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ASSESSING FIRST RESPONDER COMMUNICATIONS

HEARING

BEFORE THE

SUBCOMMITTEE ON EMERGENCY PREPAREDNESS, RESPONSE, AND COMMUNICATIONS

OF THE

COMMITTEE ON HOMELAND SECURITY HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

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CONTENTS

Page

STATEMENTS

The Honorable Daniel M. Donovan, Jr., a Representative in Congress From the State of New York, and Chairman, Subcommittee on Emergency Preparedness, Response, and Communications:
Oral Statement 1
Prepared Statement 2
The Honorable Donald M. Payne, Jr., a Representative in Congress From the State of New Jersey, and Ranking Member, Subcommittee on Emergency Preparedness, Response, and Communications:
Oral Statement 3
Prepared Statement 4
The Honorable Bennie G. Thompson, a Representative in Congress From the State of Mississippi, and Ranking Member, Committee on Homeland Security:
Prepared Statement 5

WITNESSES

Rear Admiral Ronald Hewitt (USCG, Ret.), Director, Office of Emergency Communications, U.S. Department of Homeland Security:
Oral Statement 6
Prepared Statement 7
Mr. Edward Parkinson, Director, Government Affairs, First Responder Network Authority:
Oral Statement 13
Prepared Statement 14
Mr. Mark L. Goldstein, Director, Physical Infrastructure Issues, U.S. Government Accountability Office:
Oral Statement 18
Prepared Statement 20

ASSESSING FIRST RESPONDER COMMUNICATIONS

Thursday, October 12, 2017

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

The subcommittee met, pursuant to notice, at 10 a.m., in room HVC–210, Capitol Visitor Center, Hon. Daniel M. Donovan, Jr., (Chairman of the subcommittee) presiding.

Present: Representatives Donovan, McSally, Payne, and Langevin.

Mr. DONOVAN. I apologize before we begin that I am losing my voice, but I appreciate your participation and your attendance here today, and we look forward to hearing from you.

The Subcommittee on Emergency Preparedness, Response, and Communications will come to order. The subcommittee is meeting today to receive testimony on the state of first responder communications. I now recognize myself for an opening statement.

I want to welcome all witnesses here this morning on an issue that is vital to our homeland security: The ability of our first responders to communicate. As noted in the 2006 National Interoperable Baseline Survey, there is a, "direct correlation between effective communications, interoperability, and first responders' ability to save lives."

In my home town of New York City, we know this all too well. Both the Office of Emergency Communications and First Responder Network Authority were established in the wake of the communications failures of 9/11 and later in Hurricane Katrina. We have made a great deal of progress since those fateful disasters. States and localities have invested billions of dollars in their communications networks, including governance, training, and equipment.

The Office of Emergency Communications has completed two National emergency communications plans and has provided guidance and technical assistance to State and local stakeholders. This year, we have reached another milestone: FirstNet, in its fifth year since its establishment in the Middle-Class Tax Relief and Job Creation Act, awarded a contract to AT&T to build out the Nation-wide public safety broadband network. To date, nearly half of States and territories have committed to opt-in to that network.

We know this work is making a difference. In contrast to 9/11 and Hurricane Katrina, first responder networks for the most part remained operable during the response to Super Storm Sandy, even

while commercial networks experienced outages. It is my understanding that first responder networks were largely able to withstand the impacts of Hurricanes Harvey and Irma. I am interested in hearing from our witnesses and their assessments of how these networks fared during the recent hurricanes.

But despite these advancements, challenges remain. Earlier this year, this subcommittee joined with the Subcommittee on Cybersecurity and Infrastructure Protection to hold a roundtable on cyber risks to emergency communication networks. We have seen the evolution of communications technology, providing enhanced capabilities for first responders, but with these benefits come the risk of cybersecurity vulnerabilities, as many of these systems and applications are IP-based and interconnected.

We must ensure our Nation's first responders are aware of cybersecurity threats and can work to address them. As we prepare for first responders to have access to the Nation-wide public safety broadband network, we cannot forget that first responders will continue to depend on land mobile radio for mission-critical voice communications.

I am concerned about a requirement that first responder radio networks operating on the T-Band must migrate off that spectrum by 2021. This will have significant impact on a number of major metropolitan areas, including New York City. Studies have suggested that there isn't sufficient alternative spectrum for these jurisdictions to use. In taking steps forward, with the public safety broadband networks, we must ensure we are not taking steps back for mission-critical voice network on which first responders rely on.

I am looking forward to our witnesses' assessment of the current state of first responder communications and what more needs to be done to ensure first responders have the connectivity and information to continue to serve our communities.

[The prepared statement of Mr. Donovan follows:]

STATEMENT OF CHAIRMAN DANIEL M. DONOVAN, JR.

OCTOBER 12, 2017

I want to welcome our witnesses here this morning on an issue that is vital to our homeland security: The ability of our first responders to communicate.

As noted in the 2006 National Interoperability Baseline Survey, there is a "direct correlation . . . between effective communications interoperability and first responders' ability to save lives."

In my home town of New York City, we know this all too well. Both the Office of Emergency Communications and First Responder Network Authority were established in the wake of the communications failures on 9/11, and later, in Hurricane Katrina.

We have made a great deal of progress since those fateful disasters. States and localities have invested billions of dollars in their communications networks, including governance, training, and equipment.

The Office of Emergency Communications has completed two National Emergency Communications Plans and has provided guidance and technical assistance to State and local stakeholders.

And this year we've reached another milestone. FirstNet, in its fifth year since its establishment in the Middle Class Tax Relief and Job Creation Act, awarded a contract to AT&T to build out the Nation-wide public safety broadband network. And to date, nearly half of States and territories have committed to opt-in to that network.

We know this work is making a difference. In contrast to 9/11 and Hurricane Katrina, first responder networks, for the most part, remained operable during the response to Superstorm Sandy, even while commercial networks experienced out-

ages. It is my understanding that first responder networks were largely able to withstand the impacts of Hurricanes Harvey and Irma. I am interested in hearing our witnesses' assessments of how these networks fared during the recent hurricanes.

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We've seen the evolution of communications technology, providing enhanced capabilities for first responders. But, with those benefits come the risk of cybersecurity vulnerabilities, as many of these systems and applications are IP-based and interconnected.

We must ensure our Nation's first responders are aware of cybersecurity threats and can work to address them.

And, as we prepare for first responders to have access to the Nation-wide public safety broadband network, we cannot forget that first responders will continue to depend on land-mobile radio for mission critical voice communications.

I am concerned about a requirement that first responder radio networks operating on the T-Band must migrate off that spectrum by 2021. This will have significant impact on a number of major metropolitan areas, including New York City, and studies have suggested that there isn't sufficient alternative spectrum for these jurisdictions to use.

In taking steps forward with the public safety broadband network, we must ensure we're not taking steps back for mission-critical voice networks on which our first responders rely.

I'm looking forward to our witnesses' assessment of the current state of first responder communications and what more needs to be done to ensure first responders have the connectivity and information to continue to serve our communities.

Mr. DONOVAN. The Chair now recognizes the gentleman from New Jersey, my friend, Mr. Payne, for an opening statement that he may have.

Mr. PAYNE. Good morning, Mr. Chairman. We will try to accommodate you, since your voice is leaving you. You know, when you stay on——

Mr. DONOVAN. It has left.

Mr. PAYNE [continuing]. CNN and MSNBC as much as you have been on there the last several days, I would assume that your voice would be going.

But, you know, I want to thank you, first, for holding today's hearing on first responders' communication. This is the subcommittee's first hearing on emergency communications since the 113th Congress. So I am eager to hear about the progress both the Office of Emergency Communications and FirstNet have made in advancing interoperable emergency communication efforts.

Since I joined this committee in 2013, I have been a strong advocate of policies to improve interoperable emergency communication capabilities, from ensuring interoperable communication capability among the components of the Department of Homeland Security to helping bolster State and regional governance structures that inform emergency communication plans and procedures.

That said, I have been concerned to learn that the dwindling number of dedicated full-time State-wide interoperability coordinators, or SWICs, I am concerned about the reduction in full-time SWICs and the disbanding of other governance structures might undermine progress made toward improving emergency communication capabilities since 9/11. SWICs and related Government structures have been integral in ensuring that emergency communication plans are coordinated, up-to-date, and exercised.

Every first responder I have ever spoken to has told me that the key to interoperability is not technology, it's governance. So I am

interested to know why States are no longer funding full-time SWICs and what Congress can do to help mitigate the impact of less robust governance.

I am pleased that New Jersey was among the first States to opt-in to FirstNet. I am encouraged by the potential it holds for first responders and look forward to seeing it revolutionize emergency communications. The capabilities FirstNet promises will save lives if the network is built and managed properly.

That said, I am concerned about the requirement that first responders in certain major metropolitan areas, like Newark and Jersey City, vacate the T-Band by 2023. Unless Congress acts, first responders in my district will get kicked off of their spectrum and be forced to relocate.

Before I close, Mr. Chairman, I would like to send my thoughts to those suffering in Puerto Rico and U.S. Virgin Islands. As Ranking Member of the Subcommittee on Emergency Preparedness, Response, and Communications, it is clear to me that something in our National preparedness doctrine has failed. I look forward to having the opportunity for this subcommittee to examine what went wrong in Puerto Rico and the Virgin Islands and why, so we can make sure people in our country never suffer like this again.

With that, I thank the witnesses for being here today, and I yield back the balance of my time.

[The statement of Ranking Member Payne follows:]

STATEMENT OF RANKING MEMBER DONALD M. PAYNE, JR.

OCTOBER 12, 2017

This is the subcommittee's first hearing on emergency communications since the 113th Congress. I am eager to hear about the progress both the Office of Emergency Communications and FirstNet have made in advancing interoperable emergency communications efforts.

Since I joined this subcommittee in 2013, I have been a strong advocate of policies to improve interoperable emergency communications capabilities.

In fact, I authored a number of measures to help DHS achieve interoperability among its components and to help bolster State and regional governance structures for emergency communications planning.

That is why I have been concerned to learn about the dwindling number of dedicated, full-time State-wide Interoperability Coordinators, or SWICs.

I am concerned about how the reduction in full-time SWICs—and the disbanding of other governance structures—might undermine progress made toward improving emergency communications capabilities since 9/11.

SWICs have been integral in ensuring that emergency communications plans are coordinated, up-to-date, and exercised. Every first responder I have ever spoken to has told me that the key to interoperability is not technology, it's governance.

So I am interested to know why States are no longer funding full-time SWICs and what Congress can do to prevent weakened governance.

I am pleased that New Jersey was among the first States to opt in to FirstNet. I am encouraged by the potential it holds to revolutionize emergency communications. The capabilities FirstNet promises will save lives if the network is built and managed properly.

That said, I am concerned about the requirement that first responders in certain major metropolitan areas—like Newark and Jersey City—vacate the T-band by 2023. Unless Congress acts, first responders in my district will get knocked off their spectrum and be forced to relocate.

Before I close, Mr. Chairman, I would like to send my thoughts to those suffering in Puerto Rico and the U.S. Virgin Islands. As Ranking Member of the Emergency Preparedness Subcommittee, it is clear to me that something in our National preparedness doctrine has failed.

I hope that in the very near future, this subcommittee can take a hard look at what went wrong in Puerto Rico and the U.S. Virgin Islands so we can make sure people in our country never suffer like this again.

Mr. DONOVAN. The gentleman yields. If any other Members attend, they will be reminded that opening statements may be submitted for the record.

[The statement of Ranking Member Thompson follows:]

STATEMENT OF RANKING MEMBER BENNIE G. THOMPSON

OCTOBER 12, 2017

From Texas and Florida to Puerto Rico and the U.S. Virgin Islands, the 2017 Hurricane Season has been devastating. It has been a true test of emergency response capabilities including the resiliency of our emergency communications systems.

Before discussing emergency communications, I would like to share some observations from my trip to Puerto Rico last weekend. Not since Hurricane Katrina have I seen devastation of this magnitude in the United States. People are without food and water. Critical infrastructure has been destroyed. The power is still out on most of the island and generators are failing at medical centers.

Lives are at stake. It is critical that President Trump and Republican House Leadership stop posturing and give Puerto Rico and the U.S. Virgin Islands focused, swift, and determined attention today and in the difficult days ahead.

Today, the House will begin consideration of a woefully inadequate disaster supplemental that fails to include funding for electric grid repair and modernization, community development block grants, and Social Service Block Grants, among other things. We can and must do better for our fellow Americans.

Turning to the subject of today's hearing, as I mentioned, this hurricane season has tested our emergency communications capabilities. I will be interested in the witnesses' perspectives about how well our emergency communications infrastructure performed, how Federal resources supported emergency communications, and whether there are unique communications challenges in non-contiguous territories like Puerto Rico and the U.S. Virgin Islands.

We cannot afford to have our emergency communications systems fail when disasters strike. We must incorporate the lessons learned from these most recent disasters into future emergency communications plans.

Looking to the future, I am encouraged to hear of the progress FirstNet is making as it continues its efforts to build out the public safety broadband network. As a former volunteer firefighter in rural area, I hope that access to the network will be affordable, secure, and ubiquitous.

I am hopeful that FirstNet will finally help us succeed in closing our interoperable emergency communications gap—but that can only happen if the those who need to access the network can afford it and if it is available everywhere, even in rural areas.

Mr. DONOVAN. We are pleased to have a distinguished panel before us today on this important topic. Admiral Ronald Hewitt served as the director of the Department of Homeland Security's Office of Emergency Communications, a position which he has held since November 2012. Prior to joining OEC, Admiral Hewitt served as the United States Coast Guard's assistant commandant for human resources and the assistant commandant for command, control, communications, computers, and information technology, which is the Coast Guard's chief information officer. Having a great Coast Guard presence on Staten Island, Admiral, we love our Coasties. Thank you.

Mr. Ed Parkinson serves as the director of government affairs for the First Responder Network Authority FirstNet, and is responsible for intergovernmental relations with local, State, and Federal organizations. Prior to joining FirstNet, Mr. Parkinson served for 5 years as a professional staff member for the House Homeland Security Committee, with his primary area of responsibility in the field of first responder communications. Ed, welcome back.

Mr. Mark Goldstein serves as a director of physical infrastructure issues at the Government Accountability Office, where he is responsible for GAO's work in the areas of Government property and telecommunications. Prior to joining GAO, Mr. Goldstein held positions with the District of Columbia Financial Control Board, the Internal Revenue Service, and the Senate Committee on Homeland Security and Governmental Affairs. Welcome, Mr. Goldstein.

The witnesses' full written statements will appear in the record, and now the Chair recognizes Admiral Hewitt for 5 minutes.

STATEMENT OF REAR ADMIRAL RONALD HEWITT (USCG, RET.), DIRECTOR, OFFICE OF EMERGENCY COMMUNICATIONS, U.S. DEPARTMENT OF HOMELAND SECURITY

Admiral HEWITT. Thank you, Chairman Donovan, Ranking Member Payne, and distinguished Members of the subcommittee. It is a pleasure for me to be here today to provide you an overview of what the Office of Emergency Communications has done since our creation 10 years ago and, more specifically, within the last 3 years since our previous hearing to improve emergency communications interoperability Nation-wide.

Public safety communications is going through unprecedented change with the deployment of FirstNet's Nation-wide public safety broadband network, next generation 9–1–1, cellular alert and warning systems. To ensure all these systems work seamlessly together, we promulgated the 2014 National Emergency Communications Plan, which is the roadmap to ensuring interoperability.

The plan was developed by SAFECOM, a group comprised of public safety leaders, representing the Nation's first responder community, and Government leaders who support public safety. To implement the goals and objectives of the 2014 plan, we assist States and territories with developing and implementing their State-wide communications interoperability plans, which are aligned to the National plan. It is essential that State and territory plans cover all public safety communications systems to ensure information seamlessly flows between them.

But there have been obstacles in doing so. The majority of the State-wide interoperability coordinators, which we refer to as SWICs, are responsible for just land mobile radio, and it has been difficult for them to develop governance structures that include State officials who are responsible for the other public safety communication systems. Additionally, we are seeing many SWICs being assigned multiple roles.

To address these issues, we partnered with the National Governors Association, NGA, to conduct a policy academy last year on improving emergency communications' interoperability in five States. Recommendations from the policy academy included: Empower SWIC to ensure close coordination with FirstNet point of contact and 9–1–1 administrator; reinvigorate an active governance body; revitalize the State-wide communications interoperability plan; and engage State legislators to promote understanding and support of the plan.

We will continue to work with NGA to help address the policy academy recommendations. We are also working with SAFECOM to upgrade the communications unit within the incident command

system, which is the common way all responders organize and operate during an event or disaster.

Currently communications unit is responsible for radio interoperability. But we are updating it to include cellular, which will support FirstNet capabilities. To date, we have trained over 7,000 communications leaders across the country. Once we update the program to include broadband systems, we will provide refresher training that includes the new material.

Broadband not only provides new capabilities, such as text, data, and pictures, but also new risks, such as cybersecurity. The communications unit of the future will mitigate these risks while achieving the benefits of multimedia information to assist public safety with saving lives and preserving property.

Today's citizens cannot send a picture to their 9–1–1 center of their lost child or loved one, nor can it be sent out to public safety or citizens to help search for that person, but with OEC's efforts to drive interoperability across to all public safety communication systems, which include land mobile radio, next generation 9–1–1, FirstNet's Nation-wide public safety broadband network, and next generation alert and warning systems, this capability will be available to citizens across the Nation as these systems are deployed.

This is just one of many examples that illustrate the value of interoperable multimedia communications for public safety and citizens. By achieving the goals and objectives of the National emergency communications plan, these life-saving benefits will become a reality.

This subcommittee and committee have been excellent partners in this effort, and I look forward to continuing the conversation with you about how best to carry out our National effort. Once again, thank you, Chairman Donovan, Ranking Member Payne, and distinguished Members of this committee for allowing me to testify here today.

[The prepared statement of Admiral Hewitt follows:]–

PREPARED STATEMENT OF REAR ADMIRAL RONALD HEWITT, USCG (RET.)

OCTOBER 12, 2017

Thank you, Chairman Donovan, Ranking Member Payne, and esteemed Members of the subcommittee. It is a pleasure to be here once again to discuss the Department of Homeland Security's (DHS) efforts in enhancing the Nation's interoperable emergency communications. Before my last appearance in front of this subcommittee, the Department had just released the 2014 National Emergency Communications Plan, which identified the unprecedented change public safety communications will be going through with the deployment of the First Responder Network Authority (FirstNet) Nation-wide Public Safety Broadband Network (NPSBN), Next Generation 9–1–1 (NG9–1–1), and cellular alerts and warnings systems. The Office of Emergency Communications (OEC) is working with public safety to implement the goals and objectives in the 2014 Plan to ensure these disparate systems work together seamlessly.

Since our formation a decade ago, OEC has partnered with public safety to develop standards and best practices to achieve interoperable communications. In 2008, Land Mobile Radio (LMR) was the main system used by public safety. But soon, just as the average citizen relies on cellular broadband, public safety officials will be able to receive multimedia data with FirstNet capabilities. As a result, OEC has expanded our programs to achieve interoperability in a Land Mobile Radio and cellular broadband environment. OEC continues to strategize how best to ensure that plans and investments keep pace with this ever-changing telecommunications environment. Recent events have shown that the Nation must continue to improve these capabilities, making sure that first responders are ready to get the informa-

tion that they need to help citizens during a disaster. With citizen-to-citizen communications drastically changing from voice only to texting and other multimedia means, these communications capabilities will revolutionize how citizens engage with public safety and how first responders communicate with one another. However, as I said when I was last before you, emergency communications is largely a people issue. Technology will continue to evolve over time and so our job is to support the effective use of this technology through governance, standard operating procedures, and joint exercises and training. This is the critical work that will ensure interoperability when it is needed most—at the next incident or event.

UPDATE ON THE OFFICE OF EMERGENCY COMMUNICATIONS

OEC was established in 2007 as part of the Congressional response to the communications challenges experienced during Hurricane Katrina in 2005 and, before that, the terrorist attacks of September 11, 2001. Our mandate directs OEC to carry out a range of activities to support policy officials and first responders at all levels of government—Federal, State, local, territorial, and Tribal—as they work to achieve, maintain, and enhance operable and interoperable emergency communications capabilities.

Working at the National Level

OEC is the primary driver of strategic planning and coordination to improve emergency communications interoperability Nation-wide. Through a stakeholder-driven process, OEC authors the National Emergency Communications Plan (NECP), which provides strategic guidance for the public safety community and Federal agencies to improve emergency communications capabilities. Since the release of the 2014 Plan, OEC has partnered with public safety officials across the Nation, and at all levels of government, to increase capabilities and address communications interoperability gaps. We put people at the center of all of our work because interoperability can only be achieved when those responsible for emergency and incident communications engage in proper planning, governance, training, and usage initiatives.

OEC is the executive agent of SAFECOM, a public safety advisory board which aims to improve multi-jurisdictional and intergovernmental communications interoperability. The group works with DHS and key emergency response stakeholders across all levels of government and all public safety disciplines to address the need to improve existing communications systems and coordination while developing future tools. SAFECOM is comprised of representatives from associations, such as the International Chiefs of Police, the International Association of Fire Chiefs, the National Association of State 9–1–1 Administrators, the International Association of Emergency Managers, the National Association of State Chief Information Officers, and the Major County Sheriffs' Association, to name a few. SAFECOM develops numerous best practices and guidance documents every year to support its members' goals and provides input into OEC's programs, products, and services.

OEC also manages the Communications Unit (COMU) program, which outlines the functions, positions, training, and certification required to support interoperable incident communications. The current COMU program only addresses LMR interoperability. In 2017, and continuing through 2018, SAFECOM, in partnership with the National Council of State-wide Interoperability Coordinators, created a working group to update the COMU program to include broadband and data into incident communications. The working group, comprised of communications experts from across the Nation, is identifying the COMU functions required to support data and broadband use, developing COMU positions required to address those functions, creating training curriculum for the new positions, and supporting States and territories in establishing COMU certification programs.

OEC continues to support State and local public safety in their planning efforts, working with SAFECOM to develop two documents related to governance planning and implementation. The first is the *SAFECOM Guidance on Emergency Communications Grants*. This annual document provides recommendations to grantees seeking funding for interoperable emergency communications projects, including allowable costs, items to consider when funding projects, grants management best practices, and information on standards that ensure greater interoperability.

The second document developed with SAFECOM is the *Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials,* released in 2015. This tool lays out governance challenges, best practices, and recommendations on how to establish and maintain effective State-wide Interoperability Governing Bodies (SIGBs) that represent all emergency communications capabilities. This Nationally-developed resource includes a range of broad approaches, allowing

officials to select and apply recommendations at the State, local, Tribal, or territorial level that are most appropriate for their specific situation or challenge.

Additionally, OEC is leading the development of the Next Generation Network Priority Services, which will enable National Security and Emergency Preparedness (NS/EP) users to have priority voice, data, and video communications in commercial networks.

Working at the State and Territorial Level

Many have heard me talk about the importance of governance, and we continue to see this as an area that we all must pay particular attention to as we move into the future of emergency communications. Anyone that has worked in public safety will tell you that having the greatest technology available cannot, on its own, provide interoperable emergency communications. People and processes must be a major consideration to fully achieve interoperability. OEC has recognized a steady decrease in full-time State-wide Interoperability Coordinators (SWICs)—from years ago, when many States and territories had a full-time SWIC; to now, where there are just 12. We have also seen a decline in the activeness of SIGBs, which serve as the primary steering groups for State-wide interoperability. Many SIGBs are meeting less frequently or, in some cases, have disbanded all together making interoperability more difficult to achieve. We have heard from many of our partners that this is due to a lack of funding available to emergency communications. This is something that we all must pay more attention to and work together to find ways to help States increase their emergency communications governance capabilities. To address these gaps, OEC works with all 56 States and territories to establish and improve their SIGB, support their SWIC, and update their State-wide Communication Interoperability Plan (SCIP) through direct technical assistance.

Additionally, in 2016, OEC partnered with the National Governors Association (NGA) Center for Best Practices to launch a policy academy to identify challenges and potential solutions toward further enhancing governance structures, planning for new technologies and securing sustainable funding. Five States participated in the policy academy—Alaska, Hawaii, Illinois, Utah, and West Virginia. Findings from the NGA Policy Academy are critical to our efforts to help States look at their emergency communications systems together to pass information seamlessly. Right now, funding and staffing for a new system is sometimes done without considering the systems related to the proposed new tool. States must approach these systems' funding and staffing in an integrated way to better allocate resources.

One result that has come out of this project is OEC's development of the Enhanced SCIP Pilot, which launched earlier this year. The new plans that are being developed during this project will provide a more intensive review of governance, technology, and funding sustainment. OEC is currently working with nine States to deliver the Enhanced SCIP Pilot and will evaluate the results to inform strategic planning support in fiscal year 2018.

Working at the Local Level

In addition to engaging our partners through stakeholder groups, we also work directly with public safety officials to further the Nation's interoperable emergency communications. Through technical assistance offerings, provided at no cost, we assist public safety with the planning, governance, operational, and technical aspects of developing and implementing interoperable communications initiatives. To date, OEC has provided more than 1,500 technical assistance visits. In response to changing technology and stakeholder feedback, OEC has expanded technical assistance offerings to cover broadband and cybersecurity initiatives.

OEC also works with public safety to identify capability gaps at the local level. One such example is the Interoperable Communications Capabilities Analysis Program (ICCAP). ICCAP is designed to help State, local, and Federal agencies enhance their overall capacity to communicate with one another, using both voice and data, focusing on interoperability across the public safety communications ecosystem and preparing for the unexpected emergency or incident during a planned event. OEC has conducted 16 ICCAP events over the past year. For each event, OEC has developed After-Action Reports for the organizing agencies to understand strengths and areas of improvement. OEC is currently analyzing the capability data across all observations to identify the changes in incident communications which will inform future technical assistance offerings and products.

Also at the local level, OEC provides priority telecommunications and restoration services to ensure that the NS/EP community can communicate under all circumstances. The priority services portfolio includes Government Emergency Telecommunications Service (GETS) to connect calls during landline congestion, Wireless Priority Service (WPS) to connect calls during wireless network congestion, and

Telecommunications Service Priority (TSP) providing priority treatment for vital voice and data circuits or other telecommunications services.

Working at the Federal Level

On the Federal side, OEC manages the Emergency Communications Preparedness Center (ECPC), a group of 14 Federal agencies with a significant role in emergency communications. Its members represent the Federal Government's broad role in emergency communications, including regulation, policy, operations, grants, and technical assistance. Together, SAFECOM and the ECPC coordinate activities, such as grant funding guidance, 9–1–1 initiatives, and emergency communications strategic planning. The ECPC Grant Focus Group Chair is a FirstNet staff member, ensuring that the annual grant guidance supports efforts to integrate LMR and broadband.

We are seeing remarkable coordination between Federal and State public safety as they begin to allow each other to operate on existing communications systems. OEC currently supports efforts to develop Memorandums of Understanding between the Federal Government and States to allow non-Federal agencies to access the Federal Enforcement and Incident Response Interoperability Channels. We are also supporting similar coordination where Federal agencies are granted access to State-wide systems. This cooperation leads to improved coordination between Federal and State officials and an enhanced ability to manage incidents.

OEC Coordinators

OEC employs subject-matter experts located across the country to engage State, local, Tribal, and territorial officials as they address the complex issues facing the emergency communications ecosystem. These OEC Coordinators have extensive experience in public safety, many previously serving as first responders. Leveraging their real-world experiences, they are able to build trusted relationships, enhance collaboration, stimulate comprehensive planning, and encourage the sharing of best practices and information between public safety organizations, appointed and elected officials, critical infrastructure owners and operators, and key non-government organizations. Coordinators provide event support and coordination, conduct training and technical assistance, coordinate and participate in capability assessments, advise on and support State-wide governance activities, and provide a link to additional Federal resources.

OEC Response to Hurricanes Harvey, Irma, & Maria

When I last appeared before this subcommittee, I explained about OEC's assistance to Boston to assess and improve its emergency communications capabilities and how that enabled the city's response when two improvised explosive devices detonated near the Boston Marathon's finish line in 2013. Recent events have shown the continued importance of emergency communications to support public safety as they prepare for and respond to a major event. During Hurricanes Harvey and Irma, we saw wireless communications degraded in the affected areas due to damaged infrastructure. While few public safety answering points (PSAP) went down, some had to be rerouted for various reasons. OEC supported public safety at all levels as they responded to these storms, providing on-the-ground support, as well as assistance from the National Capital Region. During an event, the National Coordinating Center for Communications (NCC), part of the National Cybersecurity and Communications Integration Center, leads emergency communications response and recovery efforts under Emergency Support Function No. 2 of the National Response Framework. As part of DHS's response to Hurricanes Harvey, Irma, and Maria, 14 members of the OEC team supplemented the efforts of the NCC, providing emergency communications assistance, including emergency operations center staffing, priority communications support, and regional communications knowledge at the Federal, State, and local levels.

The extensive damage from Hurricane Maria shows the importance of rapid restoration of communications to enable information collection, dissemination, and coordination in response to the incident. The rebuilding of the communications infrastructure is taking a coordinated effort between the Government and commercial carriers.

OEC's Priority Services programs remained fully functional throughout the storms where communications infrastructure was still working. GETS and WPS provide essential personnel priority access and prioritized processing, greatly increasing the probability of call completion. GETS focuses on the local and long distance segments of the landline networks, while WPS targets all Nation-wide cellular networks. OEC also manages TSP, which provides service vendors a Federal Communications Commission (FCC) mandate to prioritize requests by identifying those services critical to National security and emergency preparedness. A TSP assignment ensures that

it will receive priority attention by the service vendor before any non-TSP service. These services processed thousands of calls from first responders and Government officials as they worked to respond to the aftermath of the recent storms.

SUPPORTING INTEROPERABLE EMERGENCY COMMUNICATIONS INTO THE FUTURE

Not long ago, the emergency communications ecosystem consisted of a citizen calling a PSAP for help, a call operator radioing the information to fire or police, and public safety officials and responders speaking to each other on LMR. However, new technologies are drastically changing the emergency communications ecosystem, not only transforming how citizens talk to each other, but also how public safety works together and engages with citizens. We cannot ignore the transition to these new communications technologies and the advantages they bring. However, we must ensure we continue to support our partners through training, technical assistance, and best practices as long as LMR remains a communications tool for public safety.

Integrating LMR and Broadband Communications

Although LMR remains essential in emergency communications, the benefits and opportunities broadband offers to public safety are undeniable. Citizens will be able to send a picture of a suspicious package or videos of an event as it is happening to PSAPs that can then share those files with first responders. This capability provides critical information in determining how to respond and what resources will be needed. It is hard to speak of these advancements without also mentioning the progress toward implementing the newest tool in the emergency communications toolbox—the NPSBN. FirstNet, an independent authority within the Department of Commerce's National Telecommunications and Information Administration, recently awarded its contract to build the broadband network and we at the DHS Office of Emergency Communications applaud them in doing so. Until broadband can support mission-critical voice to public safety, LMR will continue to be the primary method of communication for the near future. However, this is clearly a major step toward full implementation of a capability that will greatly improve interoperable communications across the country.

From the early days of envisioning this new network, OEC has supported both the FirstNet team and State and local public safety as they prepare for full implementation of the system. OEC provided support in developing the FirstNet Request for Proposal, as well as assistance with identity, credentialing, and access management responsibilities. The ECPC was designated by FirstNet to coordinate the needs for Federal users of the network, collecting network requirements and security standards from all departments and agencies. In response to feedback from our State and local partners, we have recently added technical assistance offerings specifically focused on assisting with preparation and planning for deployment of broadband, including FirstNet. These offerings focus on broadband education, governance, planning, engineering, and data collection. OEC also worked with FirstNet to develop *Roadmap to 2020*, which outlines key considerations and resources impacting the emergency communications grants community and enables coordination across Federal agencies to understand how grant programs can support the deployment of broadband systems. In September, I assumed the DHS FirstNet board member duties and look forward to continuing to support the implementation of the NPSBN in this new capacity.

Cybersecurity

As communications move toward broadband networks like FirstNet, there are new issues and risks that must be considered—not least of them, cybersecurity. Many of the concerns that the Full Committee has studied in hearings and briefings related to cybersecurity are the same issues that must be considered during this transition. Emergency communications networks are only as secure as its weakest connection; vulnerabilities at any point have the potential to affect the entire network. In addition to our technical assistance offerings related to cybersecurity, OEC assists our stakeholders through various programs and activities. Through the Cyber and Physical Threat and Risk Analysis to Improve Networks (CAPTAIN) program, DHS collaborates with public and private emergency communications stakeholders to increase understanding and awareness about critical cyber and physical risks that could threaten the mission of first responders and public safety agencies. And last year, OEC, in coordination with the Department of Transportation's 9–1–1 Office, developed the NG9–1–1 Cybersecurity Primer, which helps PSAP operators improve the cybersecurity posture of relevant systems Nation-wide and provides an overview of the cyber risks that will be faced by NG9–1–1 systems. The Primer serves as an informational tool for system administrators to better understand the full scope and range of potential risks, as well as recommend mitigations to these

risks. Finally, OEC supported the FCC's Task Force on Optimal Public Safety Answering Point Architecture, a comprehensive study of the future of PSAPs, the integration of NG9–1–1, the cybersecurity risks and proposed solutions to address the risks.

Grants

The Department has provided multiple grants to public safety to enhance their emergency communications capabilities. Starting in fiscal year 2007, the Department provided two emergency communications-related grants to States and territories, the first of which was the Public Safety Interoperable Communications (PSIC) Grant Program. PSIC was a one-time grant program of the Department of Commerce's National Telecommunications and Information Administration (NTIA), which provided a total of $1 billion, with each State and territory receiving funds to support the development of State-wide, regional, and local systems. FEMA administered the grant program on behalf of NTIA. About 90 percent of the funds were spent on equipment. Also, from fiscal year 2008—fiscal year 2010, FEMA and OEC partnered to administer the Interoperable Emergency Communications Grant Program (IECGP). Over these 3 years, IECGP provided more than $145 million to public safety to improve their governance, planning, training, exercise, and equipment. This included updating a State's SCIP and funding their SWIC and SIGB. These programs helped States lay a great foundation for their emergency communication capabilities. Emergency communication equipment costs are allowable expenses under FEMA's Homeland Security Grant Program.

The OEC-administered Border Interoperability Demonstration Project (BIDP) just recently released its closeout report. BIDP was a $25.5 million one-time, competitive program to provide funding and technical assistance to U.S. communities along the Canadian and Mexican borders. OEC recently published its closeout report and is in the process of developing tools, templates, and studies based off of the best practices, lessons learned, and processes successfully demonstrated by BIDP award recipients. Additionally, last year, OEC established the Rural Emergency Medical Communications Demonstration Project (REMCDP), a one-time $2 million project to work with a public and State-controlled institution of higher education to examine communications barriers and identify solutions that enhance existing emergency communications infrastructure. Through a competitive process, OEC awarded the funds to the University of Mississippi Medical Center to support the First Hands Project, which will test an innovative approach to communications governance, planning, coordination, training, and exercises. We are in the middle of the period of performance and are already seeing significant accomplishments in meeting the program's objectives. We look forward to briefing you on what we learn at the end of the REMCDP.

SAFECOM Nation-wide Survey

The SAFECOM Nation-wide Survey (SNS) will be a Nation-wide data collection effort to obtain actionable and critical data that drives our Nation's emergency communication policies, programs, and funding. OEC and SAFECOM will distribute the survey to Federal, State, local, territorial, and Tribal emergency response provider organizations with: (a) A public safety-related mission and (b) Users of public safety communications technology. Questions will be organized by the five critical success elements of the SAFECOM Interoperability Continuum—Governance, Standard Operating Procedures, Technology, Training & Exercises, and Usage—with the addition of a security element, which will touch on cybersecurity. Results of the survey will help Government officials and emergency responders better understand emergency communications needs so that they can make data-driven funding, policy, and programmatic decisions to strengthen capabilities. We look forward to receiving and analyzing SNS survey results, which will be published in the upcoming Nation-wide Communications Baseline Assessment.

The Next National Emergency Communication Plan

OEC is in the early planning phase for the next update of the National Emergency Communications Plan. Later this year, we will begin working with our public safety partners to solicit their critical feedback and participation in Plan development. The most important inputs to this document, as was true with the 2014 NECP, will be from the public safety practitioners in the field who are charged with protecting and saving lives. The next NECP will further expand on the communications ecosystem concept developed in 2014 and will be informed by more current efforts including the previously-mentioned NGA Policy Academy, the ICCAP analysis, and results from the SNS.

CONCLUSION

Thank you, Chairman Donovan, Ranking Member Payne, and the Members of this subcommittee. Ten years ago, Congress set up the Office of Emergency Communications to support our stakeholders as they coordinate activities and share information to improve their interoperable emergency communications capabilities. We have seen tremendous changes since then, and, as emergency communications evolves, we stand ready to continue our strong coordination efforts with public safety ensuring they are well prepared for the future, leveraging the various tools available—NG9–1–1, broadband, and LMR. I look forward to our discussion this morning, and I am pleased to answer any questions that you may have.

Mr. DONOVAN. Thank you, Admiral, and thank you for your service to our Nation.

The Chair now recognizes Mr. Parkinson for 5 minutes.

STATEMENT OF EDWARD PARKINSON, DIRECTOR, GOVERNMENT AFFAIRS, FIRST RESPONDER NETWORK AUTHORITY

Mr. PARKINSON. Thank you, Mr. Chairman.

Mr. Donovan, Ranking Member Payne, Mr. Langevin, it is a pleasure to be here, and thank you for inviting me to testify before the committee today. My name is Edward Parkinson. I am the director of government affairs for FirstNet. As you referenced, in my previous life I was sitting behind the esteemed Members. So it is a bit different for me to be sitting on this side of the dais here today, but I am looking forward to the hearing.

FirstNet last testified before this subcommittee in November 2014, and we have made an enormous amount of progress since then. Over the past 3 years, FirstNet has developed a clear path forward to the successful deployment of the National Public Safety Broadband Network: Having consulted with all 56 States and territories and the District of Columbia, met with many Tribal nations, successfully completed an open, transparent, and competitive procurement, selected a public-private partner in the shape of AT&T, delivered State plans, and began the opt-in process.

While an enormous amount of work has gone into the past few years, we have much to yet accomplish. So the men and women at FirstNet remain dedicated to delivering the network for our Nation's first responders as quickly as possible.

As the recent storms have brought devastation to Texas, Florida, and Puerto Rico, and the inconceivable tragedy that took place in Las Vegas, all show us communication is now considered by all of us, and not just public safety, as much as a necessity as power or other utilities. What was known prior to 9/11 and what is abundantly clear today is that we need to get the best possible tools into the hands of the men and women who protect us and keep us safe.

The FirstNet network must be able to withstand natural and man-made disasters, so that when a law enforcement officer is running into harm's way or when a firefighter is running into a fire, they can trust the technology that we have put in their hands.

One of the reasons why our procurement process was so thorough was that because we were not only looking for the best deal from a fiscal point of view, but we were looking for that partner who understood the extremely high bar that we were setting and who was willing to step up for public safety. AT&T was that partner.

We are very encouraged by the early work that we have achieved in these first stages of the partnership with AT&T, and given the

length of the contract and the commitment that they are making toward serving public safety, I can confidently say that this is a partnership with an aligned goal—providing the best service possible to public safety.

I would also like to acknowledge our partners in the States. Both our past consultation and our on-going outreach efforts that we are planning in the future are indications of our commitment to deepening our partnership so that we can continue to interact with local public safety users who will ultimately be the end-users of the network.

FirstNet will allow for public safety to take advantage of the evolving nature of communications. First responder communication needs are more technical and critical day-by-day as we move further into our highly connected internet-of-things world.

That is why FirstNet and AT&T will continue to evolve the network hand-in-hand with public safety and with our partners in the States to ensure that it meets their needs today, tomorrow, and for the next 25 years.

While there has been much success, we still have work to do. As Mr. Goldstein will reference in his testimony, there are areas where FirstNet has already improved, but areas where we still have to strive for more, to do a better job. So FirstNet is dedicated to continuing to reach the highest levels of excellence in every area.

Tribal consultation is also a key part of our planning. As part of FirstNet's commitment to engaging with the 567 Federally-recognized Tribes, FirstNet has adopted a Tribal consultation policy to ensure that Tribal emergency responders are able to access the benefits of this Nation-wide system once we have opt-in from the Governors.

Ultimately, the most important action that FirstNet must take is to continue to work every day with the first responders and always listen to public safety. After all, this is their network.

We are dedicated to delivering what Congress has challenged us to achieve, the delivery of a Nation-wide public safety broadband network, something that has never been done before, specific to public safety. It is fair to say that the hard things are hard, but we are up for the challenge, and so that I ask all you here today that going forward to judge us by our record.

So far, I can speak for all of us at FirstNet when I say we are proud of what we have achieved, but we also know that we have much to go. Thank you again for your support, and I look forward to answering any questions you might have.

[The prepared statement of Mr. Parkinson follows:]

PREPARED STATEMENT OF EDWARD PARKINSON

OCTOBER 12, 2017

INTRODUCTION

Chairman Donovan, Ranking Member Payne, and all Members of the subcommittee, I would like to thank you for the opportunity to appear here today to provide an update on the progress we are making at FirstNet toward the deployment of an interoperable, Nation-wide public safety broadband network (NPSBN or Network).

PROGRESS TOWARD A NETWORK

FirstNet intends to provide a cutting-edge wireless broadband communications system, with priority and pre-emption, to millions of first responders at the local, State, Tribal, and Federal levels across all States, territories, and the District of Columbia, consistent with the vision laid out in the Middle Class Tax Relief and Job Creation Act of 2012 (Pub. L. 112–96) (Act). By enabling the Network's deployment, FirstNet will provide a dedicated, ubiquitous solution that helps solve public safety's decades-long interoperability and communications challenges, which includes advanced communications services, devices, and applications to help first responders and other public safety personnel make communities safer.

FirstNet's goal of deploying the network, and thereby meeting the needs of first responders, is a matter of critical importance for public safety, and today we are closer than ever before to accomplishing this goal. Since its inception, FirstNet has taken the necessary steps to build an organization, execute a vigorous consultation and outreach strategy, develop and release a comprehensive request for proposals (RFP), select an experienced and proven wireless industry leader for a first-of-its-kind public-private partnership, and lay the groundwork for a successful deployment of the NPSBN. Much has been accomplished.

However, as it is with any unprecedented undertaking, every step forward presents new challenges and requires identification of innovative solutions. The past 3 years have involved hundreds of thousands of working hours to solve the various challenges FirstNet has faced. I am proud to say that today we have an organization of people who have approached these challenges head on and advanced the mission with a clear and unwavering dedication to public safety. The organization is dedicated to fulfilling FirstNet's responsibilities to the public safety community; creating a culture of hard work, openness, and transparency; developing a successful public-private partnership; and continuing to educate, inform, and obtain input from FirstNet's partners in the States and public safety stakeholders.

THE SELECTION OF AT&T

At a signing ceremony on March 30, 2017, Secretary of Commerce Wilbur Ross announced FirstNet's award of the Nation-wide NPSBN contract to AT&T. The attendees included AT&T CEO Randall Stephenson, Federal Communications Commission (FCC) Chairman Ajit Pai, Members of Congress and staff, FirstNet Board members, FirstNet leadership, and, most importantly, public safety representatives.

Prior to the ceremony, the FirstNet Board voted unanimously to authorize the award. With the Board's authorization, FirstNet and the Department of the Interior, which assisted FirstNet with the Network procurement, made the 25-year award to AT&T based on the determination that AT&T's proposal presented the overall best value solution for FirstNet and public safety.[1]

THE BENEFITS OF A PUBLIC-PRIVATE PARTNERSHIP

Before listing the details of the solution FirstNet and AT&T are delivering to public safety, it is important to understand the benefits of the public-private partnership. By leveraging private-sector resources, infrastructure, and cost-saving synergies to deploy, operate, and maintain the Network, as directed by the Act, the NPSBN can be deployed quickly, efficiently, and far more cost-effectively than any other model.

Congress foresaw the benefits such a partnership could offer and gave FirstNet the tools necessary to engage the private sector, thereby allowing the private sector to do what it does best—i.e., leverage the market to determine the best deal at the best price, while ensuring that a dedicated, interoperable Network is built to public safety's requirements. The fact remains that neither party—FirstNet nor AT&T—on its own could build a network like the FirstNet Network. It would be too expensive and too burdensome. A public-private partnership ultimately will provide a Network that benefits public safety in a manner that would have been impracticable to achieve if left solely to the private sector or Federal Government.

FirstNet is confident that the Network will also provide many specialized features. In addition to priority, preemption, and robust rural coverage, public safety will have access to FirstNet-dedicated deployable equipment for use during disasters and pre-planned events, as well as in-building solutions—because FirstNet recognizes that first responders' communications do not stop at the curb.

[1] We were able to move forward with an award to AT&T after a March 17, 2017, decision by the U.S. Court of Federal Claims to deny a protest filed by one of the unsuccessful bidders.

The solution also includes a customer service center dedicated specifically to public safety—available 24/7, 365 days a year; a dedicated FirstNet core with built-in redundancy to provide end-to-end cybersecurity; and an entire eco-system of devices, apps, and tools for public safety, including a FirstNet app store. Each of these features will be a first for public safety as they are not currently available on any network today.

HOW THE NETWORK WILL HELP PUBLIC SAFETY

The ability to communicate seamlessly across jurisdictions is critical for law enforcement, fire, and emergency medical services (EMS) when securing large events or responding to emergencies and disasters. In those instances, networks can become overloaded and inaccessible, limiting responders' use of vital communication technologies, such as smartphones and applications dedicated to public safety services.

By providing unfettered, uninterrupted access to wireless spectrum, the NPSBN will help improve response times and situational awareness for public safety from coast-to-coast, every State, territory, and across Tribal and Federal land, in both rural and urban areas, leading to safer and more secure communities, and first responder safety.

The market certainty the Network will provide through a long-term commitment, scale, and capacity will enable private-sector investment and innovation for advanced life-saving technologies, tools, and services, such as:

- Applications that allow first responders to reliably share videos, text messages, photos, and other information during incidents in near-real time;
- Advanced capabilities, like camera-equipped connected drones and robots, to deliver images of wildfires, floods, or other events;
- Improved location services to help with mapping capabilities during rescue and recovery operations; and
- Wearables that could relay biometric data of a patient to the hospital or alert when a fire fighter is in distress.

Network technology will also be tested and validated through the FirstNet Innovation and Test Lab, located in Boulder, Colorado, to ensure first responders have the public safety grade, proven tools they need and can trust during disasters and emergencies.

STATE PLANS

On June 19, FirstNet and AT&T delivered initial State Plans to the States and territories for review and comment 3 months ahead of schedule.[2] This marked a major milestone in the deployment of FirstNet.

Since 2013, FirstNet has worked hand-in-hand with the States, territories, localities, Federal authorities, Tribes, and the public safety community to make sure the Network is specifically built for their needs. FirstNet's consultation efforts included more than 140,000 engagements with public safety stakeholders Nation-wide, and the collection of data from States and territories that accounted for more than 12,000 public safety agencies representing more than 2 million public safety personnel.

Developed with this input, the customized State Plans outline the coverage, features, and mission-critical capabilities FirstNet and AT&T will bring to first responders and other public safety personnel. States have had the opportunity to identify priorities and concerns related to Network coverage (including in rural areas) and services. Consistent with the Act, FirstNet has also encouraged State-designated single points of contact (SPOCs) to include Tribal stakeholders in FirstNet engagements and solicit feedback and collect data from the Tribes in their States to ensure those priorities and concerns were incorporated in the State Plans. Based on this feedback, FirstNet and AT&T determined how to evolve the solution, where possible, to address these requirements.

FirstNet and AT&T also have created a public website: FirstNet.com. This website provides information about the FirstNet solution, the unique value of the FirstNet Network to public safety, and how public safety entities may subscribe to FirstNet once a State or territory opts in. The site will host information on quality of service, priority and preemption; local control features; the applications store; devices and accessories for FirstNet; and coverage and rate plans.

[2] The initial State plans for three territories (Guam, Northern Mariana Islands, and American Samoa) were delayed. These plans have now been uploaded to their respective portals, and FirstNet will be scheduling webinars shortly with these territories to introduce stakeholders to the content.

OFFICIAL NOTICE

We are now in a critical decision making time for the FirstNet project. FirstNet released updated State Plans on September 19, 2017, based on the feedback received from States, territories, and public safety stakeholders. On September 29, 2017, FirstNet provided official notice to Governors, as required by the Act, which included notification of the completion of the request for proposal (RFP) process for the State, the delivery of the State Plan, and the funding level for the State as determined by the National Telecommunications and Information Administration (NTIA). The official notice initiated the 90-day clock that the Act provides for each State or territory Governor to make an "opt in/opt out" decision on its State Plan.[3] The deadline for Governors to make this decision is December 28, 2017.

FirstNet and AT&T will continue to actively engage with the States and territories to support their review of their respective State Plans and answer questions.

THE GOVERNORS' DECISION

The decision that a Governor faces is one that will have profound consequences on the ability of public safety in his or her State or territory to gain access to mission-critical broadband.

OPT IN

A Governor's decision to opt in will enable FirstNet and AT&T to begin the process of delivering services to that State or territory's public safety community. It is a decision that will also drive infrastructure investments and job creation.

If a State affirmatively opts in or takes no action on the State Plan within 90 days of receiving notice, which under the Act is also a decision to opt in, FirstNet will be able to start the process of deploying the RAN portion of the FirstNet Network in the State at no cost to the State. States do not have to wait the full 90 days to make an opt-in decision, and several States have already provided notice of their intention to opt in. The opt-in path is a low-risk option that will support faster delivery of services to the State's public safety community and help create an interoperable, highly secure, sustainable Network for public safety.

We anticipate a significant number of opt-in announcements over the weeks and months ahead now that the 90-day clock has started.

OPT OUT

If the State elects not to participate in the FirstNet RAN deployment, pursuant to the Act, it must provide notice to FirstNet, the FCC, and NTIA within 90 days after receiving official notice from FirstNet, and within 180 days of such notice to FirstNet, the State must develop and complete an RFP for the State RAN. Subsequently, it must submit an alternative plan to the FCC for the construction, maintenance, operation, and improvement of the RAN in the State within 60 days of RFP completion. The State RAN must be interoperable with the Network and comply with FirstNet's requirements and standards for the Network. Before the State's RAN deployment can begin, the FCC must approve the alternative plan, and, if approved, the State must then apply to the NTIA for the right to enter into a spectrum capacity lease with FirstNet, and ultimately agree to the terms of such a lease with FirstNet. As noted above, the State may also apply to NTIA for a State RAN construction grant under the State Alternative Plan Program.

Opt-out States will assume all technical, operational, and financial risks and responsibilities related to building, operating, maintaining, and improving their own RAN for the next 25 years. Given the statutorily-mandated processes, it is possible a State pursuing opt-out will be at least 2 years behind States that opt in.

It is important to note that if a State or territory wishes to opt out, FirstNet will do everything we can to make that opt-out process a success. Public safety cannot afford to have areas of no service throughout the country. We are encouraging States and territories to look at all the information in the State Plans to ensure that they fully understand the risks and requirements associated with opting out. We are confident that each State Plan will deliver the coverage, services, value, and experi-

[3] As noted above, FirstNet is still working with Guam, Northern Mariana Islands, and American Samoa on delivering their State plans, and thus, did not provide official notice to the Governors of these territories on September 29, 2017. The 90-day decision period has not yet begun for these territories. With respect to Puerto Rico, due to the unique circumstances related to Hurricane Maria and the difficulty related to basic services operating in the wake of the storm, FirstNet has been unable to confirm the receipt by the Governor of the official notice, and therefore, the 90-day decision period for Puerto Rico has also not yet begun.

ence States and territories expect for their first responders, bringing us closer to making the cutting-edge Network and technologies that public safety has been asking for a reality.

CONCLUSION

For more than 3 years, FirstNet has worked hand-in-hand with our partners in the States and territories to develop a Network that meets the needs and objectives of our Nation's first responders and other public safety personnel. After thousands of meetings and countless discussions with public safety, we feel confident about the overall Network solution and individual plans that we have proposed for each State and territory because they have been driven by and reflect public safety's input throughout the Nation.

FirstNet has made a lot of progress over the past year. We successfully completed a comprehensive Nation-wide RFP process, which included prevailing in a protest action; awarded a 25-year contract to AT&T—an innovative private-sector technology partner who has nearly 140 years of experience serving the public safety community; and worked effectively and efficiently with AT&T to deliver State Plans 3 months ahead of schedule and update those plans based on stakeholder input. We are now focused on preparing for the deployment of the Network in opt-in States and territories and the next crucial phase of the project—public safety user adoption.

While there has been much success, we still have work to do. As the GAO highlighted, there are areas for improvement, and FirstNet is dedicated to continuing to strive for excellence in every area.[4]

Through cooperation with the Department of Commerce, NTIA, the FCC, and other Federal partners, FirstNet has been able to achieve a great deal over the past year. Moving forward, we plan to continue to leverage these partnerships. Ultimately, the most important action that FirstNet must take is to continue to listen to public safety. We at FirstNet have been entrusted by public safety to deliver what they need in order to keep us safe. It is this belief that drives us at FirstNet and will ensure that we accomplish what public safety deserves—excellence in service, reliability, and performance.

Mr. DONOVAN. Thank you, Mr. Parkinson. The Chair now recognizes Mr. Goldstein for 5 minutes.

STATEMENT OF MARK L. GOLDSTEIN, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. GOLDSTEIN. Thank you, Chairman Donovan, Ranking Member Payne, and Members of the subcommittee. Thank you for the opportunity to discuss our June 2017 report on FirstNet.

We have previously reported and testified on FirstNet, most recently testifying in July 2017 on our latest report during the hearing held by the Senate Commerce Committee. My remarks today are based on our June 2017 report which examine FirstNet's effort to establish and finance the network, describe stakeholder views on network reliability, security, and interoperability challenges, and assess FirstNet's plan to oversee the deployment of the network by its network contractor.

In our report, we recommended the FirstNet fully explore Tribal stakeholder concerns and assess its long-term staffing needs. FirstNet agreed with these recommendations and in September 2017 reported to us on actions it has taken to implement them, which we are now in the process of reviewing.

Among our findings in the report are the following: First, that FirstNet has conducted key efforts to establish the network, namely releasing the request for proposal for the network and awarding

[4] U.S. Government Accountability Office, *Public Safety Broadband Network: FirstNet Has Made Progress Establishing the Network, but Should Address Stakeholder Concerns and Workforce Planning* (2017).

the network contract to AT&T. As a contractor, AT&T will be responsible for the overall design, development production, operation and evolution of the network.

Additionally, FirstNet consulted with State and local Federal and Tribal stakeholders. State officials GAO contacted were generally satisfied with FirstNet's effort to engage them. However, Tribal stakeholders GAO contacted expressed concern that FirstNet has not fully engaged in effective communication with Tribes, noting that individuals with first-hand knowledge of Tribes' experiences are not able to represent Tribal views directly. As a result of our report, FirstNet now intends to fully explore Tribal stakeholders' concerns, for example, by adopting an organization-wide Tribal consultation policy, as Mr. Parkinson referenced.

Second, according to stakeholders GAO contacted, FirstNet faces various challenges to ensure the network's reliability, its security, and interoperability. For example, stakeholders raised concerns related to providing coverage to rural areas in buildings or underground, ensuring the network's overall resiliency and cybersecurity, and managing frameworks for user identity, credentialing of users, and access management and prioritization of users on the network.

FirstNet has taken actions to address these challenges, such as by opening a test lab to test public safety devices and applications before deploying them on the network. The majority of stakeholders GAO contacted were satisfied with FirstNet's efforts, but many noted that much uncertainty remains about how the network will be implemented and about its overall viability.

For example, substantial unknowns remain regarding how many public safety users will adopt the network, the extent to which AT&T will be successful in monetizing the spectrum to retain revenue from the network's commercial users, and the extent to which this revenue will be sufficient or appropriate in relation to the capital needed to build, operate, and maintain the network.

Third, FirstNet established offices to oversee AT&T, develop policies and procedures to guide contract administration, including management and oversight, and is receiving assistance from another Federal agency with contract administration experience, although FirstNet plans to assume full responsibility in the future.

For example, FirstNet established the Network Program Office to oversee AT&T's performance and facilitate quality assurance of contract deliverables. Although this office will perform essential contract administration functions, we found FirstNet lacked reasonable assurance that it will have sufficient resources to handle increases in its responsibilities over time.

Planning for and assigning adequate resources, including people, and assessing resource needs is a key practice for planning and executing effective contract oversight. As a result of a report, FirstNet intends to perform a long-term staffing assessment for the Network Program Office so that it can be in a better position to respond to staffing changes and risks as it assumes full responsibility of contract administration. However, FirstNet's continued oversight of AT&T's performance will be important given the scope of the network and the 25-year duration of the contract.

Mr. Chairman, this concludes my oral statement. I would be happy to address any questions that your Members of the subcommittee may have. Thank you.

[The prepared statement of Mr. Goldstein follows:]

STATEMENT OF MARK L. GOLDSTEIN

OCTOBER 12, 2017

Chairman Donovan, Ranking Member Payne, and Members of the subcommittee: Thank you for the opportunity to discuss our June 2017 report on the First Responder Network Authority (FirstNet).[1] We have previously reported and testified on FirstNet, including most recently in a July 2017 hearing held by the Senate Committee on Commerce, Science, and Transportation's Subcommittee on Communications, Technology, Innovation, and the Internet.[2] Whether conducting daily operations, overseeing planned events, or responding to emergencies, public safety officials—especially first responders such as police officers and firefighters—rely on communications systems to gather and share information and coordinate their efforts. However, first responders often have difficulty communicating with their counterparts in other agencies and jurisdictions because existing systems lack interoperability.

The Middle Class Tax Relief and Job Creation Act of 2012 (the 2012 Act) created FirstNet and required it to establish a Nation-wide, interoperable public-safety broadband network (hereafter, the network)—setting aside spectrum for the network to operate on and providing FirstNet with $7 billion to fund the network's initial build-out.[3] FirstNet must be self-funding beyond this initial $7 billion. Key to the network's success, given its purpose, is its reliability, security, and interoperability. To inform its work, FirstNet must consult with State and local, Federal, and Tribal stakeholders.[4] Since 2012, FirstNet has completed a number of tasks to plan for the build-out of the network, the most significant of which was the issuance of a Request For Proposal to solicit proposals from private companies to build, operate, and maintain the network. From these proposals, FirstNet selected AT&T as its network contractor and awarded it a multi-billion dollar, 25-year contract. Due to the size of the project and duration of the contract, the oversight mechanisms that FirstNet plans to use to monitor AT&T's progress and performance in building, operating, and maintaining the network are important.

My remarks today are based on our June 2017 report and like the report, addresses: (1) FirstNet's efforts to establish and finance the network; (2) stakeholder views on network reliability, security, and interoperability challenges FirstNet faces and its research and other efforts to address them; and (3) FirstNet's plans to oversee the deployment of the network by its network contractor. In our report, we recommended that FirstNet fully explore Tribal stakeholders' concerns and assess its long-term staffing needs. FirstNet agreed with these recommendations and, in September 2017, reported to us on the actions it has taken to implement them.

For our report, we reviewed the 2012 Act, FirstNet documentation, and documentation from other Federal entities involved in FirstNet's efforts, such as FirstNet's key research partner, the Public Safety Communications Research (PSCR) program.[5] We compared FirstNet's efforts to respond to Tribal stakeholders' concerns with the applicable key principle of effective Tribal communication on Federal infrastructure decisions developed by several Federal agencies.[6] We assessed the PSCR's and FirstNet's research activities against our previously-identified cri-

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[1] GAO, *Public-Safety Broadband Network: FirstNet Has Made Progress Establishing the Network, but Should Address Stakeholder Concerns and Workforce Planning,* GAO–17–569 (Washington, DC: June 20, 2017).

[2] GAO, *FirstNet: Efforts to Establish the Public-Safety Broadband Network,* GAO–17–702T (Washington, DC: Jul. 20, 2017). See also GAO, *Public Safety Communications: Preliminary Information on FirstNet's Efforts to Establish a Nation-wide Broadband Network,* GAO–15–380T (Washington, DC: Mar. 11, 2015); GAO, *Public-Safety Broadband Network: FirstNet Should Strengthen Internal Controls and Evaluate Lessons Learned,* GAO–15–407 (Washington, DC: Apr. 28, 2015).

[3] Middle Class Tax Relief and Job Creation Act of 2012. Pub. L. No. 112–96, 126 Stat. 156 (2012). FirstNet is an independent authority within the Department of Commerce's (Commerce) National Telecommunications and Information Administration (NTIA).

[4] Pub. L. No. 112–96, § 6206(c)(2)(A), 126 Stat. at 213.

[5] The PSCR is a joint program between Commerce's National Institute of Standards and Technology and NTIA.

[6] U.S. Departments of the Interior, the Army, and Justice, *Improving Tribal Consultation and Tribal Involvement in Federal Infrastructure Decisions* (January 2017).

teria on key phases of sound research programs.[7] We assessed FirstNet's contract oversight plans against key acquisition and contract oversight practices and actions established in Federal acquisition regulations, the Department of Commerce's (Commerce) acquisition manual, prior GAO reports, and other academic and industry sources.[8] We also interviewed FirstNet and Commerce officials. To obtain stakeholder views on all our objectives—particularly the challenges FirstNet faces—we selected and contacted 33 stakeholders, including public safety, State and local government, and Tribal associations and organizations; the Department of Homeland Security, the Federal Communications Commission, and the National Institute of Standards and Technology (NIST) and the National Telecommunications and Information Administration; and State government and public safety officials. We selected these stakeholders to obtain a variety of viewpoints from a cross-section of interests and geographic locations; their views are not generalizable. Further details on our scope and methodology are included in our report. The work on which this statement is based was conducted in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

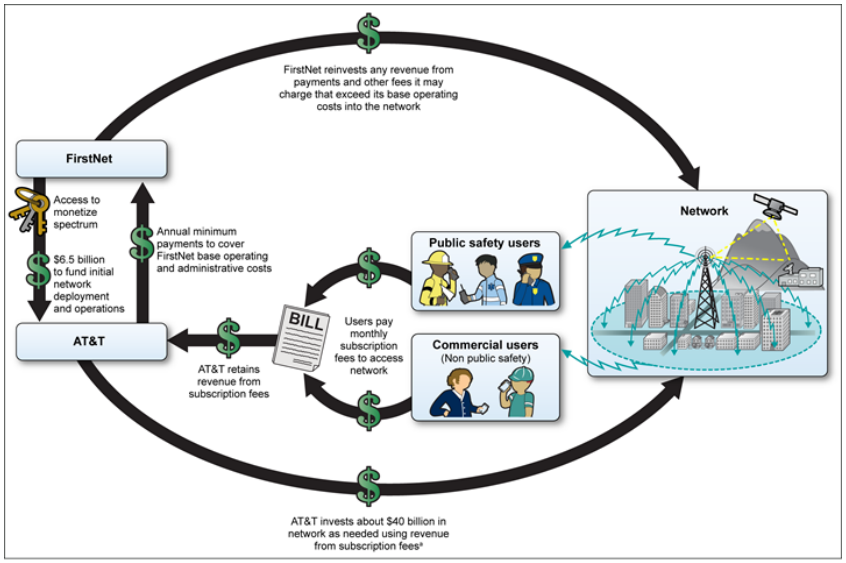
FIRSTNET'S PROGRESS ESTABLISHING AND FINANCING THE NETWORK AND CONSULTING STAKEHOLDERS

In our June 2017 report, we found that FirstNet has conducted key efforts to establish the network, namely releasing the request for proposal for the network in January 2016 and awarding the network contract to AT&T in March 2017. As the contractor, AT&T will be responsible for the overall design, development, production, operation, and evolution of the network, as well as the marketing, product management, sales, distribution, and customer care. Further, we found that FirstNet has established a framework to meet the financial requirements established in the 2012 Act, as depicted in figure 1. This framework focuses on leveraging FirstNet's spectrum through the use of payments and fees with the aim of ensuring that the network is financially sustainable over the life of the contract and that FirstNet sustains self-funding operations.

[7] GAO, *Employment and Training Administration: More Actions Needed to Improve Transparency and Accountability of Its Research Programs,* GAO–11–285 (Washington, DC: Mar. 15, 2011).

[8] Commerce, *Selecting Contract Types, Commerce Acquisition Manual,* 1316.1, 6.3 (March 2016); GAO, *Joint Information Environment: DOD Needs to Strengthen Governance and Management,* GAO–16–593 (Washington, DC: July 14, 2016); GAO, *National Science Foundation: Steps Taken to Improve Contracting Practices, but Opportunities Exist to Do More,* GAO–13–292 (Washington, DC: Mar. 28, 2013); GAO, *Information Technology Investment Management, A Framework for Assessing and Improving Process Maturity,* GAO–04–394G (Washington, DC: Mar. 1, 2004); Software Engineering Institute/Carnegie Mellon, *Capability Maturity Model® Integration (CMMI®) for Acquisition,* Version 1.3, CMU/SEI–2010–TR–032 (Pittsburgh, PA: November 2010); Project Management Institute, Inc., *The Standard for Program Management—Third Edition* (Newtown Square, PA: 2013); Project Management Institute, Inc., *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fifth Edition* (Newtown Square, PA: 2013). PMBOK is a trademark of Project Management Institute, Inc.

FIGURE 1.—FIRST RESPONDER NETWORK AUTHORITY'S (FIRSTNET) FINANCIAL FRAMEWORK



Source: GAO analysis of FirstNet information. | GAO-18-187T

Note.—AT&T's expected investment in the network includes its annual minimum payments to FirstNet.

By establishing a single, dedicated network for public safety use, FirstNet's network is expected to foster greater interoperability and meet public safety officials' reliability and other needs. However, the actual use (or "adoption") of the network by public safety users will be voluntary. Thus, even with the establishment of this framework, substantial unknowns remain regarding how many public safety users will adopt the network, the extent to which AT&T will be successful in monetizing the spectrum to retain revenue from commercial users, and the extent to which this revenue will be sufficient or appropriate in relation to the capital needed to build, operate, and maintain the network. Therefore, we noted that, at the time of our report, we could not assess the viability of this framework and whether FirstNet's structures for overseeing the contractor's use of the spectrum for commercial users will be appropriate.

We also found that FirstNet has made progress consulting with State and local, Federal, and Tribal stakeholders through a variety of mechanisms. State officials we contacted were generally satisfied with FirstNet's efforts to engage them. However, Tribal stakeholders we contacted expressed concern with FirstNet's efforts to consult with Tribes per the 2012 Act's requirements. In particular, four of the five Tribal organizations we contacted said that FirstNet has not fully engaged in effective communication or has relied on State points of contact too much as opposed to engaging directly with Tribes; the other Tribal organization was not aware of FirstNet or its mission at all. Further, Tribes noted that individuals with first-hand knowledge of Tribes' experiences are not able to represent Tribal views directly among FirstNet's key decision makers. FirstNet has stated that, indeed, the 2012 Act requires that it consult with Tribes through State points of contact. Nevertheless, several Federal agencies have identified seeking a full understanding of Tribal concerns—and reaching consensus where possible—as a key principle of effective Tribal communication, noting that agencies should adapt to changing circumstances, contemplate creative problem solving, identify options for addressing concerns, and exhaust alternatives to achieve mutually agreeable solutions.[9]

We concluded that, by fully exploring and proposing actions to address Tribal stakeholders' concerns, FirstNet could help improve its relations with Tribes and

[9] U.S. Departments of the Interior, the Army, and Justice, *Improving Tribal Consultation and Tribal Involvement in Federal Infrastructure Decisions* (January 2017).

better meet stakeholders' needs. As such, we recommended in our report that FirstNet fully explore Tribal concerns and propose actions, as needed, to address those concerns. FirstNet agreed with this recommendation and, in September 2017, described to us the actions it has taken to implement it. For example, according to FirstNet, in September 2017 it began a process to formally explore the Tribal outreach concerns raised in our report and expects to propose improvements by the end of this year. FirstNet has also said that it adopted an organization-wide Tribal consultation policy which it expects to take effect toward the end of this year. If implemented as planned, these actions should address the intent of the recommendation.

FIRSTNET'S NETWORK RELIABILITY, SECURITY, AND INTEROPERABILITY CHALLENGES AND EFFORTS TO ADDRESS THEM

In our report, we found that—according to stakeholders we contacted—FirstNet faces various challenges to ensure the network's reliability, security, and interoperability. For example, stakeholders raised concerns related to:

- providing network coverage to rural areas, in buildings, or underground;
- ensuring the network's overall resiliency and cybersecurity; and
- managing frameworks for user identity, credentialing of users, access management, and prioritization of users on the network.

However, we also found that both FirstNet and the PSCR have begun research and other efforts to help ensure the reliability, security, and interoperability of the network and address the challenges raised by stakeholders. For example, in November 2016, FirstNet opened an Innovation and Test Lab at its technical headquarters in Boulder, Colorado. According to FirstNet documentation, FirstNet plans to use—and allow AT&T to use—the lab to test public safety devices and applications before deploying them on the network. Additionally, the PSCR has conducted research on behalf of FirstNet and, using $300 million in funds provided to NIST by the 2012 Act, is also planning for and implementing other research activities to support FirstNet. For instance, in January 2016, PSCR launched its Public Safety Innovation Accelerator Program to support these research activities, and in December 2016, NIST issued a funding announcement to fund research in several areas.

At the time of our report, we found that PSCR's research process generally aligned with key phases of sound research programs identified by leading National organizations, including the American Evaluation Association and the National Academy of Sciences.[10] For example, PSCR has established a structured process for developing research priorities that includes both internal and external stakeholders, and has identified criteria it uses to help it select the research areas to fund and procedures to help it guide and monitor its research. Similarly, FirstNet has determined its research priorities to date based on its network-planning needs and in consultation with internal and external stakeholders, and worked with the PSCR to define criteria to help it select research areas.

Further, we found that the majority of stakeholders we contacted were satisfied with the planning efforts to ensure the reliability, security, and interoperability of the network. However, many stakeholders also said that there is much remaining uncertainty about how this will be implemented in practice. Additionally, one public safety official we contacted told us that FirstNet and its contractor will have to balance the costs associated with implementing features that make the network reliable and secure with the need to establish compelling and competitively-priced service packages and fees that will encourage user adoption of the network.[11] Indeed, numerous stakeholders we contacted cited the cost of subscribing to the network as a key factor affecting user adoption, noting that the pricing must be comparable to what they pay for commercial service now, that budgets are constrained in the public safety community, or that local governments do not want costs to increase. Further, commercial carriers could choose to compete with FirstNet. FirstNet has stated that it expects AT&T to provide services at a competitive price and deliver affordable, high-quality services that will encourage public safety users to adopt the network. Ultimately—because the network must be self-funding and FirstNet has stated that revenue from network users will be critical to this funding—the success of the network depends on whether FirstNet and AT&T generate enough revenue to operate it over the long term and whether public safety users adopt it, no matter how reliable and secure it is.

[10] GAO–11–285.
[11] For additional discussion of factors that may affect user adoption, see GAO–15–407.

FIRSTNET'S CONTRACT OVERSIGHT MECHANISMS

FirstNet must manage and oversee the implementation of the network contract to build, operate, and maintain the network.[12] Federal internal-control standards also state that an entity's management retains responsibility for the performance of processes assigned to service organizations (such as contractors) and that management should hold these organizations accountable for their performance.[13]

In our report, we found that FirstNet has taken a number of steps to establish contract oversight mechanisms, but has not fully assessed the staffing needs of its oversight workforce. FirstNet's oversight mechanisms include developing policies and procedures to guide contract administration and establishing offices to oversee its network contractor. In particular, FirstNet established the Network Program Office to oversee the contractor's performance and facilitate quality assurance of contract deliverables, among other things. FirstNet is also receiving assistance from the Department of the Interior, which has experience with contract administration, although FirstNet plans to assume full responsibility for contract administration in the future. We also found that FirstNet's efforts to develop contract oversight mechanisms aligned with several key actions that we identified as contributing to effective contract oversight. However, although FirstNet's Network Program Office will perform essential contract administration functions, FirstNet had not conducted long-term projections of staffing needs for the office as of April 2017. Planning for and assigning adequate resources, including people, and performing an assessment of the resources needed to oversee projects is one of the key actions we identified for planning and executing effective contract oversight.

We concluded that FirstNet lacks reasonable assurance that it will have sufficient resources to handle increases in its responsibilities over time and that, by performing a long-term staffing assessment for the Network Program Office, FirstNet would be in a better position to fully understand its staffing needs and respond to staffing changes and risks as it assumes full responsibility of contract administration in the future. As such, we recommended in our report that FirstNet assess the long-term staffing needs in the Network Program Office prior to assuming full responsibility for administering the network contract. FirstNet agreed with this recommendation and, in September 2017, described the actions it has taken to implement it. According to FirstNet, in August 2017 the Network Program Office adopted a strategic workforce plan for fiscal years 2018 to 2022, which it expects to update annually. According to FirstNet, this plan provides a comprehensive view of current and future human capital needs required to support the implementation of the network and identifies strategies the office will employ to fill gaps between current and future needs, among other things. If implemented as planned, this action should address the intent of the recommendation.

Chairman Donovan, Ranking Member Payne, and Members of the subcommittee, this concludes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

Mr. DONOVAN. Thank you, Mr. Goldstein. I now recognize myself for 5 minutes for questions to the panel.

Admiral, Mr. Parkinson, the legislation that established FirstNet requires that auctioning the T-Band spectrum and requires first responders use the network—to be clear of that network by 2021. Eleven major metropolitan areas, including New York City, rely heavily on the T-Band for their radio networks. A 2013 report by the National Public Safety Communications Council found that there is insufficient alternative spectrum for these jurisdictions to move onto.

Do you share my concern about the T-Band giveback requirement and the impact it could have on major responding operators in major cities like New York?

Admiral HEWITT. Thank you, Chairman Donovan. The T-Band auctioning has been a major concern for the SAFECOM group that I have mentioned earlier, which is a group of associations of all

[12] Pub. L. No. 112–96, § 6206(b)(1)(D) 126 Stat. at 212.

[13] GAO, *Standards for Internal Control in the Federal Government,* GAO–14–704G (Washington, DC: September 2014).

public safety. In particular, as you alluded to, Boston, Chicago, Los Angeles, New York, and Philadelphia, it doesn't look like there is spectrum to move to based on that NPSTC report.

So with that, we'd enjoy working with you and your staff if you would like to look at options. We are reviewing it. We are working with FCC, who is required to do that, and to find out what flexibility that they have to work. But we would love to work with you in looking at solutions for that.

Mr. PARKINSON. Congressman, yes, as the admiral mentioned, this is the jurisdiction of the FCC. They have the responsibility to find the solution on this. Our focus is 100 percent on the deployment of the Nation-wide public safety broadband network, and so that is our primary focus. We look forward to seeing resolution on this.

Mr. DONOVAN. Has the FCC been in touch with you? Have they been cooperative? Have they addressed your concerns?

Mr. PARKINSON. I would direct you, really, to the FCC on that one, given that it is their sole focus, and ours is somewhat separate, given the deployment of the NPSBN.

Mr. DONOVAN. Are you aware of how much spectrum might be necessary that—when we talk about insufficient, is it 10 percent insufficient? Is it 50 percent insufficient? Do we have an idea of what—how much spectrum we are lacking now?

Admiral HEWITT. From the study, the T-Band was for 470 to 512 megahertz, and there is not spectrum in those five major urban areas to move that to. The majority of the traffic, especially in New York, in your district, is all on the T-Band.

Mr. DONOVAN. Thank you. We have seen many—I guess this is to the admiral—we have seen many technological developments in the area of emergency communications that make it easier and more efficient for first responders to communicate. However, with these advancements come cybersecurity risks, something that this subcommittee has discussed in a roundtable, as I mentioned in opening remarks. How is OEC working with the stakeholders to raise awareness about and how to address cyber risks for our first responder communication networks?

Admiral HEWITT. Thank you, Chairman Donovan. We have been working for the last 4 years with public safety through SAFECOM to educate them on the cyber risks that are out there.

We have a program called CAPTAIN, which is our cybersecurity and physical risk assessment of IP networks, and also we have developed a bunch of best practices for mobile application development to help address those issues. Because as they move into IP, it comes with a lot more capability, but cybersecurity is going to be a huge risk. So just educating them now, getting them ready so as FirstNet deploys they will be able to make sure they keep a secure network.

Mr. DONOVAN. Admiral, is there a system in which if they see either intrusions or attempts, that they could share that information to their colleagues in other cities so they could be made aware of—if an attempt is made in New York that we can inform our colleagues in San Francisco to be aware of this?

Admiral HEWITT. Yes, sir. As part of the Cybersecurity Act that the NCCIC was involved, the National Cybersecurity and Commu-

nications Integration Center, is the reporting place for—all SWICs can report any cyber incidents to them and that then gets disseminated out through that means.

Mr. DONOVAN. My time has expired. Chair recognizes my colleague from New Jersey, the Ranking Member, Mr. Payne.

Mr. PAYNE. Thank you, Mr. Chairman. Let's see. Admiral Hewitt, in your testimony, you talked about the declining numbers of dedicated full-time SWICs and less active State interoperability governing bands. As I observed in my opening statement, governance is critical to interoperability. Why has there been such a decline in dedicated SWICs and government structures? What effect will it have on interoperability?

Admiral HEWITT. Thank you, Ranking Member Payne. With the number of SWICs, full-time SWICs, as you alluded to in your opening statement, it's down to 12 now. We were at a high of 44. Even though under the Homeland Security Grant Program it is an allowable cost, what we are seeing, since we don't have that dedicated grant—we used to have an interoperable emergency communications grant program, and when—that was from 2008 to 2010—we went from a handful of SWICs to 44.

Similarly, Department of Commerce in 2013, with the advent of FirstNet, NTIA did a State and local interoperability grant program, and the number of spots went from zero to 56. So when you do have dedicated grants, that has definitely been a benefit. So we are working with FEMA grants programs, Tom Donato, the director over there, to look at what are the possibilities that we can do to help change that around.

Mr. PAYNE. So those grants aren't available to States anymore?

Admiral HEWITT. Well, the ICGP went away in 2010, sir.

Mr. PAYNE. In 2010? OK.

Admiral HEWITT. Yes, sir.

Mr. PAYNE. So how can we be of help to mitigate—Congress mitigate these impacts?

Admiral HEWITT. Well, your support, sir, has been tremendous, with the SWIC bill and raising the awareness so people understand that interoperability is more than just technology. The key piece is governance. So we really appreciate all the support you have been giving us.

Mr. PAYNE. OK. Let's see. OK. Let's see. Also, from the issue around these hurricanes, Harvey and Maria, what is your assessment of how our emergency communications have performed? What are some of the lessons learned from this hurricane season with respect to emergency communications?

Admiral HEWITT. Well, with Harvey, that was primarily a rain event in Houston. We were able to pre-position with the Federal Government responses controlled through FEMA and the National Cybersecurity and Communications Integration Center is what they call emergency support function No. 2 communications. They were able to pre-position a lot of communications capabilities to go in behind and resurrect it.

Plus they coordinate—FCC gets reports through the disaster information system on carrier issues. They coordinate the restoration from that. It actually went very well for Harvey. When Irma came through Florida, the same thing, we were able to pre-position.

Maria and the islands, it was impossible to pre-position, because every island got wiped out.

So, with that, too, the winds were much higher and above the towered conditions. Most towers can take up to a level three hurricane, and with level five, just about every tower, if it wasn't knocked down, the microwave links that are the back holes were misaligned, and so we're totally having to rebuild Puerto Rico.

But the transportation of getting equipment, AT&T, you know, all the carriers trying to get equipment in there has been very difficult. Just getting in flights, trying to get the logistics of the ships in. Coast Guard has been bringing in ships and trying to get the logistics. Then once you get it there, the roads were totally wiped out. So trying to get up into the mountains has been very difficult on rebuilding that whole infrastructure.

But even with all that, they still have about 6 out of 10 citizens there do have cellular today because they have been just working around the clock to get capabilities in there.

Mr. PAYNE. OK. Mr. Parkinson, FirstNet is supposed to be financially self-sustainable. Will it be?

Mr. PARKINSON. Yes, Congressman. One of the key factors of when we were developing the procurement was to develop a recapitalization model so that the system—we would never have to come back to Congress and ask for more funds, so that the revenue that was generated by the network, as required by statute, was reinvested back into the network. We believe that the model that we have been able to develop through the procurement will sustain the network in perpetuity.

Mr. PAYNE. OK. But if I am not mistaken, during the GAO, your comments, you had a question about whether they were going to be sustainable. Is that correct?

Mr. GOLDSTEIN. Yes, Mr. Payne. I think it remains unclear at this point in time as to how viable the network will be. It depends on how it is built out. It depends on who actually subscribes. It depends on competitors. Verizon has decided that it is likely to compete.

So I think it remains unknown. That is not to say that FirstNet isn't doing sort of everything it can I think at this point, but this is—there are a great number of unknowns and challenges going forward about how the network will develop and whether it will be actually sustainable over time.

Mr. PAYNE. Mr. Parkinson, how do you respond to that?

Mr. PARKINSON. I understand that there are concerns and I understand that there are—with any project, with any business, there is risk. That being said, we have been able to shift, as there is the model of the RFP that we were able to put forward, shifted the risk away from the Federal Government and onto AT&T. By signing up for the commitment for the next 25 years, we have been able to push that over.

Of course, there will be—there are challenges in terms of user adoption, but we have plans for that. We certainly are intending to hit the numbers that we—and AT&T is trying to hit the numbers that they have been mandated to go out there and get.

But as I said before in my opening testimony, judge us on what we do and judge us on our results, and I think we will be able to find a good story at the end of it.

Mr. PAYNE. OK, thank you. Mr. Chairman, I apologize for going over. I yield back.

Mr. DONOVAN. The gentleman yields. The Chair now recognizes the gentleman from Rhode Island, Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to welcome our witnesses here today. Thank you for your testimony.

Mr. Parkinson, if I can start with you, somewhat in relation to the Ranking Member's question, our emergency communications system obviously is critical to our ability to respond to natural disasters and to terrorist attacks. However, during these events, and certainly as the admiral has identified, critical infrastructure that our communications rely on, such as our electrical grid, are often—are often degraded. Again, we saw that in the aftermath of Hurricanes Harvey and Irma and Maria. It can be days or even weeks before power was—is actually restored.

So how is FirstNet ensuring that the emergency communications networks will be resilient, again, going forward when supporting critical infrastructure is unavailable?

Mr. PARKINSON. It is a terrific question, Congressman. One of the things that we have really looked at is the hardening of the network. Our public safety advisory committee, as well as NPSTC, which the admiral referenced earlier on, have released reports on the standards of hardening that they expect the network to be built to. We have taken these. We have looked at them. We certainly are going to be looking to require that the network is built to a sufficient level of hardening so the robustness of the network is continue and can continue where National disasters, man-made events, et cetera, like that do continue.

I think you also have to look at the various technologies that will be deployed through the system in areas where there may not be a traditional network with towers and so on, we are going to be leveraging deployables. We are going to be looking to pre-position assets, as Mr. Hewitt described with the storms recently in Texas and Florida, we will be able to provide similar assets specific to public safety broadband in areas where we can anticipate natural disasters, such as hurricanes, occurring.

All of this is being coordinated at the State level, and we have been working very closely with the single points of contact and with the respective Governor's office throughout the Nation. We certainly anticipate things like that occurring in the future.

Mr. LANGEVIN. Thank you. Identity management and authentication is a core functionality in every network. For FirstNet, I think it is even more crucial that identity management is properly implemented due to the large concentration of very sensitive public safety information traveling through a single network. So what is FirstNet's approach to ensuring that only first responders have access to the emergency communications network? What are the potential harms if an unauthorized user could gain access?

Mr. PARKINSON. It is a terrific question, Congressman. So ICAM is fundamental to any aspect. What we can't have is a State troop-

er, for example, driving at 160 miles an hour down a highway expected to punch in a 16-digit code to gain access to the portal. So, again, our public safety advisory committee has looked at this. It is a 43-member organization that advises FirstNet on a variety of aspects. As I mentioned, hardening is one topic. ICAM is another.

So we are really trying to get that local feel, and, really, the local requirements from those individuals who represented on the PSAC. That is information that they gather and the recommendations that they do send forward to FirstNet are taken by our team, so that they will be able to be ultimately implemented based on the needs of public safety on the local ground.

Mr. LANGEVIN. OK, thank you. I may have a follow-up on that, if time permits, but I do want to get to Mr. Goldstein. Mobile communication has moved to a new technology generation, roughly every 10 years. We understand how quickly, obviously, technology changed. Moore's Law, case in point, where it squares every 18 months.

But starting—going back on the technology and the communication, verbal communication side, starting with the first-hand networks in 1981 to the fourth generation comms that power our smartphones today, over the course of this contract, it can be reasonably assumed that cellular technology will advance significantly in capability. What is FirstNet's plan for sustainment over the next 25 years to ensure that our first responders are utilizing the best commercial technology available throughout the contract?

Mr. GOLDSTEIN. You are right, Congressman. It is a very slippery slope in terms of changes in technology. One of the things that FirstNet is going to have to do is ensure that AT&T has the capacity and the resources to refresh technology as time goes on, as will any other competitor to this program. So we don't know.

But their contracting operations and their network program office is going to have to be able to take responsibility to ensure that AT&T is providing the best possible services and technology. Because at the end of the date, if they don't, subscribers can walk. They can go elsewhere. The network won't be successful if other competitors are able to offer better services, so it is in their best interest, as well, to try and do that.

Mr. LANGEVIN. OK. Mr. Parkinson, do you care to comment? Could you provide some insight of what the plan is over the next 25 years?

Mr. PARKINSON. I think that is really one of the beauties of the contract itself, that the longevity that AT&T and FirstNet have entered into for the next 25 years provides an opportunity, frankly, for public safety to take advantage of how you and I or anyone in this room has been able to leverage, you know, this sort of a device since the first iPhone came along, say, 10 years ago.

I think of this—I always use this analogy. Think of how you used your cell phone even 5 years ago versus how you use it today and what it can do possibly in 5 years' time. Think of how you used the internet 5 years ago and how you use it today.

I think that is where public safety is going to be able to now finally be at the forefront in terms of how we are able to provide services similar to commercial services, but dedicated to public safety. That is the first time that public safety will be in that posi-

tion. Frankly, I think it is one of the most exciting aspects of the project and one of the reasons it was attractive to me in the first place.

Mr. LANGEVIN. OK, very good. Thank you. My time has expired. Thank you, Mr. Chairman.

Mr. DONOVAN. The gentleman's time is expired. The Chair now recognizes the gentlewoman from Arizona, Ms. McSally.

Ms. MCSALLY. Thank you, Mr. Chairman. Appreciate your testimony today, gentlemen.

I recently was visiting Tombstone, Arizona. Everybody should know where Tombstone is. A very small community. As I was visiting with the marshal there, one of the challenges that they have as a very small law enforcement agency on the border is interoperability with the other agencies around them, the sheriffs, the Border Patrol.

I know there was—OEC had a border interoperability demonstration project, $25 million, to specifically address some interoperable communications related to the border. I am wondering, Admiral Hewitt, if you can give me some insights as to, you know, anything that is come from that and how we can help rural communities along the border, like Tombstone, like Douglas, Bisbee, others in my district, very small, very limited budget.

But they are often dealing with Federal law enforcement issues, and they can't talk to Border Patrol and they can't afford to buy the systems that Border Patrol has, and so they are literally in the dark and sometimes doing the job of, ultimately, what is Federal responsibilities, but they are right there in the middle of it.

So what can I say back to the mayor and the marshal of Tombstone about how perhaps—what we have learned from this $25 million or how FirstNet or—what is going to help them and when is that going to be helping them?

Admiral HEWITT. Well, thank you, ma'am. With the border interoperability demonstration project, BIDP, as you alluded to, that was a $25 million grant program that expired a few years ago, but Yuma was a great recipient of that.

With the $4 million that they did receive, they were able to take their regional communications system from about four agencies to over 45—that included five tribes—and with that, not only build out the system, but more importantly, get the governance in place that created the standard operating procedures on how they are going to use it, and then they bought the applications to support those standard operating procedures from that.

So they are getting great benefit from that. It does show that when you do have Federal funding that you are able to support them. They get a great——

Ms. MCSALLY. Yes, so how do we extend that to Cochise County? Because they are really struggling. Again, Tombstone is just an example. What kind of funding is available? Or just what is the way ahead for these communities that right now can't talk to the agencies around them while they are in the middle of trying to deal with the border security issue?

Admiral HEWITT. We can work with them. We also support through the Emergency Communications Preparedness Center, which is 14 Federal agencies. Of those, several of them do provide

grants. We can find out if any of them are available to support that.

Ms. MCSALLY. OK, great. But is the vision that they will be able to afford subscribing to FirstNet and that FirstNet is going to be their solution? Is that really going to be affordable to little towns with very limited resources like this?

Mr. PARKINSON. One of the biggest problems we have, Congresswoman, is exactly that, budgetary issues. If you think of this, volunteer firefighters make up 70 percent of the firefighters in this country. They often hold cake sales just to fund their things.

So one of the programs that we have developed at FirstNet is BYOD, bring your own device, so that with regards to the Congressman Langevin's question regarding ICAM, make sure that those individuals who are public safety individuals can be credentialed with their own personal device and then can gain access to the public safety aspects of FirstNet. So I think that provides, frankly, a really strong opportunity.

One other part of that, I think, too, is the coverage aspects that rural communities face when it comes to broadband, and obviously not just to public safety broadband. There are requirements in our statute and requirements in the contract with AT&T that there are rural milestones—and this is in the law, too—that have to be built out.

So we have been working with the Governor's office in Arizona, we have been working with the single point of contact in the SAIC—that is the governance body within Arizona—to ensure that the needs of local public safety are addressed within the State plan.

Ms. MCSALLY. Great, thanks. Admiral Hewitt, I know we are talking a lot about what FirstNet can bring and across jurisdictions for emergency communications, but there was a report out last year—I apologize, I don't know if it was GAO or OIG—that talked about some of the challenges within the Department of Homeland Security of CBP, different—Border Patrol not being able to talk to OFO and how that really was potentially endangering lives, and they are having to embed people in the other organizations in order to make up for it.

So how are you dealing with some of the interdepartmental lack of interoperability and communications, as well?

Admiral HEWITT. Yes, ma'am. Within that, the Department has a joint wireless program management office that brings all the agencies together. OEC provides communications unit training, which is the incident command system and it is the methodology that we used to support interoperable communications.

Ms. MCSALLY. So you are saying the things that were brought up—are you familiar with the report I am mentioning?

Admiral HEWITT. Yes.

Ms. MCSALLY. Have they been fixed?

Admiral HEWITT. They are being worked on now.

Ms. MCSALLY. They are being worked on.

Admiral HEWITT. Several of them have been fixed.

Ms. MCSALLY. OK, great, I am out of time. I do have some more questions, but if you are doing another round, I will come back.

Mr. DONOVAN. We are going to allow another round. Gentlemen, if you don't mind, since there are only four Members here, many

of us have maybe one or two more questions. Your information is invaluable to us, so we appreciate an opportunity to ask another question.

So, Admiral, I will take the first question. You spoke about the devastation of Puerto Rico and what the communications systems are like right now. In Irma, Harvey, Maria, what were the communications like during the storms? Were first responders able to communicate with each other during those storms, whether it was in a rescue effort, an evacuation effort, whatever it may have been? Were the capabilities there doing this that we were lacking during 9/11 or lacking during super storms before this?

Admiral HEWITT. Thank you, Chairman. We haven't received the full after-action reports from those. I can get that to you. But the anecdotal information we heard is, like, Key West, they evacuated, so they had told their citizens we aren't going to be able to respond to 9–1–1. That area took over 80 percent of their communications was out. But they had gotten the word out to the citizens, and hopefully most of them evacuated up north.

But there was only—in Texas, there were three counties that lost over 80 percent. As I mentioned, we were able to pre-position most of the time public safety because of the life-threatening winds and everything—they were not able to respond, but it wasn't because of lack of communications. It was just for safety of life. So after the storm, there were outages. We did pre-position equipment, and we did try to get things back up as quickly as possible.

Mr. DONOVAN. We are still waiting for an assessment of whether first responders were able to communicate with one another during the actual storms? We are still waiting for that?

Admiral HEWITT. Yes, sir. With land mobile radio, you can actually do direct mode. So you can—even if the tower is down, you can actually communicate with each other. There was a lot of that going on. With cellular, you have to have the tower up, but then with—immediately after, they—as Mr. Parkinson said, there are deployables. All the carriers put in deployables to get that system up as quickly as possible.

Mr. DONOVAN. I would appreciate it, Admiral, if when that report does come out, if there is an aftermath assessment of our abilities to communicate during tragedies, if you could share that with the committee, that would be wonderful.

Admiral HEWITT. Yes, sir.

Mr. DONOVAN. The other thing I would like to just ask, Mr. Parkinson, there are about 27—am I correct there are 27 States now that are involved in FirstNet? Is there a reluctance on the other 23 States? Is it just timing, trying to get them on? At some point, do you anticipate all 50 States being on?

Mr. PARKINSON. Don't forget the territories and the District of Columbia, too, sir. So we are in a stage now where the Governors have a 90-date mandated period in which they can make their decision. So those Governors are reviewing the information that we have put forward to them, and we fully anticipate others signing up and opting in.

Just yesterday, as you reference in your opening testimony, Governor Holcomb of Indiana opted into the network. So we expect more to come hopefully in the next few days, in the next weeks,

but that 90-day time period that Governors have expires on December 28. So that is the time period in which Governors have to make the decision.

Mr. DONOVAN. Wonderful, thank you. The Chair now recognizes the Ranking Member, Mr. Payne.

Mr. PAYNE. Thank you, Mr. Chairman.

To Admiral Hewitt and Mr. Parkinson, the mission of both of your organizations is to improve interoperable communications for first responders. We have a goal that we are trying to meet. Can you talk about how, if at all, are we seeing FirstNet work together to advance first responder communications? I think that will be very crucial in the future to see that.

Admiral HEWITT. Thanks, Ranking Member Payne. From the beginning of FirstNet, in 2012, when they originally stood up, they actually had the board members, which—with the 15 members, there are three, actually, permanent members, DHS, Department of Justice, and OMB. We have been working very closely with them.

In fact, SAFECOM was being used, and actually the genesis for the public safety advisory council that Mr. Parkinson alluded to, which is their advisory board, so we helped them set that up. In terms of getting Federal members on board, we use the emergency communications preparedness center, which is 14 Federal agencies that have emergency communications responsibilities.

So we have been working closely—and just last month, I was designated the DHS rep to the FirstNet board. We have been working very closely. One of the things we did right away with all the States, they wanted to have a better understanding of what kind of coverage their existing land mobile radio so they know how to compare it with the FirstNet plan.

So working with FirstNet, we did a technical assistance with all the States to roll that out. Then now we are doing a cybersecurity awareness so they will be better prepared when they get FirstNet capabilities to ensure that it is a secure network.

Mr. PAYNE. OK, that is it.

Mr. PARKINSON. That is pretty spot-on, really. Just one other thing, too. We also are lucky enough to have a lot of DHS OEC alum who now work at FirstNet, and so the relationships that that allows to consistently flow, information, meetings, and having those histories together can only be a positive.

Mr. PAYNE. Excellent. Well, that is very good to hear. With that, Mr. Chairman, I will yield back.

Mr. DONOVAN. The Chair now recognizes the gentleman from Rhode Island, Mr. Langevin.

Mr. PAYNE. He has gone.

Mr. DONOVAN. Oh, he has gone. All right. He disappeared on me. The Chair now recognizes the gentlewoman from Arizona, who is still here, Ms. McSally.

Ms. MCSALLY. Thank you, Mr. Chairman.

I share your excitement, Mr. Parkinson, about being able to move to the next generation of technology and collaboration for emergency communications. Again, thinking about how we now use our own phones—or when I was in the military, I was a part of some of the efforts when we were moving away from everything being on

voice to moving to more collaborative systems that allow instant sharing of information to everybody who needed to know it and collaboration at a very high level.

Some of the challenges I saw, though, implementing some of this in the military, No. 1, is culture. I have done a lot of ride-alongs with our first responders, and they are very wedded to voice communications. So switching to something that is going to increase their situation awareness, you are going to have to deal with some culture changes across the board.

A lot of these will be at the local level of leadership, building the case as to why this is going to actually help them, so that you get the buy-in for the culture change and how it is going to help them do their job. There also is data management and information management on useful—you know, what is useful, what is not, and then really analyzing the information.

There is going to be a lot of spoofing or misinformation that is shared via—you know, again, images, texts, other types of things. So there is a whole other even manpower requirement of those who are going to filter through the new information. Then there is training, there are processes. There are a whole lot of things that go along with this. So it is not just the technology. It is all of these other things.

It could really be a game-changer for a lot of these first responders. But it has to be used with all these other elements in order to make it successful. So just wondering if you have any perspective on that. Again, I have gone through this myself in the military. It is a heavy lift to be able to shift to this, but it could be really game-changing for the mission.

Mr. PARKINSON. You are absolutely right, Congresswoman. Then think, too, about just the amount of information that is going to be out there.

Ms. MCSALLY. Right.

Mr. PARKINSON. How do you really separate what is real versus what isn't?

Ms. MCSALLY. Exactly.

Mr. PARKINSON. What is important for situational awareness, what isn't?

Ms. MCSALLY. Right.

Mr. PARKINSON. I think, too, the beauty about where we stand right now is public safety wanted this. It was really the first time we saw law enforcement, fire, and EMTs come together back in 2010, 2011 to lead the lobbying effort for the creation of FirstNet.

So today when we travel around to States, localities, Tribal nations, the territories, we hear the universal message, like when is this coming? When can we get this? I think that in itself is our largest asset. It is the men and women on the ground.

I think, too, another point is you are going to see a generational shift where you have men and women coming in who don't know what a land mobile radio is. They only know what this is. That is not a hit on LMR.

I mean, LMR is going to be here for many, many, many years to come. But they only understand—I mean, you only have to look around outside here in Emancipation Hall, you know, the kids who are just, you know, typing away.

Who knows what the capabilities are going to be of FirstNet and commercial networks in 10 years' time? So I think it is going to be crucial that we get not only the buy-in, but really it is that fundamental local level of understanding what are the needs of public safety and how can we tailor the network specific to those needs? That is going to be the differentiator.

Ms. MCSALLY. Yes, and sorting out, again, as you said, what is useful, what is not, what is spoofing, because there are elements of that, as well. Is there an element where the public can also share information? I will just—you know, this morning, I actually was dealing with calling in something that didn't seem right that I saw. I won't go through all the details, but I had a picture that I took of what didn't look quite right. By the time I got to the right jurisdiction, I said I have a picture to send you, where do I send it to? They literally said they didn't have the capacity to get that from me.

I was just—like, I couldn't believe it, in 2017, why we don't have the ability for someone to share something quickly. So is there an ability for the public to participate? Then obviously you have got to filter that out, because you will have all sorts of even bad actors, but misinformation that would be——

Mr. PARKINSON. You know, in February next year, it is going to be 50 years since the first 9–1–1 call from Alabama. It is pretty interesting that here we are still today and really the way we all use 9–1–1 is picking up the phone and dialing.

NG9–1–1, next-generation 9–1–1 is coming. While FirstNet's focus is the deployment of the NPSBN, we are certainly talking to those associations, those groups out there, NENA, APCO and others, who are—whose roles and responsibilities are going to be for the deployment of NG9–1–1. I know this is something that OEC is looking very closely at. I am sure Mr. Goldstein and GAO are going to be intimately involved in this. But NG9–1–1 is really the answer you are looking for.

Ms. MCSALLY. That would be the tool, is through the 9–1–1, next-generation?

Mr. PARKINSON. As that comes, yes.

Ms. MCSALLY. Got it. OK, thanks. One last quick question. If a State opts out—sorry if somebody asked this already—if a State opts out and they are developing their own system, how is that going to work if there is some sort of cross-State crisis?

Mr. PARKINSON. Sure. So, really important part of the goals of the network is, it is for the Nation. It is not—we can't have islands of no service, States of no service. So the law is quite clear that there is a process that any opt-out State, if they so wish to go down that path, and it is their right to do that, if they do so want to, that they have to fulfill certain obligations, they have to enter into a procurement process, select a vendor, go to the NTIA, go to the FCC, and negotiate what is called a spectrum lease agreement with FirstNet.

So that information has been well-known to the States. They have a lot of information how to do it. That process could take up to, we believe, 2 years. So it is quite a cumbersome process. It certainly lays a large financial obligation onto a State. But again, if a State wants to go down that path, we will do everything we can

at FirstNet to ensure that that opt-out State is successful and that they seamlessly integrate into the NPSBN.

Ms. MCSALLY. OK, great, thanks. I am over my time. Thanks, Mr. Chairman.

Mr. DONOVAN. Gentlemen, just in the last minute that we have left, is there anything that we haven't hit on that wasn't in your opening statements, that maybe some of our questions stimulated, that you would like? Or have we covered everything with our intelligent questions that we have asked you?

Mr. PARKINSON. Opening myself up here, but I think the main thing, Congressman, going forward is FirstNet is the art of the possible right now. As you heard, December 28 is when the Governor's deadline wraps up, and then deployment will follow, and user adoption will follow that.

We couldn't be more excited. You know, we have done a lot of work. It has taken a long time. I mean, 2012 was when the law was passed, and here we sit now in 2017. As I said in my opening statements, the hard things are hard, but with your continued support and with the support of your staff, we certainly anticipate making FirstNet a success.

Mr. DONOVAN. I thank all of our witnesses for your valuable testimony today and for my colleagues for their questions. The Members of the subcommittee may have additional questions for our witnesses, and we will ask that you respond to those in writing. Pursuant to the committee rule VII(D), the hearing record will remain open for 10 days.

Without objection, the subcommittee stands adjourned.

[Whereupon, at 11:02 a.m., the subcommittee was adjourned.]

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