indicating the parameters needed for interoperability and consequences for those that do not comply, there will be no interoperability. Hard, fast rules that make sense to the user community are what are needed. The FCC needs to work with federal agencies and NTIA to make use of federal channels available to state and local users and they need to ensure that the acquisition of the channels is not cumbersome. The FCC needs to recognize that federal channels can be utilized in joint local/state/federal operations without FCC licensing as those channels are out of their purview. Interoperability should not be something defined in the spoken word, but it should be something defined based on action. The lack of real, on the ground knowledge at the FCC needs to be acknowledged and they need to seek that knowledge from the user community.

3. Can states develop interoperability plans in the near term? How should such plans, and the outreach that needs to be associated with them, be fostered at the federal level? What will be the long-term costs for a state that does not create a plan? **A lack of support at the state level should lead to a lack of grant monies available to a state. States that DO lead/participate in interoperable planning should perceive this as being beneficial to them compared to the states that don't. States can develop plans in 6 months and the initial plans should consist of:**
A documentation of the interoperable landscape, which would be going through each area of the state and pointing out which agencies are participating in regional initiatives, which channels are being used and which agencies are currently benefiting from regional cooperation/planning. It must be stressed that the initial plan must not get bogged down talking about *things that need to be done, but the initial report must document what is currently in existence.* In my view, then SAFECOM should gather the data and find out what is most in common across the country. THAT value is the beginning of the baseline interoperability we seek.

A best practices document highlighting how to promote interoperability in regions that have multiple bands in operation could be a result of that initial survey to be used as a tool for agencies that find themselves in that scenario. this would be the end of the first phase.

The second phase would be to begin to determine, based on the data already accrued, where we go from here. Things to be considered are:

VHF High Band (150 MHz) is the most popularly used band, so can repacking the country be a benefit?
Since VHF will not have the capacity to handle the urban areas of the country, do we acknowledge that the interoperability solution for the country is not a "single band" solution? Yes, we should make that acknowledgement.

Project 25 Digital public safety standard that, while providing a common digital interface, does not address the multiple bands of operation public safety can find them in. In many areas that are mandating (based on ODP grant language) users buy Project 25 equipment to promote interoperability and improve their ability to talk to each other, a 150 MHz user (VHF High) and a 450 MHz user (UHF) are both forced acquire the more expensive equipment capable of the standard, but still cannot talk to each other as their devices are in different radio bands. Until the widespread use of Software Defined Radio, this will continue to be a problem. The people awarding the grants and making these requirements do not understand radio enough to make a distinction in the above scenario. The bottom line is that if we are going to require Project 25 equipment, we should also require a band because having Project 25 capabilities in different bands does NOT improve multi-agency interoperability.

4. What is your current relationship with both the FCC and the DHS Project SAFECOM office? How can you see your relationship with each agency improve with regard to the goal of improving interoperability? What is needed from each to improve it?

My relationship with the FCC is the same as someone who represents any of the 50,000 public safety agencies across the country. I was involved in the FCC's National Coordination Committee process, but since they have not taken as valid many of the important recommendations of the committee, I'm not sure if I would participate again in such a body and dedicate personal time, vacation and a good portion of 2 years, if the results were not taken with a bit more authority. The FCC needs to acknowledge they are not aware of the needs of public safety or interoperability and create a public safety committee they can get input from when making regulatory decisions that affect the public safety community. Some rules are created that actually promote a lack of interoperability. Example: Can a region, made up of 5 counties, apply for a FCC authorization? No, not allowed. Does the fact that one of the 5 counties has to be the owner of the license impair interoperability? Perhaps, but it definitely hinders those in the area trying to promote interoperable communications between the 5 agencies as the licensee now

has to be construed as the leader, which sometimes puts people in the other 4 counties off. That is just a fact of local government.

SAFECOM has recently contacted me to participate in their Advisory Group. I hope it to be inclusive and willing to address the local, "on the ground issues" that really promote interoperability in this country.

What is needed to improve? Outreach, consistent dialogue and continued support. Not someone putting on a two-day conference and then leaving. Local agencies don't feel that is support. They feel it is a few days vacation for the presenters. As a rule, when a conference is held in a town to promote interoperability, the agency that sponsors the conference should leave people there to follow up on identifying the areas interoperability needs for at least three (3) weeks. That kind of support will make local agencies believe they are partners in this effort.

5. What is the nature of the dialogue between states with regard to interoperability? **As a whole, when looking at the entire country, I'd have to say minimum at best. There is certainly no requirement for states to promote interoperability at their borders, nor is there incentive. In fact, when given the choice of either operating a radio network that is inefficient with regard to channel usage or sharing channels with neighboring agencies in another state, many agencies would find no benefit in multi-state sharing and chose the inefficient internal operation. THERE IS NO PERCEIVED BENEFIT TO LOCAL AGENCIES TO HAVE INTEROPERABILITY, so they don't deem striving towards it to be a goal with value.**

6. What is the nature of the dialogue between local agencies and states? **Previously this was done on an ad-hoc basis. It has improved nationally somewhat with the introduction of the SIEC concept, but the lack of a mandate has slowed the progress we had at one time. SIEC mandating in each state would help this initiative greatly.**

7. Should or will FCC or DHS take a more aggressive role in administering interoperability strategies at the state and local levels? What should Congress do?

I think the FCC and DHS will only take a role that does not get them into trouble with Congress. The FCC historically passes on good ideas, most of which promote interoperability, due to the fact that they might upset someone who will call their Congressman and complain. While that is his right, Congress's answer should be "these are the strategies that we've identified to best promote interoperability across the nation, and everyone has to adjust." Congress should make sure each state has an interoperable plan and that DHS/ODP monies in each state are allocated in accordance with their plan. That plan, which was approved by DHS, should "drive" the states interoperable planning towards a final resting point. Different states will arrive at that resting point at different times, but the overall strategy should include everyone. As I've said, everyone is in agreement where we are now and everyone is in agreement as to where we need to be. No one is willing to tackle

the issue of how we get there. FCC and DHS need to work on their respective roles in enabling public safety communication to get there. DHS should promote education, outreach, training and support while the FCC should enable public safety to achieve interoperability by making the regulatory changes needed and then enforcing their own rules. This will further public safety's efforts to arrive at their final interoperable level, nationwide. Both DHS and FCC should take more aggressive roles in promoting interoperability because if they do not, no one will.

8. We understand that the FCC originally conceived the role of the SIEC to be limited to the 700 MHz band, but that the State of Missouri has expanded the responsibilities of its SIEC to include interoperability frequencies in all bands, to establishing operational and technical guidelines for interoperability frequencies in all band, and that the state is imposing requirements on manufacturers who sell equipment to public safety organizations where the state is supporting projects with state money.

Not necessarily true. Missouri is using the SIEC to review the grant applications asking for communications equipment. The SIEC representative reviews the applications to ensure the equipment requested meets the identified minimum interoperable quotient of that specific area and that specific band and, if the devices do meet the requirements, approves the applications. If the item requested does not meet the minimum requirements, a recommendation in the same manufacturers product line (usually a different model number) is recommended and the state contacts the applicant to make him aware of the identified reduced interoperable quotient in the equipment they asked for. The final decision for award is with the State Grant Manager. The Missouri SIEC does not require manufacturers to change their products. We highlight the qualities a product should have and make applicants aware of the make/model of the available devices. Quite often the acceptable model is more expensive than the originally requested item, but contains a high interoperable potential. It is felt that the manufacturers want to sell interoperable equipment as much as the SIEC wants the end users to have it.

Interestingly enough, the SIEC concept was originally introduced in the NCC by PSWN, a NCC participant and a joint initiative of the Dept of Justice and the Dept of Treasury, as they thought having one state body to address interoperability, from their federal perspective, was a benefit.

8 a. Would you explain from your perspective what each organization (RPC Vs. SIEC) does-Do they overlap in responsibilities? **No** What frequency bands does an SIEC cover?

SIEC's were originated to administer specific FCC designated 700 MHz interoperability channels and were not mandated. Period.
What band does an RPC Cover? **The FCC has designated two Regional Planning Committees (RPC), one for 700 MHz (FCC Docket 96-86) and one for 800 MHz (FCC Docket 87-112). The 700 MHz RPC, not yet formed in all regions of the country, is responsible for the allocation of spectrum, on a regional basis, for the**

designated public safety channels between 764-776 MHz and 794-806 MHz. The total amount of spectrum is 24 MHz. In that band there are:
State license geographic channels established exclusively for state use reference (SL)
Wideband General Use data channels (GU)
Wideband Interoperability channels (IO)
Narrowband General Use channels (GU)
Narrowband interoperability channels (IO)
Low power nationwide channels (LP)
Reserve channels, currently still not assigned...

As you can see, there are multiple bandwidths and multiple uses designated for the 700 MHz public safety band. These channel designations and identified uses were established in the NCC process. In the FCC rules, a state was to tell the FCC if it were forming a recommended SIEC to administer the designated interoperability channels. If a state did not advise the FCC by a certain date, then the responsibility of administering these 700 MHz interoperability channels would default to the 700 MHz RPC. Some states, as you know, have not formed SIEC's and the responsibility of administering these channels has defaulted to the 700 MHz RPC. The RPC already has the responsibility of administering and coordinating the 700 MHz General use channels, both wideband and narrowband. They are the first ones an agency that wants to build a new system goes to when asking for 700 MHz channels. They work with the agency on the development and needs to be met on *their new system*, including what will be done with the channels they are already using and how they can best be re-utilized in the region.

So the RPC is supposed to be responsible for an agencies internal radio system and acts as a local advocate for 700 and 800 MHz spectrum usages. Quite frankly, the FCC chose the 700 RPC as a default value if a state did not form an SIEC simply due to the fact that they realized that SIEC functionality was needed, and they had to place the responsibility somewhere. Interestingly enough, the FCC did not feel mandating an SIEC was required, but they also did not feel the duties could not go unassigned....

The 800 MHz RPC was formed under the FCC Docket 87-112 and is responsible for spectrum allocated in 821-824MHz-866/869 MHz to public safety. A precedent was established in this band, as this was the first time the FCC required multi-disciplinary interoperability channels (channels not designated to either police, fire or EMS specifically) in the band and *established common technical parameters in the rules* for the use of the channels. The NPSPAC (National Public Safety Planning Advisory Committee) band has 5 channel pairs designated for interoperability. In many ways, these channels were implemented in the exact same way the NCC asked for all of the interoperability channels to be implemented. This rule was established in 1989.

8 b. RPC workload is sporadic, based on channel needs by agencies within their region. It will expand as 700 MHz spectrum become available and broadcasters are

moved off the band. Volunteers do the work, with the sole exception being the NLECTC Rocky Mountain RPC planning money that was distributed to 700 MHz RPC's. This funding was the result of conclusions reached in the NCC process that indicated planning needed financial support. For further on the funding, contact:

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9 a. Are SIEC's necessary? Definitely:

They are the tool needed to reach out and begin a dialogue with those that need to talk to each other in different areas of the region. The SIEC can, if given proper structure and authority, begin to provide the local agencies with guidance and information that they cannot currently access. Where else would an interoperability advocate in each state stem from? The state that sponsors SIEC interoperability planning needs to be rewarded by the federal government for dedicating the resources to local interoperability. Because of the states efforts, the federal government will have an easier time identifying interoperability in each state and the end result will be improved communications.

9 b. **SIEC's should be inclusive to all public safety uses in a state. Too many states are using the term SIEC when making a State committee to address State communications needs. Actually, recommendations before the FCC from the NCC ask the SIEC's be renamed to Statewide Interoperability Executive Committees, as Statewide infers inclusive operation. The SIEC office should be mandated and states that sponsor such planning at the state level should be either paid or given additional benefits. It should be evident to a state why they need to sponsor inclusive SIEC operation in their respective state. The federal government should promote a nationwide SIEC council with representation from all 50 states. Currently, each state is represented by public safety association representation and it is not as concise nor as effective as each state having a representative. The people from each part of the country have to be represented before the problems that lead to interoperability can be solved. The National Governors Association might be able to identify SIEC land mobile experts in each state to represent that state on a nationwide SIEC council.**

10 **Not true. The FCC has not asked SIEC's to do anything but administer the designated interoperability channels in the 700 MHz band. They would probably like the SIEC to dialogue with the 700 MHz RPC regarding overall 700 MHz operation, but since they have not required a 700 MHz interoperability plan, I can assume they are not really interested in the details documented at the local level. If they were, they would have required the SIEC be mandated and that a plan be provided in a period of time, when the band is clear throughout the country. In the meantime, Missouri has found other uses for the SIEC, mainly in developing interoperable standards for the VHF and UHF channels the FCC designated *and failed to establish implementation authority to. Most importantly*, these channels are capable of being used in most of the equipment used today, rather than the 700 MHz channels which are not used at all anywhere in the country. Bottom line: It is much easier making rules for something that does not exist than it is for making rules for something that needs the rules more, that does exist.**

11. **NCC recommendation-The NCC recommendations are sufficient for short-term benefit and provide an immediate, cost effective improvement in interoperability. The recommended parameters need to be backed up with enforcement teeth. The FCC needs to understand that "hoping" the channels will be implemented in a common fashion is not going to ensure interoperability. They need to make direct and forward rules, like they did in 1987 with the NPSPAC 800 MHz interoperability channels when they *required in the rules* common operational and technical parameters.**

12. GAO found that the current federal grant structure does not fully support statewide planning if communications interoperability because, among other things, grant guidance is inconsistent and does NOT include interoperability requirements. In addition, uncoordinated federal and state level grant reviews limit the governments ability to ensure that federal funds are used effectively to support improved regional and statewide communications systems. **Federal grant guidance recommendations need to be strict *guidelines* created by communications people who understand local public safety communications at the national level. These guidelines are then provided to the SIEC's at the state level for their interpretation and for them to decide how to best implement the grants for maximum interoperability. The difference between this approach and the existing one is that now, there are no experts providing guidelines for interoperable communications at the local level. When that happens, and SIEC's are required to be at each state, SIEC representatives can be brought in and these guidelines can be vetted throughout the user community to ensure their viability. Then they can be introduced to the local agencies via their SIEC's.**

13. How much of the solution is technology; How much is planning; how much is breaking down any cultural barriers that may exist between first responder groups such as police, fire, public health, utilities and state and federal agencies? **I would say that 80% is planning and 20% is technology with the NCC recommendations making that an immediate, costs effective 50-50% proposition. Once planning guidelines are in place, all agencies can begin to benefit from the technology and the rewards that interoperable operations begin to provide.**

Agencies have to see an environment, created jointly by the DHS and enabled by the FCC, where they *want* to be interoperable with their neighbors. They will then find out they *need* to be interoperable with their neighbors. Keep in mind, Software Defined Radios (SDR) will soon bridge the disparate band gap that some many communities face. Associations such as NPSTC (National Public Safety Telecommunications Council) are working towards identifying public safety's needs with regard to SDR. It's introduction will slowly begin the development of the subscriber unit (mobile or portable radio) *being the flexible part of the equation with regard to interoperability*, where now those units are static and the flexibility is sought in the network. SDR will bring a level of interoperable potential unprecedented in public safety communications.

Note: The manufacturers, to some degree, aid in the lack of interoperability in this country. The standards process is full of proprietary holes that tie agencies to one or two technologies, leaving them to only having *those manufacturers interoperable solutions to talk to their neighbors with.* What then happens is that the agency next door doesn't buy that vendors product and we now have two islands sitting next to each other that cannot enjoy maximum interoperability because of some companies bottom line. The manufacturers also do not want the standards process to be completed any time soon as the Project 25 standard has taken over 15 years to conclude, and it is not completed yet. The manufacturers are selling equipment in the interim and one-way to get the standard finalize would be to not allow the standard to be sold until complete and truly an interoperable asset. Why call it a standard if it is not complete and the vendors in the standards committee are the ones not wanting it completed.

Please contact me if you need additional information

Stephen Devine, State of Missouri

August 18, 2004

Questions for the Record (QFR)

For Dr. David Boyd - SAFECOM *From Cong. Christopher Shays*

1. A continuing problem is lack of coordination and clarity concerning the roles of various federal agencies in assessing and improving interoperable communications for first responders. DHS itself exemplifies this issue. OMB has designated SAFECOM, within the Science and Technology Directorate, as the umbrella organization to unify and coordinate the federal government's efforts to coordinate work at the federal, state, local, and tribal to improve interoperable communications. At the same time, an official within DHS' Office for Domestic Preparedness, now part of the Office of State and Local Coordination and Preparedness, told GAO under ODPS that the Homeland Security Act, ODP was granted authority as the primary agency for preparedness against acts of terrorism, to specifically include communications issues while SAFECOM is responsible for advising ODP about available technologies and standards. Both ODP and SAFECOM are conducting pilot programs—SAFECOM in Virginia, and ODP in the Kansas City area--to inventory and assess interoperable communications and capacities that apparently were not coordinated in advance.

- How is the newly created Office of Interoperability and Coordination going to be able to bring a coordinated focus to the often uncoordinated activities and programs of federal agencies both within and outside DHS?

  Answer:
  The Secretary created the Office for Interoperability and Compatibility (OIC) as an overarching program to strengthen and coordinate interoperability programs to improve public safety preparedness and response, and to reduce unnecessary duplication in federal programs and spending. Using SAFECOM as a model, OIC will be a practitioner-driven national office designed to coordinate all interoperability efforts for the public safety community across all levels of government. The OIC will leverage federal resources and promote coordination and cooperation in service of the public safety community. Initial program areas will include training, equipment, and communications, incorporating the efforts of SAFECOM.

  An example of recent coordination efforts includes the Commonwealth of Virginia and SAFECOM developing a strategic plan for public safety communications and interoperability across the commonwealth. The locally driven methodology used to develop this plan will serve as a model for other states implementing a statewide system. The Virginia plan focuses on strategic planning and coordination among key local, state, and federal agencies to ensure the participation of public safety practitioners. Program officials from other agencies, such as ODP and the National Institute of Justice in the Department of Justice, participate in SAFECOM planning meetings in order to ensure that they remain fully coordinated with SAFECOM planning.

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For Dr. David Boyd - SAFECOM *From Cong. Christopher Shays*

- To accomplish this task, will the new office have authority and resources that SAFECOM has not had? If not, what is the potential benefit for improved interoperable communications from creating this new office?

  Answer:
  Interoperability is a priority for the Administration and Secretary of Homeland Defense Ridge. Through its efforts to improve communications interoperability, DHS realized that the interoperability issue reaches far beyond public safety communications. Therefore, OIC is creating a series of program areas to address critical interoperability issues related to the emergency response provider and homeland security communities. Initial priority areas that OIC will address include: Communications (together with the SAFECOM Program), Equipment, and Training. Other areas will be identified as required. To establish these programs, the Office will identify the necessary stakeholders at the local, state, and federal levels and will work with them to assess and determine the most important initiatives required for each program as well as the most appropriate short-term deliverables.

  The Office of Management and Budget (OMB) originally defined SAFECOM's missions as: (1) coordination of federal activities; (2) development of standards; and (3) development of a national architecture for public safety communications interoperability. OIC's communications program will build on these three missions to further coordinate federal interoperability efforts in research and development, testing and evaluation (RDT&E), standards, technical assistance, training, and related programs.

- SAFECOM has stated that as part of its fiscal year 04 program, it is developing a nationwide database of interoperable public safety communications frequencies in support of CAPRAD (the Computer Assisted Pre-coordination Resource and Database System)? What is the target date for completing that database and making it available to federal, state, and local public safety agencies?

  Answer:
  The CAPRAD database is currently available for use by Regional Planning Committees (RPCs). SAFECOM will provide funding to sponsor upgrades to the CAPRAD system and continued operations, and will publish a report on this effort before the end of 2005.

- Is there a target date for completing SAFECOM's effort, working with the National Public Safety Telecommunications Council, to develop a common nomenclature for individual interoperable frequency channels? If not, why has no target date be established?

Questions for the Record (QFR)
For Dr. David Boyd - SAFECOM *From Cong. Christopher Shays*

Answer:
SAFECOM plans to continue its work with the National Public Safety Telecommunications Council (NPSTC) to leverage existing efforts addressing incident command systems and to develop a common nomenclature for public safety interoperability frequencies. A report on this effort is scheduled for release by SAFECOM in May 2005.

- What are SAFECOM's top four priorities for fiscal year 2005 and why?

Answer:
In December 2003, SAFECOM sponsored a strategic planning session which brought together key public safety practitioners and stakeholders at the local, state, and federal level to establish the most important initiatives to be undertaken by the program. These initiatives, begun (and in some cases, completed) in FY04, will continue as priorities in FY05. Among these initiatives are:
  - Completion of a national, all-hazards Statement of Requirements;
  - The establishment of a baseline of public safety communications and interoperability across the country;
  - The establishment of a technical architectural framework to support interface standards;
  - The development of a "one-stop shop" for public safety communications and interoperability information, tools, and applications;
  - The continued integration of coordinated grant guidance across federal grant making agencies; and
  - Continued coordination with key urban areas to assure at least a minimum level of interoperability (RapidCom).

2. We understand that there is no comprehensive national data on the status of interoperability for federal, state and local agencies—including the current interoperable communications capabilities of first responders and the scope and severity of the problems that may exist. We have been told that accumulating this data may be difficult, because current capabilities must be measured against a set of requirements for interoperable communications, and these requirements vary according to the characteristics of specific incidents at specific locations.

- How does SAFECOM plan to obtain this data? Once this data is obtained, how does SAFECOM plan to use it to help federal, state and local first responders improve interoperable communications? Is there a desired level of interoperability, and how do you determine what this level is? What performance measures, if any, will be used to determine whether federal, state and local agencies have achieved their desired level of communication interoperability?

Questions for the Record (QFR)
For Dr. David Boyd - SAFECOM *From Cong. Christopher Shays*

Answer:
In order to develop this measurement tool, SAFECOM released a Request for Proposals in July, 2004. An award is expected by the end of October, and, once completed, this baseline will provide the foundation for measuring future improvements made through local and state, as well as federal public safety communications initiatives. It will also support the development of the definition of a minimum level of interoperability agencies need to have in place. The methodology and initial baseline is scheduled for completion by the fourth quarter of FY2005.

Prior to initiating the baseline study, SAFECOM completed a comprehensive Statement of Requirements (SoR) which, for the first time, provided a national definition of the communications interoperability needs of first responders, including voice, data, and video. This SoR will provide an optimal or ideal state to which current communications interoperability capabilities can be compared and is essential to the development of the national baseline.

3. GAO recommends that DHS develop a nationwide database of and common terminology for public safety interoperability communication channels.

- I understand that DHS intends to assess the state of interoperability by the year 2005 by means of a nationwide survey. What questions will this survey contain? How does DHS plan to establish a baseline measure of first responders' communications capabilities nationwide?

Answer:
SAFECOM is working to develop a methodology to assess the current state of interoperable communications across the nation. In order to develop this measurement tool, SAFECOM, working with state and locals will define the optimal metrics, assess previous studies into the state of interoperability, conduct a gap analysis, and launch and support a project team to conduct the baseline assessment. SAFECOM has developed a Statement of Work for the baseline activities and a Request for Quotes was released in July 2004.

- Once current capabilities are gathered and assessed, what set of requirements will be developed for specific incidents or specific locations?

Answer:
Once developed, the Baseline methodology will be used to define a minimum level of interoperability across disciplines and jurisdictions nationwide.

To define the incident-specific communications requirements of the public safety community, SAFECOM developed Version 1.0 of the Statement of Requirements (SoR) which outlines the needs of the public safety community. The SoR

contains interoperability scenarios describing how SAFECOM envisions technology enhancing public safety. From these scenarios, operational requirements are defined and functional requirements of the technologies are extrapolated. The requirements identified in the SoR will drive the development and creation of interface standards that will satisfy public safety practitioner needs

- And what other parts of DHS do you work with to discuss critical threat or risk assessments?

Answer:
Currently, SAFECOM is collaborating with the Department of Justice and ODP on the RAPIDCOM initiative, to implement interoperable incident communications for 10 of the high threat urban areas. . In addition, SAFECOM has established the Federal Interoperability Coordination Council (FICC), made up of all the Federal agencies with programs that address interoperability, whether as system builders, grant-making agencies, or regulatory organizations. SAFECOM has also met individually with DHS organizations and others outside DHS, including the Federal Emergency Management Agency (FEMA), ODP, Information Analysis and Infrastructure Protection (IAIP), the Department of Justice Wireless Management Office, the National Guard Bureau, National Institute of Justice and others.

- What more can DHS and FCC do to better coordinate service to state and local first responders?

Answer:
The Director of the SAFECOM Program and the Chief of the Wireless Bureau of the FCC recently agreed to create an interagency task force to coordinate service to state and local first responders. Personnel have already been identified by both agencies and the task force will meet in the near future.

4. Some of our state witnesses have indicated frustration at the lack of FCC regulations in public safety bands, arguing the FCC will provide opportunities of new spectrum, but will not sufficiently mandate structure, standards or technical rules needed for interoperability even when asked to by the public safety community. In other words, individual and local agency decisions are then made in a vacuum.

- Should or will FCC or DHS take a more aggressive role in administering interoperability strategies at the state and local levels? What should Congress do?

Answer:
More than 90% of the nation's public safety communications infrastructure is owned and operated at the local and state levels so any successful interoperable communications strategy must be driven from the local level up. SAFECOM, accordingly, has adopted a practitioner-driven philosophy that ensures continuing

input by local and state public safety communities. For example, SAFECOM has partnered with the Commonwealth of Virginia to help develop a strategic planning process for public safety communications and interoperability across the state. To better coordinate the administration of interoperability grants, SAFECOM developed common grant guidance used by COPS, ODP, and FEMA. For FY 2004, the Office of Management and Budget directed that every Federal agency with a program or function related to wireless communications ensure that its programs were fully aligned with the SAFECOM national strategy. And in March of 2004, the Secretary of DHS directed the establishment of the Office of Interoperability and Compatibility to coordinate programs involving communications, equipment, and training where either interoperability or compatibility was potential issues.

5. SAFECOM has been designated as the program responsible for coordinating federal efforts to improve first responder communications.

- What is SAFECOM doing to promote statewide or regional planning for communications? Is this work being done in coordination with other agencies and departments? What, if any, oversight authorities does SAFECOM have to achieve its mission of coordinating federal, state and local efforts to improve first responder communication?

Answer:
GRANT GUIDANCE:
As the umbrella program within the federal government to coordinate activities relating to public safety communications and interoperability, SAFECOM has developed coordinated grant guidance which outlines eligibility for grants, the purposes for which grants should be used, and guidelines for implementing a wireless communication system. The SAFECOM grant guidance, which was developed with input from the public safety community, encourages applicants to consider systems requirements to ensure interoperability with systems used by other disciplines and at other levels of government and encourages the development of a meaningful governance structure which brings together the appropriate parties in the development of a communications solution.

The SAFECOM grant guidance was included as part of the COPS and FEMA grants in FY03 and was incorporated in the COPS and ODP grant processes in FY04.

VIRGINIA:
SAFECOM has partnered with the Commonwealth of Virginia to assist in developing a strategic plan for statewide communications and interoperability. In alignment with its practitioner driven philosophy, SAFECOM developed a methodology to ensure local practitioner input into the statewide plan which will serve as a model for other states and regions developing statewide

communications and interoperability plans. To develop this strategic plan, SAFECOM conducted six focus group sessions with local practitioners in diverse regions across the Commonwealth in preparation of a larger strategic planning session held in Richmond, VA.

RAPIDCOM
SAFECOM has worked in coordination with a number of Federal agencies, including the Wireless Management Office of the Justice Department, and the Office of Domestic Preparedness on the RapidCom project, which will, by September 30, 2004, help ten urban areas achieve minimum, emergency level communications interoperability among incident commanders within one hour of an incident.

6. GAO and the FCC have recognized the important role of the state in public safety interoperability planning. However states are not required to establish statewide management structures or to develop interoperability plans. In addition, no requirement exists that interoperability of federal communications systems must be coordinated with state and local government communications systems.

   - Are state interoperability committees or offices necessary? If so, why?

     Answer:
     Yes, statewide bodies can be a valuable method to coordinate public safety communications and interoperability efforts, though they will not solve the interoperability problem alone, particularly if the statewide body does not have a solid governance structure that provides the local levels with a real role in the planning process rather than a mere seat at the table. There is no simple solution. Instead, the identification and orchestration of many factors (protocols, equipment, spectrum, mutual aid, etc.) over various time periods is required. Any solution must take into account that over 90% of the nation's public safety communications infrastructure is owned by localities and states. In addition, for solutions to be practical, systems must also meet every day jurisdictional needs.

   - Will DHS or the FCC seek to help standardize state management for public safety communications with recommended best management practices?

     Answer:
     SAFECOM, in partnership with the Commonwealth of Virginia, developed a strategic plan for statewide communications and interoperability. This partnership, in alignment with SAFECOM's practitioner driven philosophy, developed a methodology to ensure local practitioner input into the statewide plan which will serve as a model for other states and regions developing statewide communications and interoperability plans. To develop this strategic plan, SAFECOM conducted six focus group sessions with local practitioners in diverse regions across the Commonwealth in preparation for a

larger strategic planning session held in Richmond, VA. The locally driven methodology used to develop this plan will serve as a model for other states implementing a statewide system.

- What do you all think should be the makeup of a state interoperability management office? Should these offices be mandated and if so, who should mandate them?

Answer:
SAFECOM believes that for any statewide proposal to succeed, the statewide plan will have to be developed from the bottom up. The Federal government should not mandate how states organize their public safety organizations. In some areas, regional coordination may be more appropriate. In any event, Federal grant dollars for interoperability should be contingent upon sound planning and coordination. Over 90% of the nation's public safety communications infrastructure is owned by localities and states - a fact which highlights the need for practitioner- driven solutions. With the approval of public safety practitioners, SAFECOM will encourage the development of appropriate statewide bodies through its FY2005 grant guidance.

7. The FCC has recommended the use of state interoperability executive committees to help regulate the 700 MHz band and Regional Planning Boards for the 800 MHz band.

- Can any one recommend any state committees currently in place that are doing a good job? Why are these states doing better than others?

Answer:
These committees are, for the most part, too new to be assessed, although we remain optimistic that they will play a valuable role in interoperability.

- How can states best be empowered by the federal government to become the focal points for making sure that intra- and inter-state regions have interoperable wireless communications capabilities?

Answer:
We believe the states already possess this authority with respect to grant funds awarded through the States. Governance is a key issue as these committees are established. All state activities must be inclusive of regional, county and local representation from not only the first responder community, but also public safety support providers (Forestry & Conservation, Highways, Public Works, etc). Major public sector groups such as large utilities and the Red Cross, for example, need to be invited to the table even if not in a voting capacity.

Questions for the Record (QFR)
For Dr. David Boyd - SAFECOM *From Cong. Christopher Shays*

- DHS did not comment on this GAO recommendation, can you please comment now?

Answer:
Statewide bodies can be a valuable method to coordinate public safety communications and interoperability efforts, though they will not solve the interoperability problem alone, particularly if the statewide body does not have a solid governance structure that provides the local levels with a real role in the planning process rather than a mere seat at the table. There is no simple solution. Instead, the identification and orchestration of many factors (protocols, equipment, spectrum, mutual aid, etc.) over various time periods is required. Any solution must take into account that over 90% of the nation's public safety communications infrastructure is owned by localities and states. In addition, for solutions to be practical, systems must also meet every day jurisdictional needs.

8. GAO also found that the current federal grant structure does not fully support statewide planning of communications interoperability because, among other things, grant guidance is inconsistent and does NOT include interoperability requirements. In addition, uncoordinated federal and state level grant reviews limit the government's ability to ensure that federal funds are used to effectively support improved regional and statewide communications systems.

- I would like each one of you to comment on these statements, including recommending how Congress, DHS or the states might solve these problems.

Answer:
With input from the public safety community, SAFECOM has created a coordinated grant guidance which outlines eligibility for grants, the purposes for which grants could be used, and guidelines for implementing a wireless communication system in order to help to maximize the efficiency with which public safety communications related grant dollars are allocated and spent. To ensure consistency in interoperability grant guidance, this guidance was included as part of the Community Oriented Policing Services (COPS) and Federal Emergency Management Association (FEMA) grants in FY03 and was incorporated in the COPS Interoperability grants in FY04. The SAFECOM guidance was also included in the ODP guidance for its state block grants.

- What is DHS doing to include consistent, common federal grant guidance for interoperable communications? What can Congress do to encourage consistent grant guidance?

Answer:
SAFECOM has created coordinated grant guidance that outlines eligibility for grants, the purposes for which grants could be used, and guidelines for implementing a wireless communication system. SAFECOM has partnered with

Questions for the Record (QFR)
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the COPS, FEMA and ODP offices to incorporate this grant guidance as part of their grant allocation processes, and has even helped to set up the review and selection processes used by COPS and FEMA.

9. Is DHS considering any type of grants for State Interoperability Planning or training for first responder spectrum managers?

Answer:
Both planning and training are eligible uses for the homeland security grants administered by the Office for Domestic Preparedness. In fact interoperability projects have been the most common use of these dollars over the last two years, receiving over $800 million. DHS would not support parsing these flexible grants among specialized set asides for interoperability plans or training, as this reduces grantee flexibility to set priorities.

10. The Committee was very happy to hear that the FCC and DHS are agreeing to meet with each other on common public safety communications matters. Can you tell us the nature of this relationship and what you hope to get from the FCC both short and long term to carry out national policies geared to helping first responder communications?

Answer:
The Director of the SAFECOM Program and the Chief of the FCC Wireless Bureau are meeting periodically to ensure that both our efforts, insofar as the law permits, are fully coordinated. We have also created a task force and identified personnel in both agencies to work together, where the law permits, to identify and develop coordinated solutions to interoperability problems at all levels of government.

U.S. House of Representatives: Committee on Government Reform
Subcommittee on National Security, Emerging Threats, and International Relations
"First Responder Interoperability: Look Who's Talking Now" - July 20, 2004

Responses to Questions for Mr. John Muleta
Federal Communications Commission
September 30, 2004

Question: We understand that the FCC has allowed to be established both Statewide Interoperability Executive Committees, (known as SIEC's) and Regional Planning Committees, and that both types of organizations are composed of volunteers – that there is no or limited funding for their operational expenses. We also understand that the FCC has taken action on the issue of private interference with public safety communications in the 800 MHz band and has narrowed public safety spectrum channels in certain frequency bands to increase spectrum efficiency – and that these actions may affect the workload of SIECs and RPCs.

We also understand that both organizations can exist in the same state, but that there are frequency bands used by public safety which neither organization is responsible for administering or planning. Apparently, the SIECs cover the 700 MHz band, but not the 800 MHz band, while the RPCs cover 700 and 800 MHz bands, but neither SIECs nor RPCs cover public safety spectrum in those bands below 512 MHz.

Is the FCC monitoring SIEC and RPC operations closely? What do you know about how SIECs and RPCs are developing across the country? Who do you share this information with? DHS? Others?

Response: We continue to believe that the states, in the first instance, are better poised to address interoperability issues that have local importance. As a result, we are committed to working with them to achieve our mutual goals of effective public safety communications and interoperability. In this connection, we endeavor to remain apprised of the ongoing efforts of State Interoperability Executive Committees (SIECs) and Regional Planning Committees (RPCs). We continue to support these groups by fostering effective working relationships through open lines of communication with the communications specialists that comprise them. SIECs are applicable to the 700 MHz band, while separate RPCs exist for the 700 MHz and 800 MHz bands.

To date, thirty-seven states have implemented SIECs or in the alternative, an equivalent working group, to administer the 700 MHz public safety spectrum designated as interoperability channels. In states that have elected not to

implement an SIEC or an equivalent working group, the SIEC function defaults to the relevant 700 MHz RPC.

RPCs are required to file regional plans for approval by the FCC, as well as, any subsequent amendments to the plans. RPC meetings are publicized and are open to the public. The FCC, when notified in advance by the RPC, releases a Public Notice announcing the scheduled meeting and agenda. Providing this service allows the FCC to observe the level of regional planning activities and progress of plan development.

Several 700 MHz RPCs have been formed and initial organizational meetings have been held in forty-eight of the fifty-five regions. Seven regions [New Mexico, North Dakota, Pennsylvania, South Dakota, West Virginia, Puerto Rico and the Virgin Islands] have either not yet formed RPCs or the RPCs have not yet held an initial meeting. To date, two 700 MHz RPCs [Southern California and Missouri] have filed regional plans for approval. We have approved the plan submitted by Southern California and are continuing to work with Missouri regarding finalization of its plan.

With respect to the 800 MHz band, we have approved plans for all fifty-five regions. We have also reviewed and, when appropriate, approved amendments to such plans. In addition to these steps, we have served as a facilitator, when necessary, assisting with dispute resolution among parties of adjoining regions.

A significant amount of this information is a matter of public record and is accessible via the FCC web site – www.fcc.gov. Specifically, information on the status of the regional planning process for a given region, as well as, regional planning documents and amendments can be accessed through the web site. The Commission maintains its web site for the purpose of sharing information with DHS and other Federal, state and local governmental agencies, including both, Federal and non-Federal first responders. In addition to these efforts, members of the Commission's staff meet regularly with representatives from the Department of Homeland Security's National Communications System, which is housed in its Information Analysis and Infrastructure Protection Directorate.

In addition, the Commission actively participates in various outreach, informational and training initiatives for public safety, and more specifically, interoperability matters. For instance, we participate in public safety training for regional planners sponsored by various public safety organizations and the National Institute of Justice's AGILE Program. Active involvement in such forums provides the Commission with the opportunity to make our staff accessible to the public safety community and allows us an opportunity to provide guidance on matters related to RPC responsibilities and other issues of interest to RPCs and their membership.

Question: Why can't the FCC take steps immediately to ensure that first responders use a common set of terms and radio protocols when responding to emergencies?

Response: We are aware of the interest in common nomenclature for radio channels among public safety organizations. In this regard, we note that this issue has been the subject of filings to the Commission. We further note that the Public Safety National Coordination Committee (NCC) provided a specific list of channel names. Given that the NCC's final recommendations remain under review by the Commission, we cannot discuss the merits of this measure at this time. We nonetheless note that when the Commission previously considered this issue, it expressed concern about the practical and administrative burdens that could flow from such a requirement. We continue to believe that such issue must be evaluated in the context of today's public safety communications. Specifically, there are over 40,000 public safety licensees in this country, with each licensee having its own organizational culture and operational requirements. As a result, in addressing this issue we must carefully balance the interest of having a common set of terms with the administrative and practical impact on the thousands of public safety entities that will be affected. We plan to seek comment on the development of common nomenclature for radio channels among public safety organizations in an upcoming Further Notice. This Further Notice will be presented to the Commission for consideration in November.

Question: Is the FCC engaged in discussions with DHS, DOJ, Commerce and other federal agencies in looking for a solution to these interoperability problems? Is the FCC actively working to resolve these issues or is it staying at arms length to protect its independence and to maintain its regulatory role?

Response: We continue to believe that effective coordination and communication regarding public safety issues are key determinants of sound public policy in this context. The FCC participates with Federal agencies in informational exchanges on spectrum matters affecting public safety communications, including interoperability. Earlier this year, Commission staff took part in a DHS – SAFECOM Executive Committee meeting in an effort to effectively communicate and coordinate public safety interoperability initiatives within the Commission's purview.

Dr. Boyd and I are committed to establishing an informal working group comprised of representatives from our respective staffs to meet on a regular basis to work collaboratively on interoperability and other issues of relevance to the FCC and SAFECOM. I am pleased to report that we have taken steps to this end. Just recently, Commission staff met with representatives from SAFECOM and has initiated this effort. We are encouraged by these actions and confident that this interagency team will prove beneficial to both groups.

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. Furthermore, we note that the Departments of Justice and Homeland Security both have programs that fund R&D for public safety communications interoperability. We have actively monitored these programs and, where appropriate, have actively been involved therein. For example, the Commission facilitated the development of public safety interoperability standards in the 700 MHz public safety band through the NCC. This group recommended, and the Commission adopted, narrowband standards for all radios that operate on the 700 MHz band interoperability channels. The NCC also made a recommendation for a wideband data standard which is pending Commission consideration. The wideband data standard was one of the NCC's final recommendations. We plan to seek public comment and will be the subject of a Further Notice. This Further Notice will be presented to the Commission for consideration in November. The NCC worked with the Telecommunications Industries Association (TIA) to develop these interoperability technical standards and TIA performed the related research and background work.

Question: The FCC approach seems to be to rely on volunteers to perform FCC functions. Why did the FCC decide to rely on the volunteers to administer public safety spectrum?

Response: While "volunteers" play a critical role in the regional planning and SIEC processes, they do not "administer" public safety spectrum. The FCC approach has been for the RPCs to provide recommendations to the FCC, which are advisory in nature and subject to FCC review and action. The role played by the RPCs and their members has contributed significantly to the effectiveness of the FCC's licensing processes for both the 800 MHz and 700 MHz public safety bands. Further, these volunteers are usually employees of local and state emergency communications agencies, many of whom perform RPC and SIEC duties as part of their regular employment. Our experience has been that they provide an invaluable service to the FCC because they are most familiar with the public safety communications needs in their local areas. Without the help of these volunteers, the Commission would be dictating a national policy from "inside the beltway." We do not believe that this approach to policymaking is as effective as an approach that would include individuals with detailed, first-hand knowledge of their local public safety agencies and requirements.

Question: What does the FCC think of the State of Missouri's actions to develop the role of the SIEC – what did the FCC intend that the SIECs do, and are the actions Missouri has taken consistent with the role the FCC intended that the SIEC play?

Response: For your convenience, we provided the FCC's vision for the SIECs in the attached Appendix. One of the benefits of the FCC's rules for the SIECs is

flexibility. Each state has unique requirements. The SIEC concept is flexible enough for states to adopt measures that make sense for that state's specific circumstances, its constituents and region.

Different states have different perspectives on the role of the SIECs and scope of their jurisdiction. Missouri is one of the most active states in advancing the SIEC effort. It appears that Missouri envisions its SIEC playing an expanded role developing interoperability policies for all public safety bands, not only the 700 MHz band. We are encouraged by Missouri's commitment to the process and impressed with the manner in which this state has taken its responsibility. We are always interested in hearing about creative solutions to public safety communications challenges. We believe the Commission's rules governing the SIECs are flexible enough to support such efforts. We are pleased by these developments.

Question: What more can DHS and FCC do to better coordinate service to state and local first responders?

Response: The FCC has significant accomplishments in this arena and continues to build upon its achievements. We believe that teamwork and strong working relationships among key governmental agencies are essential elements in achieving our common interests of promoting homeland security and interoperability. The FCC intends to continue its extensive outreach efforts to the appropriate governmental entities, including DHS – SAFECOM and the public, and work cooperatively with these groups to strengthen its working relationships. Such efforts would include, attending conferences; engaging in valuable informational exchanges on staff, mid-management and executive levels; and coordination of and participation in key deliverables, including relevant rulemakings, reports, etc. In addition to providing input to interagency efforts, we will further encourage technological developments that enhance interoperability.

Question: Some of our state witnesses have indicated frustration at the lack of FCC regulations in public safety bands, arguing the FCC will provide opportunities of new spectrum, but will not sufficiently mandate structure, standards or technical rules need for interoperability even when asked to by the public safety community. In other words, individual and local agency decisions are then made in a vacuum.

Should or will FCC or DHS take a more aggressive role in administering interoperability strategies at the state and local levels? What should Congress do?

Response: The FCC is aggressively exploring opportunities that would facilitate widespread deployment of interoperable communications for the public safety community. It is important, however, to recognize the inherent tension that exists in being overly prescriptive and lending sufficient guidance through

policymaking. Current dynamics require a delicate balance of these two approaches for favorable results in public safety spectrum administration.

As stated previously, the Commission adopted narrowband standards for all radios that operate on the 700 MHz band interoperability channels and is currently considering an NCC recommendation for a wideband data standard and other suggested cost-effective, operational and technical parameters. We believe that examination of these measures and continued collaboration with SAFECOM regarding interoperability strategies will promote effective and efficient interoperable communications. Along these lines, the Commission will continue to monitor state and local responder actions and will strive to facilitate the work of these groups in furtherance of achieving interoperable communications. Moreover, we believe that opportunities provided by Congress's key committees, such as the Committee on Government Reform, as well as other prominent groups, that bring the critical players to one forum actually elevates the dialogue and raises awareness of the issues, challenges and next steps in the process. We believe that Congress's endorsement of activities that foster discussion, particularly with respect to coordination and funding issues, lend support to the overall effort.

Question: GAO and the FCC have recognized the important role of the state in public safety interoperability planning. However states are not required to establish statewide management structures or to develop interoperability plans. In addition, no requirement exists that interoperability of federal communications systems must be coordinated with state and local government communications systems.

Will DHS and the FCC seek to help standardize state management for public safety communications with recommended best management practices?

Response: We have lent support to key public safety organizations in this regard. Currently, spectrum management for local frequency coordinators and public safety communications staff is available through public safety trade associations. State management of public safety communications training is held on a continuous basis in several locations throughout the country. These training opportunities are usually advertised in public safety periodicals.

The appropriate requirements of communications systems varies widely as a function of population, geography, etc. A "one size fits all" set of management practices is not practical. Accordingly, management practices tailored by the state and local governments to meet individualized local requirements appear far preferable to federal directives on how systems should be managed. The FCC's expertise in communications systems extends to technical aspects and we have assisted industry groups in producing, for example, Best Practices for resolution of 800 MHz interference. However, management practices - - as opposed to technical aspects - - would seem best addressed by DHS in conjunction with such

other agencies as FEMA. To the extent that these agencies require technical assistance in the formulation of Best Practices, the FCC would willingly provide such information.

Question: What do you all think should be the makeup of a state interoperability management office? Should these offices be mandated and if so, who should mandate them?

Response: We believe that these decisions fall within the purview of the office of a state governor.

Question: The FCC has recommended the use of state interoperability executive committees to help regulate the 700 MHz band and Regional Planning Committees for the 800 MHz band.

Can you recommend any state committees currently in place that are doing a good job? Why are these states doing better than others?

Response: As we stated previously, the majority of have designated SIECs or equivalent state working groups. Thus, we believe that this shows considerable progress regarding state involvement and consideration of interoperability issues. From our observations, it appears that some states are further along in the process than others. Specifically, we have observed that Georgia, Ohio, Illinois, Florida, Missouri, California, and Minnesota are among the states that appear to be fairly active. That is, these states have, at a minimum, initiated planning efforts. We have also observed that many SIEC members attend and are engaged in the 700 MHz and 800 MHz RPC meetings. We believe that this is an important and significant development, as partnership and planning among key players are critical elements to state and regional interoperability planning.

Question: How can states best be empowered by the federal government to become the focal points for making sure that intra- and inter-state regions have interoperable wireless communications capabilities?

Response: There are several components to successful deployment of interoperable wireless communications systems. Mainly, adequate spectrum reserves, current technology and equipment, coordination among inter-governmental agencies at the Federal, state and local levels, training and funding are key elements in this complex equation. The FCC has directed its efforts to 1) providing additional spectrum for public safety systems; 2) nurturing technological developments that enhance interoperability and 3) participating in valuable informational exchanges with other agencies and organizations. From our observations, it appears that coordination and funding (for training and equipment) are needed to enable public safety communities to share information and interoperability solutions at the local, state and multi-state levels. Currently, informal networking, in addition to public safety journals and periodicals, is

frequently used among public safety agencies to share interoperability solutions and field experiences.

Question: The National Coordination Committee, a federal advisory committee made up of state and local officials has made recommendations to the FCC to help statewide interoperability.

Has the FCC formally regulated all these FACA recommendations? And if not, why not?

Response: The NCC served to provide the Commission with recommendations for its review and consideration. The FCC is appreciative of the significant contributions the NCC provided over a period of three-plus years, through its development of technical standards, creation of tools to streamline the development of regional plans, such as a pre-coordination database and RPC guidebook. We closely examine all of the feedback and guidance provided by this group and give serious consideration to them. In fact, the FCC has evaluated and implemented many of the NCC's recommendations (e.g., technical standards and narrowband voice and data applications). The outstanding NCC recommendations, which were submitted in July 2003, will be considered in the context of the open rulemaking proceeding regarding 700 MHz public safety issues. In addition, we note that several of the NCC's recommendations, both administrative and technical, are in use by the public safety community today without formal adoption, action, or endorsement by the FCC.

Question: Are the NCC recommendations sufficient to improve interoperability in the short term, and should compliance with NCC interoperability parameters, both operational and technical, be required for grant application award? If so, who will facilitate that at the state level? The SIEC set up by the FCC? How can they, if they are not mandated?

Response: The NCC's recommendations provide a strong foundation for improvement of widespread deployment of interoperable wireless communications capabilities. The FCC does not administer grants. Hence, it is difficult to definitively respond to the question of whether the NCC recommendations should be a condition of grant approval or award. We believe establishment of criteria for grants is the responsibility of a grant administering agency/program. The NCC recommendations that were approved by the FCC were adopted into the FCC's rules. As for the other NCC recommendations, grant administrators could require compliance with the NCC recommendations as a condition of grant. We note that the 700 MHz band will not be widely available for use until incumbent television systems are cleared from the band, hence imposing grant conditions at this time might await greater experience with the manner in which the band develops and the identification of what specific grant conditions may be most appropriate.

Question: Does the FCC currently provide or might be thinking to provide training to state and regional first responder spectrum managers?

Response: Currently, spectrum management for local frequency coordinators and public safety communications staff is available through public safety associations and FCC certified frequency coordinators. This type of training is held at several venues throughout the country and is well advertised in public safety periodicals. We actively support the efforts of these organizations. In addition, we participate in various fora involving informed exchanges on spectrum management issues. All of these efforts support our continuing commitment to the development of policies that will aid public safety organizations in achieving interoperability and seamless communications between and among cooperating organizations.

U.S. House of Representatives: Committee on Government Reform
Subcommittee on National Security, Emerging Threats, and International Relations
"First Responder Interoperability: Look Who's Talking Now" - July 20, 2004

Responses to Questions for Mr. John Muleta
Federal Communications Commission
Appendix

Excerpts from Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements through the Year 2010, Fourth Report and Order and Fifth Notice of Proposed Rule Making, 16 FCC Rcd 2020 (2001) (footnotes omitted).

State Interoperability Executive Committees

Background. In the Fourth Notice, we discussed the NCC's recommendation that each state should form a **State Interoperability Executive Committee** (SIEC) to administer the Interoperability channels. Under this approach, the NCC recommends that entities desiring a license to operate on the Interoperability channels would enter into a Memorandum of Understanding (MOU) with the relevant SIEC. The SIEC would be charged with enforcement of the MOU's terms, with final authority vested with the Commission. The NCC recommended that, among other duties, SIECs develop interoperability operational plans. If a SIEC or another state agency elected not to oversee development of such plans for a state, then the NCC recommended that the RPC perform this function.

Discussion. Based on the record, we agree with the NCC and the majority of the commenters and support the creation of SIECs. The states best know their own capabilities and the best management of their resources. Some states already have a mechanism in place that could administer the Interoperability channels. In such cases, requiring a SIEC would be duplicative and overly burdensome for the states. Although we support the idea of creating a SIEC or another equally effective state level agency to administer the Interoperability channels, we decline to require the formation of SIECs. However, we adopt the NCC's recommendation that if a SIEC or other state agency elects not to oversee the administration of its Interoperability channels, the RPCs will assume this responsibility. We believe a voluntary framework that allows each state to determine its requirements is the best approach. As previously noted, however, the state does not have an unlimited amount of time to determine whether they will establish the SIEC, or equivalent state agency. Therefore, if the state has not set forth a plan for establishing its SIEC, or its equivalent, by December 31, 2001, effective January 1, 2002, then the RPCs will have the responsibility for administering the Interoperability channels.