# FINANCIAL SERVICES AND GENERAL GOVERNMENT APPROPRIATIONS FOR FISCAL YEAR 2014

**WEDNESDAY, SEPTEMBER 11, 2013**

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10:30 a.m., in room SD–138, Dirksen Senate Office Building, Hon. Tom Udall (chairman) presiding.

Present: Senators Udall, Johanns, and Moran.

## FEDERAL COMMUNICATIONS COMMISSION

**STATEMENT OF HON. MIGNON CLYBURN, ACTING CHAIRWOMAN**

**ACCOMPANIED BY:**

**HON. JESSICA ROSENWORCEL, COMMISSIONER**
**HON. AJIT PAI, COMMISSIONER**

### OPENING STATEMENT OF SENATOR TOM UDALL

Senator UDALL. Good morning. I'm pleased to convene this hearing of the Appropriations Subcommittee on Financial Services and General Government. And I welcome my ranking member, Senator Mike Johanns, and other colleagues who may join us throughout this hearing today.

I also want to welcome our witnesses, especially Mignon Clyburn, the acting chairwoman of the Federal Communications Commission (FCC).

Chairwoman Clyburn, thank you for your service. I look forward to your testimony today.

Also with us are Commissioners Jessica Rosenworcel and Ajit Pai. Both are dedicated public servants who previously served on the Senate Commerce and Judiciary Committees, and I look forward to their testimony, as well.

Today, we are meeting on the anniversary of the tragic terrorist attacks of September 11, 2001, a day that is seared in our Nation's history as we are reminded that our Nation's communications networks do more than just keep us in touch with friends and family or entertain us with TV and music or facilitate commerce. In emergency situations, our communications networks save lives. Just as we will never forget the 9/11 attacks, we will never forget the heroic first responders who ran to the rescue. Lack of interoperable communications led to the further loss of life. Fixing this remains a key unfinished recommendation of the 9/11 Commission.

As Commissioner Cochair Thomas Kean has said, "When firemen can't talk to policemen, can't talk to rescue workers or medical personnel, people die." Congress, thus, gave the FCC a vital task, to ensure that communications services are available to all the people of the United States, helping make sure that calls to 9–1–1 can be made in emergencies, that pilots can communicate with control towers, and consumers can benefit from the latest wireless innovations.

I look forward to hearing a report from you about the progress we're making to ensure that our first responders are able to communicate during an emergency.

Last year, Congress enacted legislation that instructs the FCC to conduct spectrum auctions to make more spectrum available for mobile broadband use. Auction proceeds will also help fund the FirstNet public safety network and generate revenue for the U.S. Treasury.

The FCC is also currently engaged in another important task: modernizing the more than $8 billion Universal Service Fund (USF) to meet our Nation's broadband challenge. The United States invented the Internet, but now we lag behind many countries when it comes to broadband access. This is especially so in rural parts of New Mexico, the West, and the Nation as a whole. The FCC conducts its work with about 1,735 full-time employees. That is the lowest number in decades. This subcommittee's fiscal year 2014 appropriations bill sets the FCC budget at $359.3 million, a modest increase from the fiscal year 2013 enacted level. FCC spending is fully offset by regulatory fees and proceeds from spectrum auctions. This subcommittee has an important responsibility, ensuring that the FCC uses those funds wisely on behalf of the American people.

There are two basic questions: What are the resource needs of the FCC? And what are the consequences of the shortfalls?

I have the honor of chairing this subcommittee with my ranking member, Senator Johanns, and I look forward to working with him on a bipartisan basis on these most important FCC issues.

I now turn to Ranking Member Senator Johanns for any remarks he would like to make.

STATEMENT OF SENATOR MIKE JOHANNS

Senator JOHANNS. Mr. Chairman, thank you. And, Mr. Chairman, thank you also for drawing our attention to the events of 9/11. I was speaking to a group of Nebraskans this morning, and I said, "This is one of those events in our life where every single one of us, when asked about that morning, that fateful morning, we can describe exactly what we were doing when we heard about the planes flying into the towers and the chaos that erupted surrounding that and the other airplanes." So we must never forget. And so I appreciate you mentioning that.

I also appreciate the fact that the chairman is holding this hearing with the current commissioners of the FCC. I was saying to the chairwoman, it is my hope that we'll fill out the full role of commissioners in the not too distant future.

As I have said many times through the appropriations process, I believe addressing our Nation's debt is a fundamental responsi-

bility, and a very necessary step for our future, and a necessary step for now, to get our economy back to full strength.

We're nearing the end of the fiscal year. I want to reiterate my view that Congress and the President must act responsibly and adhere to the very bipartisan spending reductions that the President signed into law as a part of the 2011 Budget Control Act.

In addition, we need to clear the way for economic opportunity and international competitiveness. This subcommittee must take seriously our oversight role with respect to funding programs in performance of agencies within our jurisdiction. The FCC's policies and actions are extremely important to our country's economic growth, and therefore, this hearing is important. I am hopeful that it will give us an opportunity to discuss FCC resources and how the Commission proposes to do its job effectively.

Critical to review of any resource request is a clear understanding of the agency's policies and plans, as well as results and performance. It's also important that we discuss issues related to regulatory predictability. So many times in my career, businesses have said to me, "Just tell me the rules. We will figure out a way to live by those rules." Too many businesses sit on the sidelines, holding back their capital, their new jobs, because of the burden and uncertainty of Federal policies and regulations.

In addition, because the FCC administers spectrum auctions, it also impacts our Nation's fiscal health. Preparations are underway to conduct the first-ever incentive auction of spectrum licenses, and the FCC needs to get it right. Like it or not, the Commission now has the responsibility to ensure that all of the upcoming auctions maximize the return for our shareholders, the taxpayers. And that return for taxpayers must include substantial deficit reduction.

I am interested to hear how those auctions will be carried out and how spectrum will be leveraged in a way that is good for innovation and economic opportunity. It must also bring value to taxpayers and telecommunications customers while serving our Nation's first responders.

I look forward to hearing the commissioners' views on whether the current FCC structure is the most effective to address the challenges of this century. This is the time to consider whether any redeployment or realignment of personnel or resources is appropriate. The FCC plays a role in ensuring that the United States continues to lead the world in digital innovation and communications infrastructure.

I look forward to working with you, all of you, to address the challenges before us and to clear the way for continued U.S. leadership in communications.

Thank you, Mr. Chairman.

Senator UDALL. Thank you.

At this time, I would invite Chairwoman Clyburn to present testimony on behalf of the FCC, followed by Commissioner Rosenworcel and then Commissioner Pai.

And we're very happy to be joined, also, by Senator Moran. Thank you.

SUMMARY STATEMENT OF HON. MIGNON CLYBURN

Ms. CLYBURN. Thank you, and good morning.

Chairman Udall, Ranking Member Johanns, and Senator Moran, I appreciate this opportunity to appear before you to discuss the FCC's 2014 budget request as well as our efforts to maximize our resources, efforts that are critical to ensuring that the telecommunications industry remains a vibrant and growing part of the U.S. economy.

Of course, our communications networks are also vitally important to public safety. And on the occasion of 9/11, I think it's important to acknowledge and extend our appreciation to all those first responders, public servants, and servicemembers who sacrifice so much to make us safer, and to reinforce our support for those who lost so much.

First, I wish to thank you for providing the Commission with full funding. All though we're small, our actions have wide-ranging impact on America's economic health and security. The Commission has accomplished a great deal since last year. We've continued our Universal Service reform efforts, enhancing fiscal responsibility while eliminating waste, fraud, and abuse. Our Lifeline reforms, alone, saved over $200 million in 2012 and are on track to save $2 billion by the end of next year. We've continued to roll out additional spectrum to spur industry growth, even in previously unheard areas, like the 57 to 64 gigahertz band, while encouraging innovative in unlicensed spectrum use wherever possible.

Just yesterday, thanks to FCC-driven negotiations, wireless carriers announced a voluntary industry solution that will resolve the lack of interoperability in the lower 700 megahertz band and put that spectrum to better use. This agreement will make it easier for small wireless carriers to compete, spurring private investment, job creation, the development of innovative services, and other consumer benefits.

We've ramped up our work to develop an innovative incentive auction process while holding our first-ever reverse auction for the mobility fund, and have begun working on the Tribal Mobility Fund auction.

We reduced regulatory burdens in areas such as experimental licenses so that new technology can reach consumers faster. In the coming days, I will circulate a rural call completion order to ensure all rural Americans receive their phone calls.

Last month, the Commission took decisive action to address the unreasonable rates that America's inmates and their families have been paying for telephone services. Throughout the summer, Commission employees have worked tirelessly to ensure that communications services are accessible to those with disabilities and that our Office of Native Affairs and Policies has the resources to enhance broadband service on tribal lands.

Many of these accomplishments have given me great satisfaction as acting chair and are reminders that our actions can mean so much to so many.

But we have more work to do. With the growing importance of communications technology to our economy and our global competitiveness, we should not compromise support for the Commission's work. Because we've been operating under a continuing resolution with sequestration for fiscal year 2013, we started well below our request of $346 million, at $322 million. I would note that the FCC

is completely fee-funded and that sequestered funds were derived from the monies paid by the industry. Due to sequestration, the Commission dramatically reduced spending, and spending reductions have come with a programmatic cost. We're foregoing lifecycle technology replacements instead of following General Services Administration (GSA) guidelines. We're cutting corners to preserve mission-critical objectives, leading to staffing shortages, cancellation and reduction of contracts, outdated and failing engineering equipment, and bare-bones travel that falls short of addressing core mission objectives. We're spending less on important programs, such as tribal consultations. We recently reached our lowest full-time equivalent (FTE) level in 30 years, and are not back-building important positions, let alone hiring new personnel to oversee mission-critical objectives, like universal service fund (USF) reform.

The Commission continues to act responsibly to deal with cuts and shortages, including reprogramming. But with the full-funding fiscal year 2014 level, the Commission would be better prepared to tackle the challenges ahead. Over the next year, the Commission has a daunting agenda, from fostering broadband deployment to moving ahead with the H-block and incentive auctions, all the while continuing USF reform and processing hundreds of thousands of applications and consumer complaints.

In all of our actions, we will remain vigilant in promoting competition, protecting consumers, enhancing public safety, and making sure all Americans are connected to world-class communications networks. But, we must continue to attract and maintain a highly skilled workforce and give them the resources they need to do these critical jobs. With the funding level you've appropriated, I can confidently affirm that we will not only be headed in the right direction, but will have the tools to keep pace with the rapidly evolving industry that we are charged to oversee.

PREPARED STATEMENT

Again, I wish to thank you for allowing me to appear before you this morning, and I look forward to answering any questions you may have.

Senator UDALL. Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF HON. MIGNON CLYBURN

Chairman Udall, Ranking Member Johanns, and members of the subcommittee, I am grateful for this opportunity to discuss the Federal Communications Commission's fiscal year 2014 budget request, as well as our efforts to maximize our resources to ensure that the communications market remains a vibrant and successful driver of the American economy.

First, allow me to thank you for your decision to provide the Commission with full funding of the President's request for fiscal year 2014. The $359,299,000 funding level in S. 1371 is essential to ensuring that we are able to continue to meet our congressionally directed responsibilities. Although the FCC is small compared to other agencies, our actions have a wide-ranging impact on our Nation's economic health and homeland security. The Commission and its predecessor agencies have safeguarded our spectrum and fine-tuned its use for over 100 years. We review and authorize the new wireless devices that are revolutionizing our economy, all while licensing hundreds of thousands of commercial and public safety spectrum users and searching for innovative methods to provide greater flexibility and shared uses of the airwaves.

The FCC's spectrum auction process exemplifies our role in enhancing America's economic growth. Auctions not only freed up the airwaves and provided the spectrum that has created and sustained America's mobile revolution, but they have raised $51.9 billion since 1994 for the United States Treasury. Future auctions—notably the H Block and the first-in-the-world "incentive auction"—will provide much-needed spectrum to fuel industry growth and increase competition, while fostering essential nationwide interoperable safety communications and paying down America's deficit. As a result, American consumers will enjoy greater performance and choices in the wireless communications marketplace.

These auctions also will fund tomorrow's public safety networks so that our first responders can communicate during emergencies. Today is the anniversary of the terrible September 11 attacks, which painfully highlighted the need for interoperable, functioning communications systems. FirstNet will be an important part of this equation but we must also focus on day-to-day communications services, including facilitating the Emergency Alert System, licensing new frequencies to our first responders, ensuring that no one is interfering with or jamming our communications networks, and making certain 9–1–1 systems are accessible in emergencies. Nowhere is the Commission's commitment to our Nation's well-being more evident than in our work to support homeland security. Over the last few years, the Commission has worked diligently on these efforts. For example, we teamed with the wireless industry and FEMA to bring emergency alerts to wireless consumers so that people in vulnerable areas will receive messages about potential serious events. The Commission responded to last year's Derecho storm with decisive action to ensure the reliability of calls to 9–1–1, and we will follow through on the rulemaking during my tenure.

The Commission also oversees management of congressionally mandated Universal Service Fund programs so that all Americans have access to essential communications services, whether they live on Tribal lands in New Mexico, a farm in Delaware, or in subsidized housing in Nebraska. Since the Commission last testified before this subcommittee, we have continued moving forward with our efforts to enhance the effectiveness of our universal service programs, improving fiscal responsibility while eliminating waste, fraud and abuse. We also have listened to rural carriers and made modifications to our reforms to address many of their concerns. These important cost-saving steps and modifications involved numerous resource hours to initiate, and require additional staff to complete.

In 2011, the Commission reformed USF to support a broadband-enabled communications infrastructure and for the first time put the "high-cost" program on a budget. And just weeks ago, carriers requested funding under the new Connect America Fund which will leverage hundreds of millions of dollars in private investment to deploy broadband to up to 600,000 unserved homes and businesses in 44 States. We reformed the Lifeline Program, with cost savings on track to save $2 billion by the end of 2014. We reformed our Rural Health Care program to help connect thousands of healthcare providers in rural areas across the country to broadband. And this summer, we launched a proceeding to explore comprehensive modernization of E-Rate to ensure that schools and libraries have the bandwidth they need to use the latest digital learning tools.

Recently, we have initiated new proceedings to provide additional spectrum to spur growth—even in previously unheard of areas like the 57–64 GHz band. We have lessened regulatory burdens in areas such as experimental licenses so that new technology can reach consumers faster. Last month, the Commission took decisive action to address the unreasonable rates that America's inmates and their families have been paying for phone services. We also modernized and streamlined our data collection to reduce burdens while continuing the production of the National Broadband Map. Throughout the summer, Commission employees have worked long hours to make sure that communications services are accessible to individuals with disabilities. The staff also dedicated extensive efforts to ensuring that the Office of Native Affairs and Policy had the resources to continue to enhance broadband service on Tribal lands.

Many of these matters have given me great satisfaction as Acting Chair and are reminders that our actions can mean so much to so many. But if America is to continue as a worldwide leader in communications and technology, we should not compromise the funding that supports the Commission's mission. Because we have been operating under a continuing resolution for fiscal year 2013, we started last year well below our request of $346,782,000. With sequestration, we lost 5 percent of that reduced continuing resolution number, or $17,096,193—leaving us with $322,000,000. So how exactly are these budget cuts impacting the FCC?

The Commission has dramatically reduced spending, and these reductions do not come without programmatic costs. For instance, instead of following GSA guidelines

for the replacement of our tracking vehicles—equipment essential to enforcement and homeland security—we are attempting to fund other programs, because we can keep the tracking vehicles running a little longer. Less funding has led to routine shortages in equipment and supplies, the cancellation and reduction of contracts, continued use of outdated and failing engineering equipment, and bare-bones travel that falls short of addressing core mission objectives. We also have less to spend on important programs such as Tribal consultations and reduced funds have even led to the early shutdown of the FCC Headquarters' air-conditioning system, adversely affecting those working late hours in the peak summer heat.

But the Commission continues to act responsibly to deal with budget cuts and shortages, including reprogramming wherever we can find money while reducing services to create a funding pool. We currently have a reprogramming request before your subcommittee to replace our heating and air-conditioning system in our Columbia, Maryland, laboratory; to make repairs to the Enforcement Bureau facilities; and to fund upgrades to information technology systems essential to our legally mandated work. We are hoping that you will permit us to follow through on this reprogramming so that we can better deal with the impacts of sequestration.

If we were to realize the full fiscal year 2014 funding level, however, the Commission would stabilize and reduce the damage to our budget under sequestration and initiate essential upgrades to our technology base—including required software changes to our equipment authorization programs and other licensing systems, overdue lifecycle replacements for Enforcement Bureau equipment, and ongoing equipment repairs for our Columbia, Maryland, laboratory. These funds also would provide enough resources to stabilize the Commission's workforce numbers during the next fiscal year.

It is also important to note that our sequestered funds were not derived from direct appropriations, but raised from section 9 regulatory fees paid by licensees—big and small—to ensure that their applications were processed, their new technology requests were reviewed, and consumer requests were resolved. Instead of building up the industry's foundation, serving the needs of consumers and funding dynamic new products and services, FCC licensees paid an extra $17 million in funds that were deposited directly into the U.S. Treasury. Also, under section 8 of the Communications Act, the FCC raises approximately $25 million annually in application fees but does not see any of this money, as it goes directly to the Treasury. All of our actual application costs are paid from our appropriated number, or our licensing fees. So in a sense, the industry and consumers pay three times—once for application fees that are not used for that purpose, another to fund sequestration, and a third time to actually operate the Commission.

And the Commission staff processes over 300,000 of these applications annually. They are the daily lifeblood of the communications sector—new equipment, new authorizations, repurposed spectrum—all are essential to the success of the industry. They include 78,000 public safety applications to ensure that first responders have the spectrum they need to conduct operations that save lives and property on a daily basis. That number also counts 167,072 wireless applications—from your local HAM operators to aviation licensees, as well as maritime and of course, cellular licensees. Television, radio, TV translators, and other media services comprise 24,435 of these applications, and while the International Bureau handles a smaller number at 1,542, those applications have important and overarching international impacts. Our Office of Engineering and Technology also handled 3,565 experimental licenses last year on an antiquated computer system, while processing 6,000 equipment authorizations yearly, not including the 16,000 authorizations from outside laboratories reviewed by FCC staff.

Processing these applications is becoming more difficult as we face staffing shortages. The Commission maintains a highly skilled workforce of engineers, economists and attorneys, along with trained technical staff to carry out our core mission. But we have slowed backfilling positions, resulting in our lowest FTE levels in three decades, even as we are being asked to authorize more innovative products and oversee an increasingly complex and rapidly evolving communications marketplace. The inevitable results are slowdowns in application processing, which will impede progress and economic development and have a negative, cascading impact on all Commission operations—from spectrum development to auctions.

The Commission's comprehensive modernization of Universal Service Fund programs is also affected by sequestration. While USF itself is exempt from sequestration, our staff— the attorneys, technicians, engineers and economists who spend countless hours to manage our universal service programs—are not. This subcommittee has placed an emphasis on the Commission completing USF reform—and we intend to do so, but resource challenges put severe burdens on fewer staff.

This subcommittee also directed the Commission to take decisive steps to alleviate rural call completion issues and report on remedial measures. Along with our Enforcement Bureau, these activities are being handled by the same bureau that is straining under the pressure of completing USF reform. Although I am committed to finding solutions to this issue, staff resources to complete the item are stretched too thin.

Over the course of the next year, the Commission will be called upon to continue its efforts to roll out broadband to all Americans and develop new and innovative solutions to satisfy our Nation's insatiable demand for spectrum. We must complete work on our innovative incentive auctions program while simultaneously supporting the H Block Auction and a range of other auctions, big and small. We will use these mechanisms to raise funds for the interoperable public safety broadband network authorized by Congress. We also are expected to navigate and resolve complex cross-border issues. We will process hundreds of thousands of applications and consumer complaints and address issues that might not have been contemplated the year before in an environment that evolves at a break-neck speed.

I know that our engineers are up to the task. I know that our lawyers are up to the task. I know that our economists and researchers are up to the task. I know that our administrative staff stands ready to support their efforts and that the Commissioners await the staff's input. But I want to ensure that they all have the tools and the resources necessary to get their respective jobs done. When I think of the effects of sequestration coupled with pay freezes, I worry that we might very well lose the next generation of topnotch engineers, economists, attorneys and support staff as the current generation retires. We will run the risk of not just short-changing current employees, our industries and American consumers—we may be jeopardizing our collective national future. This would be bad for the Commission and potentially fatal for the vital sector that we oversee.

I recognize that the sequestration problem must be resolved if we are to get the degree of funding we need to meet these goals. But if we were to receive the funding level that you have appropriated, not the reduced level set by sequestration, then I can confidently affirm that we are not only headed in the right direction but we will keep pace with the rapidly evolving industry that we are charged to oversee.

Thank you for the opportunity to appear before you today and I look forward to answering your questions.

Senator UDALL. Thank you very much.

Please proceed, Commissioner Rosenworcel.

STATEMENT OF HON. JESSICA ROSENWORCEL

Ms. ROSENWORCEL. Good morning, Chairman Udall, Ranking Member Johanns, and Senator Moran. I'm honored to appear before you today.

Let me start by noting what is important and obvious. Today is September 11. It is the anniversary of one of our darkest days. What happened 12 years ago changed us all. It left an indelible mark. In my family, that mark is personal, because one of my relatives died in the Twin Towers. But, it is also important to identify what has not changed, because, if anything, the events of that day only deepened our commitment to what connects us as individuals and as a Nation, because that is what makes us strong.

Our communications networks make us strong. They strengthen our economy, they give rise to information age opportunity, and they support public safety. They are at their most powerful when their reach is universal. That means ensuring that everyone in this country, no matter who they are or where they live, has access to first-rate communications. That means urban America, rural America, and everything in between.

Now, in the next fiscal year, the FCC will take steps to strengthen communications across the country. Let me highlight three:

First, we will expand opportunity and enhance security through our upcoming spectrum auctions. The demand for our airwaves is

growing at a breathtaking pace. We are now a Nation with more wireless phones than people. One in three adults now has a tablet computer. And all of these devices are using more of our airwaves than ever before.

To meet this skyrocketing demand, the FCC will develop a series of spectrum auctions. At the direction of Congress, we will auction 65 megahertz of spectrum for new mobile broadband use, and we will also hold the world's first voluntary incentive auctions. These auctions are complex.

But we must never forget one simple fact: Congress made clear that the revenues from these auctions will support the First Respond Network Authority, or FirstNet. FirstNet, in turn, will help develop the first nationwide interoperable wireless broadband network for public safety. This is important. Twelve years ago today, the lives of too many of our first responders, and those they sought to save, were put at risk by the absence of interoperable public safety communications. So we must remember, in our spectrum auctions, that we have promises to keep.

Second, the FCC must take smart steps to foster the transition to next-generation networks. This is a time of extraordinary change. The number of traditional telephone lines is declining. The use of wireless is growing. And Internet protocol (IP) is remaking communications across the board. As we develop a new policy framework for IP networks, we must keep in mind the four enduring values that have always informed communications law: public safety, universal service, competition, and consumer protection. To kick-start this policy initiative, I believe we now need location-specific IP trials.

Third, we must update our E-Rate program, which helps connect schools and libraries to the Internet. The E-Rate program was developed following the Telecommunications Act of 1996. When the program began, only 14 percent of public schools were connected to the Internet. Today, that number is north of 95 percent. That sounds impressive. But, the challenge is no longer connection; it is capacity, because too many of our E-Rate schools, especially those in rural communities, are connected to the Internet at speeds of 3 megabits or less. As broadband speeds go, that is not fast enough for the most innovative teaching tools, that is not fast enough for high-definition streaming video, and it is not fast enough to teach the next generation the STEM skills that are going to be so essential to compete.

So I think it is time to do two things. We must increase the capacity of E-Rate connections, and we must decrease the bureaucracy of this program which can deter small and rural schools from even applying. If we do this, I think we can reboot and recharge the E-Rate program. We can call it E-Rate 2.0.

Finally, I want to speak directly to funding in the next fiscal year. Communications technologies, by some measures, account for one-sixth of the economy in the United States. The FCC not only oversees this dynamic sector, it delivers a high return on investment. Consider that, in nearly two decades, our spectrum auctions have raised over $50 billion for the United States Treasury. Moreover, the FCC is deficit-neutral because it is fully funded by regu-

latory fees. Furthermore, we are doing all we do with the lowest level of full-time employees in three decades.

We can be proud of doing more with less. But if we are honest, there are consequences: reduced outreached, delayed decision-making, and fewer resources to address hard and persistent problems, like service on tribal lands.

Consider, too, that the FCC now processes 16,000 equipment authorizations a year. Over the last decade, that number of applications has increased by 400 percent. Then think about how much more innovation and opportunity we could unleash if we update our labs, hire more engineers, and process those applications faster.

PREPARED STATEMENT

Thank you. I look forward to answering any questions you might have.

[The statement follows:]

PREPARED STATEMENT OF HON. JESSICA ROSENWORCEL

Good morning, Chairman Udall, Ranking Member Johanns, and distinguished members of the subcommittee.

I am honored to appear before you today as a Commissioner at the Federal Communications Commission. Prior to serving in this position, I had the great privilege of serving as counsel to the United States Senate Committee on Commerce, Science, and Transportation. So I know that oversight is essential and I am grateful for the opportunity to be here today.

Let me start by noting what is important and obvious. Today is September 11. It is the anniversary of one of our darkest days. What happened 12 years ago changed us all. It left an indelible mark. In my family, that mark is personal—because one of my relatives died in the Twin Towers.

But it is also important to identify what has not changed. We are resilient. We are optimistic. We are steadfast in our shared determination to move forward. And if anything, the events of that day only deepened our commitment to what connects us as individuals and as a Nation—because that is what makes us strong.

Communications networks make us strong. They strengthen our economy, they give rise to information age opportunity, and they support public safety. They are at their most powerful when their reach is universal. That means ensuring that everyone in this country, no matter who they are or where they live, has access to first-rate communications. That means rural America, urban America, and everything in between.

In the next fiscal year, the FCC will take several steps to strengthen communications across the country. I will highlight three.

First, we will expand opportunity and enhance security through our upcoming spectrum auctions. The demand for our airwaves is growing at a breathtaking pace. We are now a Nation with more wireless phones than people. One in three adults now has a tablet computer. All of these devices are using more of our airwaves than ever before. But we are just getting started. Because worldwide, the demand for mobile broadband data is expected to grow by 13 times over the next 5 years.

To meet this skyrocketing demand, the FCC will develop a series of spectrum auctions. At the direction of Congress in the Middle Class Tax Relief and Job Creation Act of 2012, we will auction 65 megahertz of spectrum for new mobile broadband use. The FCC also will hold the world's first voluntary incentive auctions to repurpose some airwaves in the 600 MHz band.

These auctions are complex. But we must never forget one simple fact: Congress made clear that the revenues from these auctions will support the First Responder Network Authority, or FirstNet. FirstNet, in turn, will help develop the first nationwide, interoperable, wireless broadband network for public safety. This is important. Twelve years ago today, the lives of too many of our first responders—and those they sought to save—were put at risk by the absence of interoperable public safety communications. So we must remember in our spectrum auctions that we have promises to keep.

Second, the FCC must take smart steps to foster the transition to next generation networks. This is a time of extraordinary change in communications networks. The

number of traditional telephone lines is declining, the use of wireless is growing, and services dependent on Internet Protocol are remaking our communications across the board. As we develop a new policy framework for IP networks, we must keep in mind the four enduring values that have always informed communications law—public safety, universal service, competition, and consumer protection. To kickstart this policy initiative—I believe we now need location-specific IP trials.

Third, we must update our E-Rate program, which helps connect schools and libraries to the Internet. The E-Rate program was developed following the Telecommunications Act of 1996. When the program began, only 14 percent of public schools were connected the Internet. Today that number is north of 95 percent. That sounds impressive. But the challenge is no longer connection—it is capacity. And by that measure, we have work to do.

Too many of our E-Rate schools—especially those in rural communities—are connected to the Internet at speeds of 3 Megabits or less. As broadband speeds go, that is not fast enough for the most innovative teaching tools. It is not fast enough for high-definition streaming video. And it is not fast enough to teach the next generation science, technology, engineering, and math—or STEM—skills that will be so essential to compete. So I think it is time to do two things: we must increase the capacity of E-Rate connections and we must decrease the bureaucracy of this program, which can deter small and rural schools from even applying. If we do this, I think we can reboot, recharge, and reinvigorate the E-Rate program. Call it E-Rate 2.0.

Finally, I want to speak directly to funding in the next fiscal year for the FCC. Communications technologies account for one-sixth of the economy in the United States. The FCC not only oversees this dynamic sector, it delivers a high return on investment. Consider that in nearly two decades, our spectrum auctions have raised over $50 billion for the United States Treasury. Moreover, the FCC is deficit neutral because it is fully funded by regulatory fees. Furthermore, we are doing all we do with the lowest level of full-time employees in three decades.

We are proud of doing more with less. But if we are prudent, we must also acknowledge that over time this has consequences: reduced outreach, delayed decision-making, and fewer resources to address hard and persistent problems—like service on Tribal Lands. Consider, too, that the FCC now processes 16,000 equipment authorizations a year. Over the last decade, the number of applications has increased by 400 percent. Then think about how much more innovation and opportunity we could unleash if we update our labs, hire more engineers, and process these applications faster.

Thank you. I look forward to answering any questions you may have.

Senator UDALL. Thank you very much for your testimony.

Please proceed, Commissioner Pai.

STATEMENT OF HON. AJIT PAI

Mr. PAI. Chairman Udall, Ranking Member Johanns, and Senator Moran, it is a privilege to appear before you today.

This morning, I'd like to share with you my views on two of the many important issues that the FCC is confronting: Bringing up spectrum for commercial use and promoting infrastructure investments in rural America.

Given the subcommittee's focus on appropriations, it's worth noting that the FCC is one of the few agencies that can generate a profit for the Federal Government. For example, between 2005 and 2008, the Commission's spectrum auctions raised over $33 billion that was used for deficit reduction. Since 2009, however, the Commission has raised only $72 million in auction revenue, or about two-tenths of 1 percent of the amount raised in the prior 4 years. This is unfortunate, of course, for the Treasury, but it's also unfortunate for American consumers, whose demands for bandwidth are increasing along with their use of tablets and smartphones.

That's why, since joining the Commission last May, I've focused on increasing the amount of spectrum available for mobile broadband; in part, by rejuvenating the Commission's auction pro-

gram. I'm pleased to report to you this morning that we recently have made real progress in that regard.

For example, thanks to the leadership of Chairwoman Clyburn, the Commission will be ready to auction 10 megahertz of H-block spectrum for mobile broadband in January 2014. This auction would push badly needed spectrum into the commercial marketplace. It's projected to raise at least $1 billion, and possibly much more than that.

Holding a successful H-block auction in January 2014 also will signal that the FCC still has both the capacity and the will to hold a major spectrum auction, something we have not done in 5½ years.

Auctioning the H block is just one of the many directives and responsibilities that Congress gave us last year in the Spectrum Act. The Spectrum Act requires the Commission to increase the stock of spectrum to meet ever-increasing consumer demand. The proceeds of the resulting auctions will be used to establish a nationwide interoperable public safety broadband network, to reduce the deficit, and to hasten the deployment of next-generation 9–1–1 services. Since today is September 11, the first of those priorities deserves a special mention.

As Chairman Udall observed earlier, 12 years after the terrorist attacks on our Nation, we still do not have a nationwide interoperable public safety broadband network, but that goal could be achieved if the FCC is able to raise the necessary funds for the First Responder Network Authority, as Congress directed.

A successful broadcast incentive auction is critical to accomplishing this task. And for the incentive auction to succeed, we need to have a free and open auction, where market forces determine the outcome. The prices paid to broadcasters should be determined by the auction process, not by government fiat, and participation in the forward auction should be open to all. Otherwise, we may distort not only who may purchase spectrum, but also how much spectrum will be available to purchase in the first place. This would reduce net revenues and impede our best chance to satisfy the many funding priorities that Congress set out in the Spectrum Act.

Turning to infrastructure investments, I'm concerned about the effects that the Commission's Quantile Regression Analysis, or QRA, is having on broadband deployment in rural America. The QRA benchmarks, which were adopted as part of the FCC's 2011 Universal Service Fund reforms, apply only to rural carriers. They were meant to incentivize rate-of-return companies to operate more efficiently and to spend money more wisely. But according to the Obama administration's Department of Agriculture, the benchmarks have resulted in unpredictability and uncertainty, chilling investment and impeding broadband deployment, precisely the results that Ranking Member Johanns warned against in his statement. For these reasons, the Commission needs to think long and hard about how the QRA benchmarks are impacting rural America.

In closing, even though we have not had a full complement of commissioners during the past few months, the FCC, nonetheless, has been quite active. Working together within the agency and

with Congress, I'm confident that we will continue to discharge our responsibilities in a manner that serves the public interest well.

PREPARED STATEMENT

Thank you once again for holding this important hearing, and I look forward to answering your questions.

[The statement follows:]

PREPARED STATEMENT OF HON. AJIT PAI

Chairman Udall, Ranking Member Johanns, and Senators Durbin, Coons, and Moran, it is a privilege to appear before you today. Thank you for inviting me to testify on the work of the Federal Communications Commission (FCC). We have been busy, and today I'd like to share with you my views on several important issues that we are confronting, namely: freeing up spectrum for commercial use, removing regulatory barriers to infrastructure investment, revamping the E-Rate program, and reforming the agency's processes.

*Spectrum*.—Given this subcommittee's focus on appropriations, it is worth noting that the FCC is one of few agencies that can generate a profit for the Federal Government. By auctioning off spectrum, the Commission has raised tens of billions of dollars for the Treasury over the last two decades. Between 2005 and 2008, for example, the Commission's spectrum auctions raised over $33 billion that was used for deficit reduction, and the FCC's auctions program was a net contributor to the Treasury each year.

Over the last 4½ years, however, the Commission's record on this front has been disappointing. Since January 2009, the Commission has raised a paltry $72 million in auction revenue, or about two-tenths of 1 percent of the amount raised in the prior 4 years. Indeed, when you account for the Commission's spending on auctions, our auctions program has actually lost money in each of the last 4 years. This is bad news not just for the Treasury but also for American consumers, whose demands for bandwidth increase as their use of tablets and smartphones proliferates.

That is why, since joining the Commission last May, I have concentrated on trying to accelerate the allocation of spectrum for mobile broadband and rejuvenate the Commission's auction program. I am pleased to report that we recently have made real progress on both of these fronts.

For example, thanks to the leadership of Chairwoman Clyburn, the Commission will be ready to auction 10 MHz of H-Block spectrum for mobile broadband in January 2014. This auction would push badly needed spectrum into the commercial marketplace. It is also projected to raise at least $1 billion—money that could be devoted to important national priorities (more on those shortly). Furthermore, a successful H-Block auction will signal to the marketplace that the FCC still has both the capacity and the will to hold major spectrum auctions.

I recognize that some would prefer that the Commission delay the H-Block auction, but I believe doing so would be a serious mistake. For one thing, this spectrum will be ready to be auctioned in just a few months; as the saying goes, a bird in the hand is worth two in the bush. For another, we should not run the risk of linking the auction of spectrum that is ready to be released into the commercial marketplace with other spectrum that poses much more difficult policy and technical challenges. In short, we cannot and should not go 6 years without a major spectrum auction. The time for action has arrived.

Auctioning the H Block is just one of the many directives and responsibilities that Congress entrusted to us last year in the Spectrum Act. The act requires the Commission to bring additional spectrum into the commercial marketplace to address the imminent spectrum crunch. The proceeds of the resulting auctions will be used to establish a nationwide, interoperable public safety broadband network, to reduce the deficit, and to hasten the deployment of next-generation 9–1–1 services. Since today is September 11, the first of those priorities merits special mention. Twelve years after the terrorist attacks against our Nation, we still do not have a nationwide, interoperable public safety broadband network. However, that goal could be achieved if the Commission is able to raise the necessary funds for the First Responder Network Authority, as Congress directed. As we implement the act, our top priority must be to adopt sound spectrum policies that allow us to meet our statutory duties.

A successful broadcast incentive auction is critical to accomplishing this task. And for the incentive auction to succeed, I believe five principles must guide our work. First, we must be faithful to the statute. Second, we must respect the laws of phys-

ics as we design the band plan and the repacking algorithm. Third, we must be fair to all stakeholders. Fourth, we must keep our rules as simple as possible. And fifth, we need to complete this proceeding in a reasonable timeframe.

If we hew to these principles, I remain optimistic that the incentive auction will prove a success. But there is much to be done. We must hammer out band plans that are technically feasible and correspond to the amount of spectrum we clear. We must determine how much market variation, if any, is appropriate. We must nail down how to optimally repack broadcasters who choose not to participate in the reverse auction. We must design an auction that maximizes net revenues and lets the market determine which bids will be accepted and how much spectrum will be cleared. We must continue efforts to coordinate with the Governments of Canada and Mexico. And we must continue to do aggressive and comprehensive outreach to all affected constituencies.

Given all these tasks, I hope we can avoid unnecessary complications that may drag out our deliberations and delay the start of the auction. For example, some have suggested that we base the reserve prices offered to broadcasters on their enterprise values or on the populations they serve. Others have suggested that we restrict who may participate in the forward auction—in effect, set quotas that determine in advance who wins and who loses. But rules such as these will make an already complex process more complicated and will make the auction more likely to fail. We need to have a free and open auction where market forces determine the outcome. The prices paid to broadcasters should be determined by the auction process, not by Government fiat. And participation in the forward auction should be open to all. A contrary approach will distort not only who may purchase spectrum, but also how much spectrum will be available for auction. And such an approach will reduce net revenues and impede our best chance to satisfy the many funding priorities Congress set out in the Spectrum Act.

Of course, the broadcast incentive auction and the H-Block auction aren't the only auctions the Commission has on its plate. The Spectrum Act requires us to reallocate and auction another 55 MHz of spectrum by February 2015, including the 25 MHz of spectrum adjacent to the so-called AWS–1 band (2155–2180 MHz). To maximize the value of this spectrum—for consumers who want their devices to work around the world, for wireless providers and manufacturers who seek economies of scale, and for the Treasury, which could receive billions in revenue from this auction—we will need to pair it with the 1755–1780 MHz band now occupied by Federal incumbents.

Unfortunately, Federal incumbents do not have much incentive to consolidate their spectrum holdings or use their spectrum more efficiently (without impairing their ability to carry out their missions). That's why Congress passed and amended the Commercial Spectrum Enhancement Act and established the notification-and-auction process for auctioning Federal spectrum. Once the FCC commences that process, Federal incumbents and the National Telecommunications and Information Administration have 18 months to put together plans to transition Federal spectrum into commercial hands. It's a process with little downside because if the auction does not raise more than 110 percent of the estimated costs of transitioning, auction participants and Federal users are held harmless.

I'm pleased to report that shortly after I proposed the use of this process in March, the Commission invoked it.[1] As a result, we are slowly proceeding toward licensing and auctioning the 1755–1780 MHz band. As we do so, we should aim to clear and reallocate the band rather than forcing Federal users and commercial operators to undertake the complicated, untested task of spectrum sharing. It's not only the best policy. It's also the preference Congress codified in law.

Before moving on to another topic, I should note that licensed spectrum is not the only game in town. Unlicensed spectrum has been a boon to consumers and innovators alike. For instance, virtually everyone with a smartphone or laptop has benefited from WiFi, and myriad other applications like garage door openers and baby monitors rely on unlicensed spectrum as well. Accordingly, increasing the amount of spectrum available for unlicensed use has been an FCC priority. In February, the Commission teed up the expansion of unlicensed use by a full 195 MHz

[1] Statement of Ajit Pai, Commissioner, Federal Communications Commission, Hearing Before the Committee on Commerce, Science, and Transportation of the United States Senate, "Oversight of the Federal Communications Commission at 2–3 (Mar. 12, 2013), http://go.usa.gov/DWPG; Letter from the Honorable Julius Genachowski, Chairman, FCC, to the Honorable Lawrence E. Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce (Mar. 20, 2013), http://go.usa.gov/DWEC.

in the 5 GHz band.[2] That's more than three times the amount of licensed spectrum we're hoping to recover from Federal users, and it's spectrum located adjacent to existing unlicensed allocations. That means fatter pipes—in the spectral sense—for next-generation technologies like the IEEE 802.11ac standard. This will allow higher-speed, higher-capacity connections and will also reduce congestion in apartment buildings, schools, libraries, and offices. To keep the ball rolling on this project, we should tackle some of the less contentious issues this year—such as adding 25 MHz to the U–NII–3 band and creating a more unified set of rules for the 5 GHz spectrum—and aim to finish the rest by next July.

*Infrastructure Investment*.—Turning to infrastructure investment, we have come a long way since the passage of the Telecommunications Act of 1996. Back then, copper was king, and consumer choice was minimal. Today, almost every segment of the communications industry is competing to offer newer, faster, and better broadband services. Telecommunications carriers are upgrading DSL with IP-based technology and fiber. Cable operators are deploying equipment based on the DOCSIS 3.0 technical standard to increase bandwidth tenfold. Satellite providers are offering 12 megabit packages in parts of the country that never dreamed of such speeds. Communities are reforming their laws to attract gigabit deployments from new entrants and incumbents. And millions of Americans—many of whom don't subscribe to fixed broadband service at home—now have access to the Internet on the go using the mobile spectrum the Commission auctioned back in 2006 and 2008.

What are the results of all this broadband competition? More choices for consumers and major challenges to old business models. Traditional voice telephony is a good example. In living memory, you only had one option: Ma Bell. But now you can select among a number of Voice over Internet Protocol (VoIP) providers, including cable operators. Or technology companies like Google, Skype, and Facebook. Or even video teleconferencing providers. Essentially, voice is becoming just another application riding over the Internet. It's no surprise, then, that today only one-third of U.S. households subscribe to plain old telephone service over the public-switched telephone network (PSTN), and that number is dropping each year.

Underlying these changes is a technological revolution. Analog signals have gone digital. Circuit switching is giving way to packet switching. And first-generation cellular has been replaced with ultra-fast LTE. The common thread knitting all of these changes together is the Internet Protocol (IP), a near-universal way to organize and transmit data.

So what is the problem? The FCC's regulations still contemplate a world based on fading technologies. Instead of a converged marketplace in which companies from once-disparate niches compete against each other, the Commission too often sees silos of services and would-be monopolists (perhaps in part because many provisions of the Communications Act captured snapshots of the marketplace between 1934 and 1996—snapshots often yellowed with age).

Nine years ago, then-Chairman Michael Powell opened the IP-enabled services docket to try to resolve this regulatory anachronism and to clarify many ambiguities in the law.[3] But many of the basic questions raised in that proceeding still remain, such as whether interconnected VoIP is an "information service" or a "telecommunications service." And because of that regulatory uncertainty, companies may hold back billions of dollars in investment in IP-based technologies as they wait to see whether that investment will be welcomed or compromised by the Federal Government.

I believe that the Commission needs to take a hard look at its regulations in light of the IP transition, especially in light of the fact that the American people are ahead of Washington on this issue. Consumers are sending a clear message about the superiority of IP-enabled networks. For instance, there were over 37 million VoIP subscriptions in 2011. The number of copper telephone lines has decreased dramatically in just the past 10 years. Government should heed the market's message and give the private sector the flexibility to make investment decisions based on consumer demand, not outdated regulatory mandates.

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[2] *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U–NII) Devices in the 5 GHz band*, ET Docket No. 13–49, Notice of Proposed Rulemaking, 28 FCC Rcd 1769, 1825 (2013) (Statement of Commissioner Ajit Pai), available at http://go.usa.gov/DWm3.

[3] *IP-Enabled Services*, WC Docket No. 04–36, Notice of Proposed Rulemaking, 19 FCC Rcd 4863 (2004), available at http://go.usa.gov/DWmA.

I hope my colleagues will work with me to establish a modern regulatory framework for the IP transition based on a few simple principles.[4] First, we must ensure that vital consumer protections remain in place. When consumers dial 9–1–1, they need to reach emergency personnel; it shouldn't matter whether they are using the PSTN, a VoIP application, or a wireless phone. The same goes for consumer privacy protections and antifraud measures like our slamming rules. Second, we must not import the broken, burdensome economic regulations of the PSTN into an all-IP world. No tariffs. No arcane cost studies. And no hidden subsidies that distort competition to benefit companies, not consumers. Third, we must retain the ability to combat discrete market failures and protect consumers from anticompetitive harm. Fourth, we must respect the metes and bounds of the Communications Act and not overstep our authority.

The right way to start building that framework is to start ironing out the technical aspects of the transition immediately. And the best way to do that is with a real trial, an All-IP Pilot Program. An All-IP Pilot Program would allow companies to choose a discrete set of wire centers where they could turn off their old time-division-multiplexed electronics and migrate customers to a newer, all-IP platform. Moving forward with such a program would signal to carriers that we won't force them to invest in old networks forever. And doing so would allow us to move closer to the day when carriers will be able to focus exclusively on investing in the networks of the future rather than maintaining the networks of the past.

Just as we must eliminate old regulatory barriers to infrastructure investment, we must also be careful not to establish new ones. A good example is the Commission's implementation of the quantile regression analysis (QRA) benchmarks from the November 2011 Universal Service Transformation Order.[5] The QRA benchmarks apply only to rural carriers and are supposed to create "structural incentives for rate-of-return companies to operate more efficiently and make prudent expenditures."[6] But reality has not caught up with theory. Instead, the QRA benchmarks have resulted in unpredictability and uncertainty, chilling the investment climate and impeding the deployment of next-generation technologies and broadband services to rural Americans. As the Obama Administration's Department of Agriculture told the Commission in February, "demand for [Rural Utility Service] loan funds dropped to roughly 37 percent of the total amount of loan funds appropriated by Congress in [fiscal year] 2012."[7]

Here's one problem with the QRA benchmarks: Rural carriers must carefully plan their infrastructure over a 5-, 10-, or 20-year timeframe if they are to recover their costs. Congress recognized this by embedding within section 254 of the Communications Act the command that universal service support be "predictable." But the QRA benchmarks change annually, with no necessary connection between the benchmarks from one year to the next.

To be sure, the Commission gave rural carriers some relief back in February when we decided that carriers should be able to balance their capital investments against their operating expenses (rather than analyzing each—and possibly penalizing carriers for either—separately).[8] And the Wireline Competition Bureau recently recognized that implementing a whole new regression model in 2014 would be infeasible given our slow progress in collecting accurate maps of each carrier's study area.[9]

But I still have my doubts about the utility of the QRA benchmarks as implemented. It is important to remember that they do not save money for the Universal Service Fund, but merely redistribute support from one set of carriers to another. The 2014 benchmarks are likely to impact significantly more carriers than the 2013 benchmarks, all of which are based on flawed data and inaccurate maps. And rural carriers still cannot know whether they will be able to recover investments made

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[4] Remarks of FCC Commissioner Ajit Pai, "Two Paths to the Internet Protocol Transition," Hudson Institute, Washington, DC (Mar. 7, 2013), http://go.usa.gov/DWmJ.

[5] *Connect America Fund; High-Cost Universal Service Support*, WC Docket Nos. 10–90, 05–337, Sixth Order on Reconsideration and Memorandum Opinion and Order, 28 FCC Rcd 2572, 2600 (2013) (Sixth Recon Order) (Statement of Commissioner Ajit Pai, Approving in Part and Concurring in Part), available at http://go.usa.gov/DWVj.

[6] *Connect America Fund et al.*, WC Docket No. 10–90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, 17742, para. 210 (2011), available at http://go.usa.gov/DWv9.

[7] Letter from John Charles Padalino, Acting Administrator, Rural Utility Service, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10–90, 07–135, 05–337, GN Docket No. 09–51, CC Docket Nos. 01–92, 96–45, WT Docket No. 10–208, at 2 (Feb. 15, 2013), available at http://go.usa.gov/DWyw.

[8] *Sixth Recon Order*, 28 FCC Rcd at 2583, para. 29, available at http://go.usa.gov/DWV5.

[9] *Connect America Fund; High-Cost Universal Service Support*, WC Docket Nos. 10–90, 05–337, Order, DA 13–1656 (July 26, 2013), available at http://go.usa.gov/DWVV.

today since the relevant benchmarks for those investments won't be known until 2015. In short, the Commission needs to think long and hard about the QRA benchmarks.

*E-Rate*.—Speaking of the Universal Service Fund, I was pleased that we launched a proceeding to reform and revamp the Schools and Libraries program, better known as E-Rate, this summer.[10] Established at the direction of Congress 16 years ago, the E-Rate program is intended to bring advanced services to schools and libraries across America. And in many ways, the program has been a success. Internet access in public schools has almost tripled, and speeds have grown alongside availability. Indeed, a 2010 FCC survey showed that 22 percent of respondents were "completely" satisfied and another 58 percent were "mostly" satisfied with the bandwidth they're getting.

But like all Federal programs, E-Rate has had its share of difficulties. For applicants, the funding process from start to finish can stretch for years. Additionally, the process too often requires the assistance of specialized E-Rate consultants to navigate arcane steps like Form 470 competitive bidding, Form 471 Program Integrity Assurance review, and the Form 500 commitment adjustment process. For parents, the process is so opaque that they cannot know ahead of time how much funding their school might receive and cannot track whether it is actually spent on enriching the education of their kids. For school boards, the priority system (under which things like paging and Blackberry services for administrators get prioritized over connecting a classroom to the Internet) distorts their spending decisions since some services are discounted by up to 90 percent while others may or may not receive any discount in a given funding year. And for everyone with a phone line, and who hence contributes to the program, it's hard to tell what bang we're getting for our universal service buck—although we do know that an average of $600 million is spent each year on basic telephone service and other last-generation technologies.

There is a better way—one which would focus the E-Rate program on children. To create a student-centered E-Rate program, we need to fundamentally rethink how we structure the program. That means starting each school with an upfront, per-student allocation of funding so they know how much they can spend. That means cutting the redtape so that the initial application is just one page and there's only one other form needed before funds are disbursed. That means targeting funding at next-generation technologies like broadband and WiFi while still letting local schools set their own priorities. And that means publishing all funding and spending decisions on an easily accessible, central website so that every parent, every journalist, every government watchdog, every American can see just how E-Rate funds are being spent.

The student-centered E-Rate program I have outlined[11] would fulfill E-Rate's statutory mission of bringing advanced services to schools and libraries across the country. It would free an extra $1 billion for next-generation services in its first year, all without collecting an extra dime from the American people. And it would reduce waste, fraud, and abuse in the program and increase transparency and accountability.

*Process Reform*.—Finally, just as we need to reform the E-Rate process, we also need to reexamine our own administrative processes.[12] The FCC must strive to be as nimble as the industry we oversee. For all too often, proceedings at the Commission needlessly drag on for years, with predictable consequences. For example, an unanswered consumer complaint might mean that consumers are subject to telemarketing calls during dinner. An unadjudicated waiver deters a rural carrier from deploying broadband to its unserved customers. And an unfinished rulemaking leaves capital on the sidelines as companies weigh the regulatory risk of moving ahead.

Fortunately, we have made some progress on this front. Commissioners are voting on items more quickly after they are placed on circulation. The time between adoption and release of items has decreased. And we have reduced the FCC's backlog. My colleagues, aided by the hardworking Commission staff, deserve much credit for these improvements. But we still have much to do.

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[10] *Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13–184, Notice of Proposed Rulemaking, FCC 13–100 (July 19, 2013) (Modernizing E-Rate NPRM), available at http://go.usa.gov/DWVH.

[11] Remarks of Commissioner Ajit Pai, "Connecting the American Classroom: A Student-Centered E-Rate Program," American Enterprise Institute, Washington, DC (July 16, 2013), http://go.usa.gov/DWvm; *Modernizing E-Rate NPRM*, FCC 13–100 (Statement of Commissioner Ajit Pai), available at http://go.usa.gov/DWvA.

[12] Remarks of Commissioner Ajit Pai before the Federal Communications Bar Association (Feb. 21, 2013), http://go.usa.gov/DWvJ.

To start, we should become more accountable to the public and to Congress about how long it takes the Commission to do its work. We need to establish more internal deadlines, such as a 6-month deadline for acting on waivers and a 9-month deadline for ruling on applications for review and petitions for reconsideration. We should also codify our informal 180-day shot clock for reviewing transactions—a deadline we too often honor in the breach. We should handle applications for review akin to the way the U.S. Supreme Court handles its certiorari process; this would help the FCC dispose of pleadings more efficiently. Additionally, we should report to Congress and the public about how we are doing in meeting those deadlines. I support the concept of creating an FCC Dashboard on our website that would collect key performance metrics about these deadlines—as well as our processing of consumer complaints—so that anyone can see just how well we're doing. This measure would bring some much-needed transparency to the agency.

With greater accountability, I'm confident we would act with more dispatch. My emphasis on acting promptly is not just about good government. It is also about the impact the FCC's decisions (or lack thereof) have on our economy. The pace of change in the communications industry will only continue to accelerate. So too must the pace at the Commission. We can't let regulatory inertia frustrate technological progress or deter innovation.

As for existing deadlines, I am happy to report that we are doing better in meeting our statutory reporting requirements. This year, for the first time since 2006, the Commission adopted its annual video competition report 1 year after adopting the previous such report thanks to Chairwoman Clyburn and the staff of the Media Bureau. But we have many statutory reporting deadlines each year, and these reporting requirements mean we spend a substantial amount of time each year reviewing and writing about individual silos of the communications marketplace rather than reforming our regulation of it. Just this week, the U.S. House of Representatives unanimously passed legislation that would cure this problem. The FCC Consolidated Reporting Act[13] would replace our disparate reporting obligations with a single biennial Communications Marketplace Report. This would make better use of limited Commission resources and would be more valuable to Congress as it undertakes its legislative responsibilities. I would draw your attention to that bipartisan legislation, and I stand ready to work with you in the hope that it will soon be signed into law.

As you can see, even though we have not had a full complement of Commissioners during the past few months, the FCC nonetheless has been quite active. Through collaboration and collegiality, we have been able to accomplish a lot. For example, in addition to the issues discussed above, we have approved a second round of Connect America Phase I funding to expand broadband deployment in rural America, reformed the Video Relay Service program for people with disabilities to enhance competition and promote fiscal responsibility, and approved transactions that strengthened our nation's third largest wireless carrier.

Working together within the agency and with Congress, I'm confident that we will continue to discharge our responsibilities in a way that will serve the public interest well. I thank you again for holding this important hearing and for allowing me the opportunity to testify. I look forward to answering your questions.

Senator UDALL. Thank you very much.

And we'll now proceed with 7-minute rounds on questioning. I'll start out.

Chairwoman Clyburn, you know, I'm appalled that some constituents living in rural parts of New Mexico are having problems with telephone call completion failures, so I thank you for announcing you will take action. I just wanted to give you an example of why this is important, and it may be an example you can use later to make the point.

A rural resident of New Mexico who has a heart defibrillator missed a call from his doctor in an emergency. When his heart stopped beating, a Life Alert device notified the doctor, but when his doctor tried to phone him, the call did not go through. Thankfully, this situation did not become a tragedy, but it highlights why FCC action is needed. Frankly, action cannot come too soon. So

[13] H.R. 2844 (1st Sess. 2013), available at http://go.usa.gov/DWwY.

again, I want to thank you for your announcement today, and we look forward to following what you're doing on that front.

Chairwoman, your testimony notes that this subcommittee approved a fiscal year 2014 appropriation of $359 million in discretionary funding for the FCC. This sum is fully offset by regulatory fee collections and auction revenue. But the House appropriations level for the FCC is $320 million. How would the budget reduction included in the House Financial Services bill impact the FCC's ability to carry out its mission?

FCC APPROPRIATIONS

Ms. CLYBURN. It will mean further reductions and strain as it relates to personnel, hampering the gains that we have made over the last several years. We have done incredible things over the last 6 months, in terms of clearing applications and the like. That will be slowed. We have reduced, painfully, our FTEs by over 40 and the number of awards that we are able to give, you know, our fine personnel. We've had reductions and modifications of contracts that are approaching $4 million, reduced rent and utilities. The air-conditioning system goes off at 6 o'clock, and it's very painful at 6:01.

There has been reduced travel and equipment. Vehicles are not being replaced according to Government Accountability Office (GAO) standards. Our Enforcement Bureau, our Public Safety Bureau, our Office of Engineering and Technology, their technical equipment is just not up to par.

And at our Columbia, Maryland, location, where a lot of the innovation is supported, a lot of the certification is made, the air-conditioning equipment, which had a 15-year life, was installed in 1988.

So those are some of the things that cannot be done or will be adversely affected by the budget that the House has proposed.

Senator UDALL. Thank you very much, Chairwoman Clyburn.

And on the issue of spectrum auctions, last year Congress passed legislation that dedicates radio spectrum for a new FirstNet public safety network. This will be a state-of-the-art nationwide interoperable broadband network to help first responders save lives. FCC will manage voluntary incentive auctions to repurpose some TV-band spectrum for mobile broadband use. Up to $7 billion in revenue from such spectrum auctions will help fund the FirstNet public safety network.

How does the timing and structure of upcoming spectrum auctions impact the buildout of the FirstNet network?

SPECTRUM AUCTIONS

Ms. CLYBURN. Definitely a motivator for us to do things both quickly and effectively. As you have heard, we are poised to auction the H block, which will act as a down payment toward FirstStep—FirstNet. We are on track to fund the public safety network, as you mentioned, through the incentive auction process. We are moving at all deliberate speed to get that up and running with real poise. And I have instructed staff to work towards an order by the end of the year; and next year, to have an auction.

FIRSTNET

So we are also working with FirstNet. We created an advisory board for them and are facilitating, of course, through these efforts, the transition of spectrum to the authority. So we're working collaboratively with the National Telecommunications and Information Agency (NTIA) in order to make sure that the infrastructure support is there from the FCC to move in an expeditious manner.

Senator UDALL. Ok. Chairwoman, is it also accurate to say that the Department of Commerce's National Telecommunications and Information Administration, the NTIA, has borrowing authority, if needed, to help fund the FirstNet public safety network?

Ms. CLYBURN. It does have borrowing authority, and it can move ahead prior to the auction.

Senator UDALL. Great.

Commissioner Rosenworcel, broadband is a key infrastructure challenge for our time, but the Nation that invented the Internet now ranks behind other countries when it comes to high-speed Internet access. On top of that, some parts of the United States are even further behind. And according to the FCC's 2012 Broadband Progress Report, nearly one-half of the population in rural areas of New Mexico lack fixed broadband access. So we're paying very close attention to the reforms to the Universal Service Fund. It's vital that these reforms succeed.

Could you share your view on how well the reform process is working for tackling the digital divide and what opportunities exist to help overcome current barriers to broadband access and adoption?

BROADBAND ACCESS

Ms. ROSENWORCEL. Broadband is absolutely the essential infrastructure of this day and age. It is part and parcel with both our commercial and our civic life. All of our data reflect that we have some areas in this country where broadband is proceeding apace, and many areas where we can be proud. Eighty percent of this country, for instance, has available to it broadband at speeds of 100 megabits or more. But the challenge, as you just described, comes in our rural areas. Our topography presents hard cases, particularly out in the mountainous West.

UNIVERSAL SERVICE REFORM

Before I arrived at the agency, my colleagues worked on a major Universal Service reform project. The good thing about that is, they took the Universal Service system and they refocused it from last century's infrastructure challenge, which was voice telephony, and they refocused it on broadband and wireless challenges that are so important for communications today.

We have made some progress, but I will also acknowledge that the reforms we put in place are complicated, and I do worry that the absence of simplicity in those reforms might be an impediment for further deployment in some of our rural areas. So over time, I hope, with my colleagues, we can identify ways we can adjust that, if we can do it in a manner that's fiscally sound, good for rural deployment, and good for rural consumers.

Senator UDALL. Great. Thank you very much for that answer.

And I had—you can see, right here, New Mexico is 49th among States for Internet access; 34 percent of individuals lack Internet access. I was looking at a chart, here, and both Kansas and Nebraska are doing better than we are, in terms of Internet access. I think you're up at about 80 percent. And Nebraska's up just below that. So you're doing well.

And I would——

Senator MORAN. Just so we're doing better than Nebraska.

Senator Johanns, please proceed.

Senator JOHANNS. Well, thank you.

The chairman makes some very valid points about broadband access. And I would offer, maybe, an addition to these comments, if I could, before I get to my questions, and that is that, fundamentally, I see the solution to this as being driven by the private sector. And I worry that sometimes, in our zeal to solve these problems at the governmental level, we almost interfere with the result.

You know, I'll share a story with you. Years ago, my wife wanted to do something very nice on my birthday, and she said, "I need your car for a day." She took my car and had a mobile phone installed in the car. They literally needed the car for a day to make the installation, at that point in time.

Well, I got home that day, I've got a phone in my car. I thought that was the coolest thing ever. So I got on that phone, and I called my office, and I called my sister, and I called my brother, and I called my parents. I called everybody I could think of and told them that I was talking to them on a phone in my car. And then I got the bill for the first month's service.

And I nearly had to sell the car to pay the bill.

Now, today, I carry this device. It's nearly state of the art; it's not quite, especially over the events of the last couple of days. I didn't pay very much for this, because they entice you to come in and buy it. I can send an e-mail to anybody in the world. I can have a telephone conversation with anybody in the world, on this device. I get my monthly bill, I don't pay very much, because there's all kinds of plans that you can buy into.

It's remarkable what's happened in my lifetime. And I promise you that that has been driven by the private sector, because the economics of doing this made sense to them, and so they continued to do it, and they got competitive, and they tried to do it better than the other person out there.

So I guess what I would say is, I want broadband everywhere. I want to be able to use that phone in the most remote areas of Nebraska. But I'm also going to be very anxious to see how the private sector is going to help us get to that result, because I think that's what's really going to drive those last steps, to go from 80 percent or 78 percent to 100 percent. And I just wanted to put that out there.

Now, let me, if I might, focus on spectrum, because spectrum has a lot to do with the future of this whole debate, this whole industry. Commissioner Pai, I liked what you were saying. I do think there are some right steps going on with spectrum. But maybe starting with the Chair, if you could kind of describe for me the plans for spectrum, not just for January 2014 and the H block, but

what you're anticipating as we look at the next 12 months, 24 months, maybe 60 months. What should we be planning for? And what's the Commission working on, in terms of spectrum available?

SPECTRUM AVAILABILITY

Ms. CLYBURN. You should, and will, see more robust engagement, both with our Federal partners as well as private industry. So you heard about the H block—again, an incentive auction, which will use the traditional types of tools that, you know, we use to get spectrum to market. But we're also talking about dynamic spectrum technology, which will help with efficiencies and the like. We're also engaged with our Federal partners, including, you know, our fellow military partners, who have a lot of spectrum. And we're talking about spectrum-sharing and the like that will—when we work through all of this, will bring spectrum to more markets.

So it is literally an all-of-the-above approach, looking at efficiencies, working with the private sector, knowing that there are some state-of-the-art things going on there from an efficiency standpoint, working our Federal partners to make sure that unused or underutilized spectrum is either shared or repurposed, and our traditional and our legacy frameworks to ensure that we have spectrum in the market.

So there is robust engagement from a host of both providers, holders, and the Federal Government that will bring spectrum to market to be able to fuel and feed our need for spectrum.

Senator JOHANNS. Working with our Federal partners, is it the intention to develop a comprehensive plan, where we can move spectrum to auction in a systematic sort of way? Because nothing will stall growth in this area quicker than the lack of available spectrum. And it distorts the marketplace, because then all of a sudden whatever spectrum is in the private sector starts selling for distorted numbers, if you will.

So are——

Ms. CLYBURN. So, what—right.

Senator JOHANNS [continuing]. Are you working toward that?

FEDERAL SPECTRUM

Ms. CLYBURN. Absolutely, sir. We're in ongoing, you know, talks, recognizing, from a FCC standpoint, that we have to balance, you know, all of the challenges that you just put before us. So yes, it's a very methodic, engaged—and we are conducting conversations in a systematic manner in order to balance and, you know, not adversely influence natural market forces.

Senator JOHANNS. Other commissioners, weigh in quickly. I've got one more question that I really want to ask, and I don't want to impose too much on the Chair. So if you could jump in.

Ms. ROSENWORCEL. Ok, very quickly. In order to solve what you accurately characterized as a growing demand for spectrum, we're going to have to do three things.

SPECTRUM EFFICIENCY

First, we're going to have to have more investment in research and technology. Any technology uses our airwaves more efficiently.

Second, we're going to have to research and do more with topology. The way we deploy our networks is increasingly going to have to include things like small cells.

And third, we have to do more with spectrum. Right now, the Federal Government has a lot of spectrum, and it uses it in service of its missions. I think we should respect that. But we need a policy that is about carrots and not sticks. We should start rewarding Government users when they're efficient with spectrum and then when they return more for commercial use. If we do that in a systematic way, we'll develop a pipeline for spectrum, which is a pipeline for good things for the economy.

Mr. PAI. Senator, in addition to what my colleagues have mentioned, I would mention two additional aspects.

UNLICENSED SPECTRUM

First, unlicensed spectrum. We commenced a proceeding, recently, to increase the amount of 5-gigahertz spectrum that's available for unlicensed use. That would be up to 195 megahertz of spectrum that would be available for, essentially, high-throughput Wi-Fi. That would be a very powerful application.

Similarly, we have teed off—or teed up a number of issues relating to 57 to 64 gigahertz spectrum that previously was thought to be unusable for unlicensed use. We are now hoping to get that into the pipeline, so to speak.

SMALL CELLS

Additionally, one other aspect I would mention—there's no timeline on this, but one thing I proposed last year is for the FCC to streamline its—the way it evaluates wireless infrastructure. So in the old days, when you thought of—made that wireless call on your phone, you had to go to a big macro cell-site tower, and then the call had to be relayed that way. But what carriers are finding now is that it might be more efficient for us to have small cells distributed antenna systems—essentially, shrinking down the size of the cells. The problem is, the FCC's regulations still contemplate that that network infrastructure is the macro cell site, so they have to go through the environmental processing, the—all sorts of different historic preservation rules and those kinds of things. If we could streamline that regulatory process, we could help carriers and providers get a lot more bang for the buck when it comes to spectrum.

Senator JOHANNS. We'll do another round, correct?

Senator UDALL. Yes.

Senator JOHANNS. Ok. I'll stop there, then.

Senator UDALL. Senator Moran.

Senator MORAN. Mr. Chairman, thank you. Thank you and Senator Johanns for having this hearing. The last one we had was in 2012, when I occupied the seat that my colleague from Nebraska has. And before that, it was 10 years prior; 2002 was the last time the FCC was in front of the Appropriations subcommittee. And I think you're one of the most important agencies of the Federal Government. I think the role that commissioners play is one of the most vital and valuable. And you have a lot to say about the future of our country, the future of its economy, the security of its people.

And I'm delighted that you're here, and I'm delighted that Chairman Udall saw this as an important opportunity for us.

And I also would like to thank you for the kindness that you, all three, extended to me and my staff in numerous conversations—phone calls and conversations in the office about issues that we face. You all have been very generous, and you and your staff have been very accommodating to us and our issues.

I care about a number of things that the FCC's involved in. One of my more recent efforts has been in innovation, entrepreneurship, startup companies. What the FCC does has a huge consequence on the ability for us to grow our economy, put people to work, pursue the American dream. And Kansas is a very rural State. You have three members of this subcommittee who represent very rural places, and so it's been a focus of your conversation as well as ours.

But I want to start with the Universal Service reform order of 2011 and ask just a couple of questions. The last time that this hearing—a hearing like this occurred was with Chairman Genachowski. And mostly in response to my questions about the effects of that order on deployment of broadband by rural telephone companies and the problems that order created, what I heard about was the waiver process. In my view, that's an insufficient response. You have had a number of companies apply for waivers. I think maybe a handful have been granted. I don't know the magnitude of what those waivers—what they consisted of, what the order—the waiver consisted of. But it's not a long-term solution to a problem created by the order.

And what I see now—and in addition to that, you've made six or seven adjustments—I think the seventh adjustment to the order dealt with delaying implementation of a model. Those things are good, and I appreciate that effort. I thank you for paying attention to this issue. But what's lacking now is a telephone company—a provider's ability to play for the future. To tell somebody that they can apply for a waiver doesn't give them any ability to predict what the future is going to be and what investment should be made.

The adjustments, while valuable, create some uncertainty. And I also realize that there is a bit of hypocrisy for a Member of Congress to be lamenting about uncertainty when we create so much ourselves. But there is a real bottleneck that's occurred as a result of the unknowing—inability to know what the FCC is really going to do, long term, with the order, related to Universal Service reform.

Simon Wilkie, the former FCC chief economist, concluded that the regression analysis is reducing incentives for small companies to make capital expenditures. And we have seen a significant drop in investment in broadband and other technologies. And I think it's as a result of this order. And even, I think, the FCC has agreed that the data used for the QRA is inaccurate.

And my question, having outlined that, is, What is the long-term plan? What will the FCC be doing to change this dynamic that it has helped create, with that order, that we can't predict what investment is now a wise investment, because we don't know what our return is going to be? Is there a thought, long term, as compared to minor adjustments over a long period of time?

Ms. CLYBURN. Thank you, Senator. It's good to see you and——

Senator MORAN. Thank you.
Ms. CLYBURN [continuing]. Speak to you again.

UNIVERSAL SERVICE REFORM

We are in it for the long haul, sir. You mentioned the seventh—we're up to the seventh order on recon. That is because there has been ongoing engagement with carriers and those—you know, those who support them, to ensure that the pathway that we set to deploy more broadband—or broadband-enabled networks to this Nation, to put this fund on a budget to ensure that those gaps, in terms of disparities as it relates to broadband, are filled. We have been working constantly with providers to close this gap.

We have made several modifications, which I voted for, and—in terms of certainty, the rest of this year and 2014, as it relates to the Quantile Regression Analysis, you know, the—it is certain. We have frozen those benchmarks, and they're in place. And so for the intermediate timeframe, there is certainty.

So I want to assure that the things that we have done, things that we will continue to do, including getting rid of the cost for an application for waivers and the like, will continue. And we will continue to work toward ensuring that the goals and objectives that we all have—meaning getting modern networks—broadband-enabled networks to this Nation, to ensure that we stay on a budget, to ensure that Americans get what they expect—that will always remain on front of our mind.

I want to also point out that, in 1,094 study areas, there was either no change, in terms of the amount of monies that were received or bumps up. There were 127 service areas that, you are right, they have had some negative impact, in terms of reimbursements. We are constantly working with those 127 study areas, those companies, to ensure that there is no degrading of service for the people that they serve.

So I want to assure that we are in constant contact to ensure that the changes that need to be made are positive and are in sync with our goals and objectives for a modern infrastructure.

Senator MORAN. I certainly want to hear from the other two commissioners, but I want to point out, while I'm—I think the things that the Commission has done have been helpful. The point that the freeze is in place for 1 year, that's a positive, but it's only a partial positive, because the decisions that companies are making about expenditures, they're thinking in much longer terms than what's going to—what this means to me for the next year. They want to know what their return is going to be, year 2, 3, 5, 7, and 10. And so the inability to plan or predict, I think, is the damaging factor that reduces the investment.

Commissioner Rosenworcel.

Ms. ROSENWORCEL. You make very good points, Senator.

Up front, I want to say, we're trying to crisscross this country with broadband. We don't want to leave any community, in Kansas or elsewhere, behind. I think the reform that happened before I got to the agency is good, in many ways. Refocus the fund from voice telephony on broadband. That's the right thing to do. Put it on a budget. That's the right thing to do.

But I'm going to one-up you on your certainty and talk about simplicity.

Senator MORAN. Ok.

Ms. ROSENWORCEL. I think it is easy, in regulation, to take the simple and make it complicated. It is harder to take the complicated and make it simple. But if we succeed in making our program more simple over time, we will send better signals to the market, and we will see more investment. And I think, as we move forward, we're going to have to figure out how to be simpler so that they have the certainty they need to invest.

Senator MORAN. Commissioner, I'll change my speech and remarks to "simplicity and certainty," because you make a—it's a very valid point.

Commissioner Pai, anything?

Mr. PAI. Sure, Senator. You put your finger on the basic problem, that I've heard from carriers from Kansas all the way up to Alaska, which is that the decision of whether and how to deploy broadband is a multiyear investment. It's not a 1-year decision, it's a 5- to 20-year decision. But the problem is, they can't have the kind of regulatory certainty they need to make that determination. If you spend money in 2011, for example, the 2013 benchmarks apply to that investment, even though the benchmarks didn't even exist when you made the investment.

So that's why, when we adopted the sixth tweak to the Universal Service Fund order, this past February, I made two specific proposals that I thought could mitigate that unpredictability and uncertainty.

First, I proposed that we hold the QRA benchmarks constant for multiple years, and then adjust the—adjust it for line loss. Because the fact is that a lot of rural carriers are seeing the number of telephone subscribers they have decrease while the number of broadband desiring subscribers have increased.

Second, I proposed that we phase in the QRA benchmarks so that if there's a substantial drop from year one to year two, the FCC could simply average year one and year two's benchmarks in order to mitigate some of the hits that some of these rural carriers would receive.

Now, that's not an ideal solution, but those are two specific ways I think the Commission could reduce some of the unpredictability while still maintaining the overall budgetary framework of the Universal Service Fund that was adopted in 2011.

Senator MORAN. My time is expired. I'll have a few more comments at the next round. Thank you.

Senator UDALL. We'll come back for another round, here.

Commissioner Pai, the 2012 derecho storm left 2 million people without access to 9–1–1. This included many people here in the Nation's capital. An FCC report found that cell phone towers did not have adequate backup power after the storm. Wireless companies also failed to monitor networks properly to ensure that 9–1–1 service was operating.

Last October, Hurricane Sandy also knocked out approximately 25 percent of cell tower sites in a 10-State area impacted by that storm.

In March 2013, the FCC issued a notice of proposed rulemaking (NPRM) that would require periodic audits and adequate backup power for 9–1–1 communications infrastructure.

In your view, what are the important lessons learned from the derecho storm? And when will the FCC complete updates to rules so that such preventable failures do not happen again?

PUBLIC SAFETY NETWORKS

Mr. PAI. Mr. Chairman, thank you for the question. It is—it implicates one of the core missions of the FCC. At my very first statement at my very first Commission meeting, I pointed out that the very first section of the Communications Act requires the FCC to focus on protecting the safety of life and property by means of radio and wire communication. And I know my colleagues share that same conviction, especially in light of the derecho, Hurricane Sandy, and other public safety emergencies.

To that end, some of the lessons we've drawn in our—in the course of our investigations are, number one, that the Nation needs to make the transition to next-generation 9–1–1 sooner rather than later.

One of the focuses that I've had at the FCC has been on essentially speeding up the IP transition, the transition from old copper technologies to Internet protocol-based technologies. Those technologies are more reliable, they're more effective. And especially in emergencies, as our own staff has found, it would have resolved a lot of the problems that we found in the derecho.

Second, we found that broadcasters play an especially vital role in public safety emergencies. When the cell towers go down, as you pointed out, when the Internet is otherwise inaccessible, a lot of people are able to turn to their battery-powered radios—frankly, even go into their cars and listen to broadcast information that gives them emergency information during the storm and recovery information thereafter.

We've also found that power is an important component of the public safety equation. The most state-of-the-art networks and the most advanced mobile devices are going to be of little use if there's not enough power to generate a signal. And so that's one of the areas that we've been focusing on, as well.

In terms of the task and timeframe, as you asked in your question, we have conducted a number of field hearings in New York and New Jersey and in the Bay area. We have issued a derecho report, thanks to the hard working Public Safety and Homeland Security Bureau staff. We have issued an NPRM on resiliency, recently, which we hope will incentivize everyone from providers to State and local authorities to public safety answering-point officials to try to identify best practices.

And finally, you know, we've been working with our other Federal colleagues to try to identify different ways that we can make the promise of section 1 a reality. Twelve years on, as you pointed out, there are some loopholes in our public safety communications network, and our goal—and I'm sure I would speak for my colleagues in this regard—is to plug those holes as soon as we can.

Senator UDALL. Thank you.

And Chairwoman Clyburn and Commissioner Rosenworcel, can you assure me this will be a priority for you, as well?

Ms. CLYBURN. It is absolutely priority.

Ms. ROSENWORCEL. Absolutely. The first duty of any public servant is the public safety. And as Commissioner Pai stated, it's right there at the start of the law.

I would say that we learned two things from Hurricane Sandy, the derecho, and countless other storms and disasters that have happened over the last several years in this country.

First, our new systems—our wireless systems and IP systems—rely on commercial power. They're not like that old copper line that went to your house that had an independent electrical source. So when the power goes out, those cease to work. That's a problem, and we need to start to identify ways to improve on that.

Second, we need to make sure consumers are prepared. If all those devices plug into the wall, they need to have on hand backup batteries and solar-powered chargers.

Senator UDALL. Thank you.

Senator Johanns.

Senator JOHANNS. Just a follow-up on your comment.

Having been a council member, a county commissioner, a mayor, a Governor, nothing is probably as important here as to set reasonable expectations with the consumer. If we create the impression that this is fail-safe, that the first flood that hits your neighborhood will have helicopters there to lift you off your roof, wherever that might be, we're doing a tremendous disservice.

I think it's so important to talk to people honestly about what can happen during a storm. What are your backup plans? How are you going to deal with a family emergency if you have a situation where your phone service isn't working at that point in time? It's a whole host of things.

And again, I think sometimes we set these expectations that, quite honestly, aren't realistic, number one, and can't be fulfilled, number two. And then we scramble around for months afterwards trying to figure out how to deal with it. And I just—I want to compliment you on your comments, because I just think we have to be more realistic.

These are important topics, but I've also got another really important question that is befuddling the railroad industry. Here's the situation:

By December 2015, railroads have to complete the positive train control (PTC) requirements. And that's what they are facing. For that system to be completed, as you probably know—I'm guessing you've agonized over this—20,000—22,000 I think is the accurate number—antenna structures and rights-of-way have to be constructed. The Commission apparently has decided they have to be permitted. And that is slowed down to a snail's pace, because the problem is, apparently you can't get through the permitting process quick enough, so the chances of this being done in that period of time, I think, is nonexistent. In fact, I was doing some rough math on it, some back-of-the-envelope math, and I think, at the current pace, you'd be 7 years away.

I'm interested in knowing: Has this come to your attention?—number one. Number two, tell me how you're going to solve this

problem. How can we assure railroads—excuse the pun—that this isn't a train wreck headed their way?

Chairman—Chairwoman.

POSITIVE TRAIN CONTROL

Ms. CLYBURN. Thank you, Senator.

The FCC has been working with the railroads and other authorities, including the Federal Railway Authority and Advisory Council on Historic Properties. We've been working with the railway system since 2010, and we've been encouraging, you are right, Amtrak and the commuter rail companies to acquire spectrum in a secondary market.

But we did not stop there. We are—they first—the companies informed staff, just this past May, on the amount of towers, which you just put forth, and other infrastructure needed. But it's just not the FCC alone, as I just put forth. You're talking about the Federal Railroad Administration (FRA), the Department of Transportation. They oversee the majority of the rules. We are in constant—railway safety, public safety, again, is job one for the FCC. I want to assure you that any and all engagement to expedite this manner—all of those things are being, you know, explored, and that we will do everything we can to expedite this—a positive outcome for the positive train control.

Ms. ROSENWORCEL. I remember, about 5 years ago this month, there was a big train derailment in Chatsworth, California. Twenty-five people died. And Congress responded with the Rail Safety Improvement Act and the obligation to have positive train control to prevent that kind of human error in the future. As the chairwoman mentioned, this takes a lot of parties to get done. But I do believe we sit in a sweet spot to help contribute. And I think the agency has done a lot to try to help rail get spectrum necessary for positive train control, on the secondary markets, but we could also do more, because we could start by offering up model rules for the deployment of those 20,000 poles you mentioned.

It's complicated getting deployments out there. Too complicated. But it takes railroads, rail authorities, local governments, State governments. I think one of the things we could do to help expedite it is develop a model rule that would streamline the process.

Senator JOHANNS. Here's what I want to tell you, though. I'm not debating the law. You know, that debate, as far as I'm concerned, happened, and the law passed. What I'm concerned about is not the policy, here; what I'm concerned about is, there's a hard deadline, as I understand it, for this thing to light up on December—the end of December 2015, and I don't see any possibility, if my information is accurate, that it's going to be done by then.

And I think what I would like to request—I'm hoping the chairman concurs with me on this—is for whatever Federal agencies are involved in this to give us a status report on how we're going to get from point A to point B, point B being December—end of December 2015, for this system to be permitted and done and built and operational and up and going. And if it's not possible, if it's not realistic, then we have to do something different or we have to change the effective date. We have to—I don't know what we have to do. I have no idea.

Ms. CLYBURN. So Senator, we will follow up with you.

[The information follows:]

After the September 11, 2013 hearing, I directed the Commission staff to keep offices in the United States Congress interested in this matter, updated on our progress. I also instructed the Wireless Telecommunications Bureau and the Office of Native Affairs and Policy to work as expeditiously as possible to complete a Program Comment that would create an efficient review process for the necessary positive train control (PTC) infrastructure. On September 27, 2013, the staff released a scoping document seeking comment on an outline of the Program Comment to State Historic Preservation Officers (SHPOs), Tribes, and other stakeholders. This is the first step in completing the Program Comment. The next step would be the scheduling of consultations with Tribes during the fall and winter of 2013. Our goal was to submit a Program Comment to Advisory Council on Historic Preservation (ACHP) in March 2014. I directed the Bureau and Office to devote staff and resources to this project as necessary to keep the process moving. I wanted to be sure the staff took the necessary steps to ensure the FCC's would not be an obstacle to PTC deployment. There are, however, many factors outside of the FCC's authority that may affect the deployment of PTC by the statutory deadline.

Ms. CLYBURN. I want to also reinforce that, you know, each railroad has a different plan for implementing PTC, but we will definitely follow up with you to let you know what the status of that is.

Senator JOHANNS. Great. Great. Thank you very much.

I think that——

Senator UDALL. Let me—and let me say to my ranking member, I agree with you. I think a status report would be fine. And we probably need to coordinate with other committees, too, that have jurisdiction on this.

I would also raise the issue—as you know, on this railroad issue, I have many tribes in New Mexico, and there's a whole issue there dealing with tribal government and tribal sovereignty and all of that.

Senator Moran, please——

Senator MORAN. Thank you. I appreciate what Senator Johanns and you just said about this issue. It is a significant one. Deadline is looming, and no way foreseeable that we're going to meet that deadline unless the FCC does what Commissioner Rosenworcel was saying. We need to—what we should do, what we could do—I think we really—you need to do it. And so would encourage the FCC taking the leadership and finding a solution.

We've talked about unlicensed spectrum—we've talked about spectrum; I want to talk about two aspects of that yet. I heard the chairwoman say that we were poised to auction the H block at—by the deadline—the statutory deadline. And I wanted to make certain that that was a commitment, the FCC will auction the H block by that end of 2014, early 2015.

H BLOCK SPECTRUM AUCTION

Ms. CLYBURN. We will plan to meet the statutory deadline, as codified by you.

Senator MORAN. And can you say that sentence again without the word "plan" in it? "We will meet the statutory deadline."

Ms. CLYBURN. We will meet the statutory deadline. Thank you.

Senator MORAN. Thank you very much.

And then, in regard to the 1755–1850 megahertz spectrum, what's the working relationship between the Department of De-

fense (DOD) and the FCC on this issue? Is there something that would give us hope that—I think you spoke about this, Commissioner Rosenworcel, perhaps very eloquently—not "perhaps"—eloquently. And I appreciate that sentiment. You have the sense that you're making progress and that things are going to happen in regard to the—making the spectrum available?

FEDERAL SPECTRUM

Ms. ROSENWORCEL. There is a lot of interest, as you probably know, in the 1755 to 1780 megahertz band. It is internationally harmonized for broadband, and we could auction it with the 2155 to 2180 megahertz band that you've already asked us to auction. We could raise a lot of revenue, do a lot of good things for the economy.

The challenge is that the Defense Department occupies that spectrum right now. There have been a lot of conversations at the Commerce Department about how to expedite them leaving. But that's hard, and it takes time, and we want to be respectful of our agency's defense and their need to use spectrum in service of their mission.

But like I said earlier, I think we can keep on talking or we can develop a series of incentives. And I think if we develop a series of incentives for all of our Federal users of spectrum, they will see gain from its reallocation, and not just loss. And that would put us in a really good position when it comes to putting more wireless airwaves in the hands of innovators in the economy.

Senator MORAN. That's an excellent point, that we can have conversations among various agencies for a long period of time, but if there's an incentive—presumably a financial incentive for an agency to give up that spectrum, it's much more likely to happen than sitting around the table with negotiations.

Is there somebody within the administration that is taking the lead, interagency-wise, on this issue?

Ms. ROSENWORCEL. I know this was something—I've talked about it for a very long time, and I was pleased that the—I know that the administration is—in a recent Executive order on spectrum, they pulled together a group to talk about this. It's complicated, what I've just described, however simply I described it, and it will take the efforts of Congress, probably the Office of Management and Budget, and some big thinkers, generally, about how to make that kind of system work, on a practical level.

Senator MORAN. In regard to unlicensed spectrum, has the Commission yet determined the balance between spectrum that will be auctioned that will be unlicensed? What decisions have been made in regard to unlicensed spectrum? Anything in particular?

UNLICENSED SPECTRUM

Ms. ROSENWORCEL. Unlicensed spectrum contributes between $16 billion to $37 billion to our economy annually. It is a tremendous resource. We have it available in the white spaces, in the broadcast band. We also are going to look at its use in the guard bands, after our upcoming 600 megahertz incentive auctions. And then, as Commissioner Pai mentioned, we've got real opportunities in the 5 gigahertz band.

It's important that we seize them, because, if you take unlicensed spectrum, which is a great playing field for innovation, you combine it with new STEM skills and other good research-and-development policies, we're going to have a potent stimulant for the economy as a whole.

Senator MORAN. Anything else?

Commissioner Pai, you, I think, have expressed some thoughts about the E-Rate and how to make it more effective, how to make certain that the services that are provided because of that E-Rate are broader, more available, but not necessarily without—with spending more money. Is there something that you would like for us to know about that topic?

E-RATE

Mr. PAI. Sure, thanks for the question, Senator. I think that, 17 years on, the promise of E-Rate, in some ways, has been realized, as my colleague Commissioner Rosenworcel pointed out. The vast majority of schools are now connected. But I think, also after 17 years, with the advent of the Internet, it becomes clear that the program, as originally conceived, needs to be reformed. And so I put forward what I've called a student-centered E-Rate plan that I think would better serve America's students, parents, school boards, and the Government, writ large. And in a nutshell, that plan consists of four different parts.

First, making sure that we have a fairer and more equitable funding distribution. So right now, for example, schools that get a 90 percent discount essentially get $9 of E-Rate money for every $1 that they put in. I would propose increasing that match to $1 for every $3 that they get, in order to incentivize wiser spending. Because what we've found is that the 90 percent discount at schools get the vast majority of the money, in a lot of cases.

I would also move to a per-student funding model so that every school would know, well in advance, exactly how much money they were going to get, based on the number of students they have instead of having to wait and try to guesstimate how much E-Rate money was going to be coming.

Additionally, I would give a bump to remote, rural, and low-income schools, which face unique difficulties not faced by a lot of the other schools in our country.

The second major component of the plan would be a simplified application process. One thing I've been struck by is how many educators tell me that the process is so overwhelming, there are so many forms—I mean, the flow chart is daunting enough just to look at, let alone navigate—that they feel it—they feel compelled to hire an E-Rate consultant. And so I sort of analogize it to the tax preparation industry. Just as you would—or a lot of people outsource their tax preparation to a consultant, so, too, do schools. And that has a cost. Every dollar they pay to a consultant is a dollar less that they can pay—or expend on their students.

Third, I would eliminate the current priority system in order to migrate all the E-Rate spending over to next-generation technologies. So under the current system, for example, you might be surprised to know that such things as paging and BlackBerry service for administrators gets prioritized over connecting a classroom

to the Internet. I would get rid of all that and allow schools to decide, based on a consolidated menu of services, exactly what they need to serve their students well.

And finally, transparency. All of these proposals are good enough, I would submit, but it's important for us to know exactly how the money is being spent. And so I would require every school district to post, on a central Web site, perhaps administered by the FCC or Universal Service Administrative Company (USAC), exactly how they spend that money. That way, everyone from FCC Commissioners to Members of Congress to individual parents could figure out exactly how a school district was spending its money.

Senator MORAN. That information is not now available—how it's spent?

Mr. PAI. It is not easily accessible right now. In fact, it's almost impossible, even with a Freedom of Information Act (FOIA) request or other, sort of, Government process, to figure out how the money is being expended.

Senator MORAN. That's a good point. I don't know that I've ever asked a school, "How are you spending the money?"—which is probably a pretty basic question that we ought to answer.

Mr. PAI. I will construe that as an endorsement of my plan, Senator, thank you.

Senator MORAN. I'm out of time. Let me suggest two questions for the record.

I can't tell, from the agency's request, about how the revenues from the spectrum auction is going to be spent within the FCC's budget. And if you could provide more clarity to that question or that—to answer that question, I'd appreciate it.

And then, second, the number of full-time equivalent employees at the Commission has declined to the lowest number in about 20 years—20–30 years. I assume that there is also a shift to more contract work, and I'd be interested in knowing the number of contracts or how that relates to a smaller number of actual employees at the FCC. But what's the relationship now between the FCC and the contract world?

[The information follows:]

Hon. TOM UDALL,
*Chairman, Subcommittee on Financial Services and General Government,*
*U.S. Senate Appropriations Committee, Washington, DC.*

DEAR CHAIRMAN UDALL: Enclosed please find a statement for the record for the September 11, 2013 hearing where the then-sitting Federal Communications Commission (FCC) Commissioners testified concerning the FCC's budget. Under the Commission's Rules, the FCC Chair represents the Commission in all issues related to the fiscal year budget request and none of these witnesses currently have that role. Accordingly, the FCC's Office of Managing Director is submitting this material to close the record at this juncture.

Thank you for the opportunity to provide supplemental material for the record.

Sincerely,

MARK STEPHENS,
*Chief Financial Officer.*

Enclosure.

FEDERAL COMMUNICATIONS COMMISSION RESPONSE (SUBMITTED BY THE MANAGING DIRECTOR'S OFFICE ON BEHALF OF THE COMMISSION)

In fiscal year 2015, the Commission published online a summary Auctions Expenditure Report for fiscal year 2013 to fiscal year 2015 to provide a thorough outline of Federal Communications Commission (FCC) spending needs and will con-

tinue to provide the complete Auctions Expenditures Report to the Congress, with a detailed list of all auctions expenditures for the previous fiscal year.

In fiscal year 2013, the Commission received authority from the Appropriations Committee to increase the 10-year-old auctions cap of $85 million to $98.7 million. The increase covered the following as the Commission ramped up the work necessary to support incentive auctions:

—Incentive auctions critical staffing increased—project managers, engineers, attorneys, technicians;
—Information technology (IT) contracts for outside auction consultants, auction design and system development, system operations;
—Wireless Telecommunications Bureau (WTB)/Office of Engineering and Technology (OET) new engineering hard/software to support interference calculations for repacking;
—Modifications to media bureau licensing system to support channel sharing and repacking; and
—Cross-border travel and outreach.

For fiscal year 2014, the Commission is significantly increasing focus on auction rulemaking and auction preparation. The request to maintain the spending levels at fiscal year 2013 levels include:

—Carried over employee costs from full-time equivalents (FTEs) hired in fiscal year 2012–2013, added engineers, analysts, attorneys and IT staff;
—Carried over contracting costs; and
—Increased travel funding as negotiations to support cross-border negotiations related to repacking.

*FTE/Contractor Numbers*

With regard to contract employees, these numbers also decreased significantly during the past few years, from a high of 959 in fiscal year 2009 to approximately 470 in fiscal year 2014.

Senator MORAN. Thank you, Mr. Chairman.

Senator UDALL. You bet. And if you want to come back and try to get answers to those——

Senator MORAN. You're not going away?

Senator UDALL. Yes.

Senator MORAN. All right.

Senator UDALL. Well, I'm going to do a couple of more questions, but I'm happy to listen to these.

So Commissioner Rosenworcel, the Emergency Alert System (EAS) is a national public warning system that sends alerts across TV and radio stations. Federal agencies and local officials can use the system to warn people and provide instructions in emergency situations.

I'm pleased to see progress in modernizing the EAS for today's wireless phones. For example, in the case of a local weather emergency, such as a flood or a tornado, alerts can be sent to cell phones located in the affected area.

What's the current status of the FCC's efforts to extend such alerts nationwide and to all wireless carriers?

EMERGENCY ALERT SYSTEM

Ms. ROSENWORCEL. Thank you, Senator, that's a great question.

If you think back, there are those iconic beeps from the Emergency Broadcast System, which was started during the Kennedy administration. I think every one of us here knows them. That was the precursor of the Emergency Alert System, which was the idea that your broadcast radio and television could tell you what was happening locally, take advantage of the fact they use local wireless towers.

But we don't need to just do that with broadcasting today. I'll bet every one of us in this room has a phone in their purse or pocketbook or in their pocket, and we can send alerts that are geographically targeted and text-based to every one of those phones, telling you about dangerous activities in the area, telling you about dangerous weather, telling you about things like AMBER Alerts.

So we are working right now, pursuant to the WARN Act from 2006, on the Commercial Message Mobile Alert System, which we have renamed the Wireless Alert System, because it's simpler. And we are working with our colleagues at the Federal Emergency Management Agency (FEMA) to try to make that happen more broadly. It's a voluntary system. But given the growth in use of mobile phones, there's a lot of interest from the wireless carriers in making use of it.

Senator UDALL. Thank you.

Commissioner Pai, your testimony calls for a pilot project or a testbed for working out the technical aspects of the IP transition from copper-based phone network to more modern Internet infrastructure. I'd like to see rural areas that have not always benefited from the latest communications networks finally leapfrog ahead as technology advances. Would you support conducting such a pilot project in a rural community? How could the FCC work with carriers to deploy such a pilot project in Indian country?

IP TRANSITION IN RURAL AREAS

Mr. PAI. Thank you, Senator, for the question. I think it's an essential component of the IP transition, that we, first of all, commit to having an IP pilot program that is robust. When I originally made the proposal, I conceived of having the IP pilot program administered in a number of different areas. It could be a big city like Albuquerque, it could be a small town in New Mexico, and including on tribal lands. And I would hope that the IP pilot program, if and when we choose to administer it, will take into account, as my colleague pointed out, the amazing geographic diversity and demographic diversity of this country.

And as to when that is going to happen, I'm not quite sure, but whether we like it or not, the transition is upon us. I think that consumers are essentially voting individually about the superiority of IP-enabled networks. The number of voice over Internet protocol (VoIP) subscriptions is up, the number of plain-old telephone service subscriptions is down. And so we, at the FCC, need to get it right, and need to get it right as soon as we can.

Senator UDALL. Great, thank you.

This question is for all of you. I'm especially interested in how rural areas can be successfully transitioned from copper-based telephone networks to Internet-based or IP networks. In the older copper-based network, telephone calls can be completed to rural residents who live far from the central switch. That old network is more robust during power outages. Cell towers, however, require a power supply; fiber-optic networks require a power supply.

As the telephone network becomes an Internet- or IP-based network, what will happen to traditional phone service for these residents in rural and remote areas? How can we ensure that this technological transition will be a step forward rather than a step

backward for rural areas? And how should important principles and values, such as public safety, consumer protection, and universal service be preserved in this new technological era?

Ms. CLYBURN. Your questions——

Senator UDALL. Chairwoman.

IP TRANSITION

Ms. CLYBURN [continuing]. Embody a lot of the concerns and the challenges that we ask ourselves each and every day. And that's why the FCC formed a task force specifically looking at those particular issues. And I'm committed—will reaffirm my commitment to you that we'll look closely, not only at the impact—at the general impact on consumers, but, of course, on public safety. But regardless of the technology, universal service, consumer protections, competition, and public safety remain our core mission.

RURAL CALL COMPLETION

And one specific issue, as it relates to where the IP transition is directly affecting rural areas today is—you mentioned it earlier—rural call completion—and we will circulate that item soon—where some calls, you know, again, just aren't being completed. We are working very hard to ensure that the transitions that are coming, you know, from landline to mobile to—you know, for—you know, migrating to IP—all of those, you know, migrations will serve to better connect and serve the American public, and not—those four pillars that I put forth, those are never compromised.

IP TRANSITION

Ms. ROSENWORCEL. I agree with my colleagues, and I agree with what you set out, which is—we have exciting new IP networks. The technology may be new, but in communications law, our values are really old. They've been the same for decades. We care about public safety, we care about universal service, we care about competition, and we care about consumer protection. And I think having location-specific IP trials, including in rural areas, like you mentioned, would be a good way to test those out.

Mr. PAI. Senator, I think my colleagues have ably described the nature of the problem.

I would just simply step back and say that, outside of the IP transition, I think the agency needs to think more broadly about the nature of regulation in a highly dynamic industry. The famed economist, Ronald Coass, recently passed away, and one of the things that he is best known for is the fact that when transaction costs for a business are high, the importance of regulation in law becomes even greater. And especially if you're talking about rural areas, where, quite candidly, there may not be a compelling business case, if any business case, to make for deployment, we need to ensure, at the FCC, that we think about IP transition and—IP-based technologies as an opportunity rather than a hindrance. And if we do that, if we set clear and simple rules for the road, I'm convinced that we will keep those transaction costs low and allow the private sector, as the ranking member pointed out, to take the

risks that are necessary to make multiyear—in some cases, multi-billion dollar—investments in IP.

Senator UDALL. Great, thank you.

Senator Moran, did you want to come back and try to get preliminary answers, or you want to leave those——

Senator MORAN. I——

Senator UDALL [continuing]. For the record?

Senator MORAN. Mr. Chairman, I thank you for that opportunity. I think both of those answers probably have some detail to them; and so I'm happy to have that response in writing.

I appreciate what you had to say about what the chairman had to say about calls dropped and the efforts to solve that problem.

And you, or someone, said, earlier, about service on tribal lands. And I don't know much about that issue, but I'd be glad to be educated by someone about the particular problems that are occurring on tribal lands.

And so I appreciate the hearing that we had today, and thank you, Commissioners, Madam Chairperson, for your testimony today, and the response to our questions.

Senator UDALL. Senator Johanns.

Senator JOHANNS. No more questions.

If I might, I just want to say thank you for being here. I so appreciate the opportunity. Maybe I appear like a frustrated former member of the Commerce Committee.

It's a great committee. And these are such important issues.

If I just might offer one final observation, Commissioner Pai, I really believe you're right, I don't think anybody believes that the future of telecommunication or Internet services or broadband lies in copper to the rural areas. It served us well for a very, very long time.

I'm one of those people that grew up in a rural area, and I can remember the party line. And we thought that was a tremendous step forward, that we could share the line with seven or eight other families. And it was a tremendous step forward. Obviously, when I even mention that today, people laugh. You know, it really dates me, and I understand that.

Copper served us well for a long time, but it will be new technology. And somehow, some way, the private sector's going to have to find the business case for that, because these are in areas where there's just not a lot of people. And the challenge we're facing in all of our States is, these counties are, every Census, seeing fewer and fewer people, for a whole host of reasons. Agriculture is more efficient, ranching's more efficient; young people go to the city, and they get an education, they don't come back home. A whole bunch of things are happening out there.

But at the end of the day, we're going to have to find a way to allow that technology to develop and expand. Because if we over-regulate it, if we over-require it, we over-all-of-those-things to it, it won't happen, and we will perform a tremendous disservice.

So I just think this extremely light touch is enormously important. It is about building partnerships with the private sector. It is doing everything we can to encourage them to expand and develop into those last miles. But I can almost guarantee you, the solution is not more regulation.

Thank you, Mr. Chairman.

Senator UDALL. Thank you, Senator Johanns.

And let me thank our three witnesses and thank all who participated in preparing for this hearing. I appreciated hearing from the top officials of the FCC about resource needs and the opportunity to explore a number of important and timely issues. Today's discussion has provided helpful insights into the FCC's operations and challenges. This information will be instructive as Congress moves forward to finalize our work on the fiscal year 2014 funding.

## ADDITIONAL COMMITTEE QUESTIONS

The hearing record will remain open until Wednesday, September 18, at 12 noon, for subcommittee members to submit statements and/or questions to be submitted to witnesses for the record.

[The following questions were not asked at the hearing, but were submitted to the Commission for response subsequent to the hearing:]

### QUESTIONS SUBMITTED TO HON. MIGNON CLYBURN

### QUESTIONS SUBMITTED BY SENATOR TOM UDALL

#### PUBLIC SAFETY COMMUNICATIONS AND INTEROPERABILITY

*Question*. The origins of the Federal Communications Commission's (FCC's) public safety mission pre-date the creation of the agency. In 1912, Congress enacted legislation in response to radio distress call failures during the Titanic sinking. Twelve years ago, the terrorist attacks of 9/11 exposed a radio interoperability problem that put first responders' lives at additional risk. Some police and fire crews could not communicate via radio handsets with each other. The Commission has a strategic goal to promote the availability of critical communications infrastructures that are reliable, interoperable, redundant, and rapidly restorable.

How would you rate the Commission's attainment of this strategic goal? What is needed to address any deficiencies and on what timetable?

Answer. The Commission has made significant strides toward ensuring critical communications infrastructures are reliable, interoperable, redundant, and rapidly restored in the event of disaster. On September 26, 2013, the Commission adopted a Notice of Proposed Rulemaking seeking comment on how wireless providers compare in keeping their networks operational during emergencies. I believe this information will create incentives for wireless providers to improve network resiliency, which will benefit public safety and citizens alike, without imposing any significant new burdens on providers. Commission staff will closely review the record once comments are received.

I was pleased to see the wireless industry coalesce around a voluntary solution to the lack of interoperability in the lower 700 MHz band, which I circulated as a Report and Order. I also circulated a Second Report and Order that provides technical rules for the 700 MHz broadband spectrum licensed to the First Responder Network Authority. These two Orders were approved the Commission on October 28, 2013 and will enhance the Nation's public safety networks and improve communications for first responders.

#### PUBLIC SAFETY ANSWERING POINTS DO-NOT-CALL REGISTRY

*Question*. As part of the Middle Class Tax Relief and Job Creation Act of 2012, the Commission is required to create a Do-Not-Call registry for telephone numbers used by Public Safety Answering Points (PSAPs), and to prohibit the use of automatic dialing "robocall" equipment to contact those numbers. This requirement is designed to address concerns about the use of autodialers, which can generate large numbers of phone calls, tie up public safety lines, and divert critical responder resources away from emergency services. The law permits verified PSAP officials to place on the registry telephone numbers that are used for emergency services of communications between public safety agencies. In October 2012 the Commission published its rules creating such a registry.

Has the registry been fully established? How is it working?

Answer. The Commission's rules creating the PSAP Do-Not-Call Registry became effective on March 26, 2013, and Commission staff continues to work on the registry's details. Once this work is complete, the Consumer and Governmental Affairs Bureau will release a Public Notice announcing the specific operational details. The Commission intends to work with public safety organizations to ensure that PSAPs are made aware of the opportunity to place their phone numbers on this registry. The Commission will also work with and with robocalling equipment operators to inform them about the requirements.

*Question*. What is the requested level of funding sought for fiscal year 2014 for the operation and maintenance of this registry? Does the Commission also seek a one-time amount for fiscal year 2014? For what purposes is that intended to be invested?

Answer. The budget request for fiscal year 2014 for the PSAP Do-Not-Call Registry is $1,500,000. This amount includes $500,000 to operate and maintain the registry, and a $1,000,000 one-time cost.

TRIBAL LANDS' DIGITAL DIVIDE AND GOVERNMENT-TO-GOVERNMENT RELATIONS

*Question*. I want to thank you for your efforts to tackle the digital divide facing Native American communities. Telephone access on Tribal lands still lags far behind the rest of the country. Broadband access may be as low as 10 percent on Tribal lands. This appalling digital divide creates real hardships for people, particularly in emergency situations. That is why the work of the Commission's Office of Native American Affairs and Policy is so important. Engagement with Tribes on a government-to-government basis is critical to solving communications challenges in Indian Country. This subcommittee's appropriations bill instructs the Commission to support to develop a plan to fully implement its existing Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes.

Will you support a Commission effort to develop a plan to implement the Commission's statement of policy on government-to-government relations with Indian Tribes?

Answer. We are committed to ensuring resources for native populations—the Commission recently authorized a local program and will commit resources where they are available. I support developing a plan to implement the Commission's statement of policy on government-to-government relations with Indian Tribes, but note that sequestration has placed significant burdens on the Commission's travel budget. Provided the Commission receives the overall budget requested, we can commit more resources.

NATIONAL LIFELINE ACCOUNTABILITY DATABASE

*Question*. Your testimony notes that the Commission adopted reforms to the Lifeline program to help low income persons get telephone service. As you know, Lifeline dates to the Reagan administration and was expanded to include wireless phone service during the presidency of George W. Bush.

Here is what one Lifeline user from the Navajo Nation had to say: "I got help when I fell and broke my ankle. I called an ambulance and went to the doctor." Another wrote, "I've been stranded during bad winter weather, and my Lifeline has helped me . . . ." So this initiative can indeed be a "Lifeline" for low income persons in a time of emergency or when applying for a job.

Yet it is important that the Commission continue reforms to guard against waste, fraud, and abuse. One of the recent Lifeline reforms is a new National Lifeline Accountability Database. This database will help weed out "double dipping" if there are duplicate participants receiving Lifeline assistance.

Can I have your assurance that the Commission is committed to implementing this database as soon as possible?

Answer. Yes. In the 2012 Lifeline Reform Order, the Commission established the National Lifeline Accountability Database (NLAD) to detect, prevent and eliminate duplicative support in the Lifeline/Link Up program. The NLAD is a key part of the Commission's reform efforts to cut fraud and abuse in the Lifeline program. The Universal Service Administrative Company, or USAC, administers the Lifeline program on behalf of the FCC. USAC has announced its selection of the vendor for NLAD. On October 23, 2013, the FCC's Wireline Competition Bureau released a public notice informing eligible telecommunications carriers (ETCs) receiving Lifeline support that the NLAD will be ready to accept subscriber information by December 2013.

LIFELINE REFORM

*Question*. I understand that the Commission may be reviewing a proposal to prohibit in-person distribution of phone handsets to Lifeline customers. This could negatively impact Lifeline-eligible residents of Tribal lands in New Mexico. For example, eligible phone companies would not be able to use mobile stores to reach residents from remote Tribal areas and provide them with phones. Moreover, some remote areas do not have postal service for regular mail delivery of a handset.

As the Commission considers proposals to further modify the Lifeline program, will you carefully take into account the special circumstances facing residents on Tribal lands where the digital divide is so acute?

Answer. To address the significant communications deployment and access challenges on Tribal lands, the Commission has previously targeted additional universal service support for residents of Tribal lands in a variety of ways, including by providing enhanced Lifeline and expanded Link Up support. Through our Lifeline reform efforts, we have made our commitment to connecting these communities a priority.

For example, the Commission set a uniform Lifeline discount amount at $9.25 per month on non-Tribal Lands, but recognized that low-income consumers living on Tribal Lands should continue to be eligible for enhanced Lifeline support—up to an additional $25 per month in Lifeline support. In addition, while Link Up support (which offsets the cost of commencing service) was eliminated on non-Tribal Lands, the Commission elected to maintain the enhanced Link Up program on Tribal Lands for carriers receiving high-cost support, due to the significant telecommunications and connectivity challenges on Tribal Lands. We will continue to take these special challenges into account as further modifications to the Lifeline program are considered, while ensuring this important program is protected against waste, fraud and abuse.

TRIBAL ENTITY'S ELIGIBLE TELECOMMUNICATIONS CARRIER APPLICATION PENDING FOR 2 YEARS

*Question*. Earlier this year, other members of the New Mexico congressional delegation and I wrote the Commission requesting a decision as soon as possible on a pending Eligible Telecommunications Carrier (ETC) application filed by Navajo Tribal Utility Authority (NTUA) Wireless in WC Docket No. 09–197 to provide Lifeline service to people living on the Navajo Nation. NTUA Wireless seeks to make telecommunications service available to more residents of the Navajo Nation, which has some of the lowest telephone and broadband access rates in the continental United States. My understanding is that NTUA Wireless' application has been pending before the Commission unopposed for more than 2½ years. It is unacceptable to me that such an application would languish at the Commission for so long.

When will the Commission finally resolve NTUA Wireless' pending ETC Lifeline application?

Answer. I have directed staff to make this a priority and Commission staff has met with representatives of NTUA on several occasions to discuss its ETC application. NTUA Wireless recently filed a second amendment to its ETC designation petition on October 17, 2013 for purposes of receiving Universal Service Fund (USF) support to provide Lifeline service throughout its service area within the boundaries of the Navajo Nation, and for a conditional ETC designation to participate in the Tribal Mobility Fund Phase I Auction for unserved areas of the Navajo Nation. Commission staff is actively reviewing this filing and working to reach a final decision on this matter as expeditiously as possible.

TRIBAL MOBILITY FUND ELIGIBILITY

*Question*. The Eastern Navajo Agency in New Mexico, along with the Ramah Navajo and Zuni Pueblo, are some of the most underserved areas in the continental United States. It is my understanding that for the December Tribal Mobility Fund auction the Commission will treat the vast majority of the Eastern Navajo Agency as having 3G service and therefore not eligible for tribal mobility funding. But my understanding is that such coverage is not currently available throughout this area.

Will the Commission take steps to confirm the level of service available in these areas before excluding them from potential broadband support through the upcoming auction? Can you explain why more area within the Eastern Navajo Agency is not being made eligible for tribal mobility funding?

Answer. The Commission recognizes that underserved tribal areas have critical needs. To that end, in preparation of the scheduled Tribal Mobility Fund Phase I auction in December 2013, the Commission released a list of eligible areas. The list

of eligible areas was generated through a review of the record, which included input from interested parties and an analysis of available coverage data. This information determined the availability and coverage of 3G services in numerous tribal areas, including the Eastern Navajo Agency. After additional data was submitted, Commission staff reassessed available coverage of areas in northwestern New Mexico. Based on this additional data, in late September, Commission staff determined that an additional 40 census blocks in northwestern New Mexico would be eligible for support from the Tribal Mobility Fund Phase I.

BILL SHOCK AND WIRELESS "CRAMMING"

*Question*. I authored legislation to prevent cell phone "bill shock," unexpected increases in one's monthly bill. So I am pleased that the Commission worked with wireless providers to come to a voluntary agreement on free consumer alerts for cell phone users. Millions of American wireless customers now benefit from notifications to help avoid "overage" charges. But I am still concerned about some practices that can hurt consumers, such as "cramming." Cramming is a practice in which telephone customers are billed for enhanced features such as voice mail, caller-ID and call-waiting that they have not ordered. The Federal Trade Commission reached a settlement with a company that apparently "crammed" unauthorized charges onto cell phone bills for phony anti-virus scans that showed up when smart phone users played the Angry Birds game app.

What is the FCC doing to address these consumer issues? Is the range of remedies available to the FCC adequate to meaningfully address these problems?

Has the prevalence of these unauthorized practices been reduced in recent years? What recourses does a customer have if victimized by one of these deceptive practices?

Answer. Wireless complaints now make up a significant percent of the cramming complaints the Commission receives in an average month. Furthermore, various outside sources—including some State public utility commissions—have provided additional data showing that wireless cramming complaints are on the rise. On April 17, 2013, the Consumer and Government Affairs Bureau held a public workshop to educate consumers about detecting and preventing cramming, and to collect additional information in response to the Further Notice of Proposed Rulemaking issued to address this inquiry. Commission staff is reviewing the record.

TV BLACKOUTS DURING RETRANSMISSION DISPUTES

*Question*. During a recent dispute over retransmission fees, nearly 3 million Time Warner Cable customers lost access to CBS programming. In response, you stated that media companies should "accept shared responsibility" for putting consumers' interests above other interests during such disputes.

Given the Commission's authority under section 325 of the Communications Act, what more can the FCC do to better protect consumers during such retransmission disputes?

Answer. I agree that the recent dispute between Time Warner Cable and CBS was particularly troubling due to the extended length of time of the disagreement. While Commission staff—myself included—monitored the situation and engaged the parties to encourage resolution, there is limited Commission authority in this area given that such agreements are privately negotiated between parties. It is my hope that, in the future, media companies will put consumers' interests first and prevent additional programming blackouts. If Congress should decide to revisit the issue, Commission staff would be available as a resource for technical assistance.

TV TRANSLATORS AND INCENTIVE AUCTIONS

*Question*. It is estimated that nearly 54 million Americans, including almost 600,000 New Mexicans, rely exclusively on over-the-air TV. In New Mexico in particular, viewers rely on the more than 200 translators located throughout the State to receive broadcast television. This is especially the case in rural areas and on Tribal lands.

As the Commission proceeds with the incentive auction rulemaking, will you consider the importance of protecting TV viewers in rural areas who are served by TV translators?

Answer. The Commission recognizes that low power television (LPTV) and TV translator stations are an important source of local television programming for rural and remote locations. Given that these stations are not eligible to participate in the incentive auction, and have secondary status for interference purposes, the Commission sought comment on specific proposals to help ensure LPTV/TV translator stations continue to reach viewers. Commission staff is carefully evaluating the record

compiled in the proceeding regarding the issue, and your views will be taken into consideration.

SPECTRUM SHARING IN THE BROADCAST AUXILIARY SERVICE BAND

*Question*. Radio spectrum is a scarce and valuable resource. As you know, the Department of Defense recently proposed transiting out of the 1755–1780 MHz band. An auction of this band when paired with the 2155–2180 MHz band reportedly could generate more than $12 billion according to some estimates. As part of the proposal, TV broadcasters would share spectrum in the Broadcast Auxiliary Service (BAS) band (2025–2110 MHz) with Department of Defense users. Broadcasters currently use BAS band spectrum for transmitting live footage during coverage of breaking news events and emergencies.

As the Commission works with the Department of Commerce and Federal spectrum users, can you assure me that the FCC will carefully consider concerns about preserving broadcasters' ability to transmit live footage during breaking news events?

Answer. I can assure you the Commission will carefully consider means to preserve broadcasters' ability to transmit live footage during breaking news events. In July 2013, the Commission issued a Notice of Proposed Rulemaking for the Advanced Wireless Services (AWS)–3 spectrum, which specifically sought comment on the potential effects on incumbent BAS users and Federal users in the 2025–2110 MHz band. Commission staff is carefully evaluating the record compiled in the proceeding.

PROTECTING PERSONS WITH DISABILITIES

*Question*. The 21st Century Communications and Video Accessibility Act (CVAA) was passed by Congress in 2010 to update our Nation's telecommunications protections for people with disabilities. The law contains groundbreaking protections to enable people with disabilities to access broadband, digital and mobile innovations. There are approximately 36 million Americans with hearing loss and 25 million with a significant vision loss. In 2009, a study conducted by the FCC revealed that people with disabilities are less likely to use Internet-based communications technologies: 65 percent of Americans have broadband at home, but only 42 percent of Americans with disabilities have these services. This gap is due in part to physical barriers that people with disabilities confront in using the Internet. It is for this reason that the National Broadband Plan, adopted by the Commission in March 2010, recommended that Congress and the FCC should modernize accessibility laws to keep pace with broadband technologies.

What is the level of compliance with the communications provisions of the 21st Century Communications and Video Accessibility Act (Public Law 111–60), enacted October 8, 2010?

Answer. Thus far, the compliance with the provisions of the law that have gone into effect has been very successful. For example, the National Deaf-Blind Equipment Distribution Program has provided communications equipment to hundreds of deaf-blind individuals, television shows distributed via Internet protocol are now routinely shown with closed captions, video programming providers are providing video description on television shows so people who are blind and visually impaired can access that programming, and there are far more options for accessible advanced communications wireless devices than ever before.

*Question*. What is the status of FCC implementation of this law?

Answer. The FCC has moved aggressively through numerous rulemakings and other proceedings to implement this landmark legislation. Prior to the Government shutdown, the Commission had met, or was on track to meet, every rulemaking deadline set by the CVAA. We are committed to meeting the remaining deadlines. The FCC is also committed to working with industry, consumers, and other stakeholders to address and resolve disability-related accessibility issues.

Milestones in the Commission's implementation of the CVAA include:

*Communications*

—Access to advanced communications services and equipment, such as text messaging and e–mail; rules were adopted October 7, 2011, with full implementation by October 8, 2013.

—Access to Web browsers on mobile phones by people who are blind or visually impaired; rules were adopted April 26, 2013, and will be effective on October 8, 2013.

—National deaf-blind equipment distribution program, supporting programs that distribute communications equipment to low-income individuals who have both

significant vision and hearing loss; rules were adopted April 6, 2011, a pilot program was launched on July 1, 2012, and hundreds of individuals have been served by the program to date.

—Contributions by non-interconnected voice over Internet protocol (VoIP) providers to the Telecommunications Relay Service (TRS) Fund; rules were adopted October 7, 2011, and fully implemented by the 2012–2013 TRS Fund year.

—The Emergency Access Advisory Committee conducted a nationwide survey and submitted a report in 2011 and additional reports in 2013; recommendations included actions needed for migration to a national Internet protocol-enabled network, and to develop an interim, mobile text solution that can be rapidly deployed to provide nationwide access to 9–1–1 services, including to those in the disability community.

*Video Programming*

—The Video Programming Accessibility Advisory Committee submitted reports and recommendations on captioning Internet-delivered video programming in 2011, and on video description, accessibility of televised emergency information, and equipment accessibility requirements in 2012.

—Closed captioning on Internet-delivered video programming; rules were adopted January 12, 2012, with a multi-year phase-in that began September 30, 2012 for programs to contain captions; implementation required by January 1, 2014, for equipment to deliver and display captions.

—Video description on television; rules were adopted August 24, 2011, which became effective July 1, 2012, for programs to contain video description, and implementation required by May 26, 2015, for equipment to deliver video description.

—Access to televised emergency information for people who are blind or visually impaired; rules were adopted April 9, 2013, and will be fully implemented by May 26, 2015.

—Video equipment accessibility to ensure that user interfaces, guides, and menus for digital apparatus and navigation devices are accessible; notice of proposed rulemaking was adopted May 30, 2013, and final rules are due October 9, 2013.

*Question*. To what extent do accessibility barriers continue to exist for persons with disabilities?

Answer. Barriers still exist where our rules implementing the CVAA have not yet gone into effect. For example, television sets and navigational menus that are inaccessible to people who are blind and visually impaired, and emergency information on TV that is not yet audibly accessible to people who are blind and visually impaired. Further implementation of our rules implementing CVAA will help to rectify these barriers.

FCC CONSUMER COMPLAINTS DATA

*Question*. I would like to ask you about ways to improve how the FCC can better help consumers. The Commission receives consumer complaints and other public feedback through its website and other means. These data, however, are only made public on a very limited basis.

What steps could the Commission take to facilitate public access to this complaint data? How can new technologies potentially help the Commission use this information to identify important issues for an official action or response?

Answer. Providing help to consumers is a top priority of the Commission. I believe the Commission's work can benefit from taking advantage of new technologies. For example, the Commission should implement changes to the Integrated Voice Response System as recommended by the Consumer Advisory Committee. Improved consumer interfaces for the complaint process, streamlining the complaint intake function, which includes automating the processing, service of complaints, and responses to inquiries will benefit consumers and provide more accurate, complete, and clear data.

DATA CAPS

*Question*. Most consumers are accustomed to online access at home with a broadband subscription that allows unlimited access to data from the Internet. Yet today many wireline and wireless Internet service providers are experimenting with or implementing usage-based pricing and "data caps." My understanding is that consumer groups have asked the Commission to collect information on how companies implement and administer such data caps.

Has the Commission taken any concrete steps to do so? Will you commit to studying the impacts of data caps for consumers and publicly reporting the Commission's findings?

Answer. Data caps are a business model experimentation that may help some consumers, in particular providing lower priced options to low volume users. But, I believe new business models and new services by broadband providers—wireline or wireless—should not come at the expense of competition, or broadband speed and monthly capacity. I would support the Commission undertaking a public study to examine the impact that data caps have on consumers.

POLITICAL ADVERTISING DISCLOSURES, TRANSPARENCY

*Question*. When negative campaign ads flood the airwaves, voters should know who's paying for them and how much they've spent. So I believe that requiring broadcasters to post their political files online is a step toward more transparent elections.

When will the Commission finalize its rule to help bring more transparency and public scrutiny for political TV advertising on public airwaves?

Answer. The Commission's rules requiring TV stations to post their public file online became effective on August 2, 2012. As part of this requirement, the TV stations affiliated with the top four national networks in the top 50 designated market areas (DMAs) were required to post new political file documents as of the effective date, with the rest of the TV stations exempted from online political file requirements until July 1, 2014.

At the same time it adopted the online public file rules, the Commission directed the Media Bureau to issue a Public Notice on or before July 1, 2013, seeking comment on the impact of the availability of online political file information for the initial 240 stations. The Public Notice was issued on June 25, 2013, with the reply comment period ending on September 23, 2013. The record developed as part of the Public Notice will help the Commission determine if any changes are necessary prior to expiration of the online political file exemption for the rest of the TV industry. Staff currently is reviewing the record generated by the Public Notice.

FCC WIRELINE COMPETITION BUREAU STAFFING GROWTH

*Question*. A review of the Commission's fiscal year 2014 budget justification reflects that the staffing level proposed to realize the most significant increase for next year is the Wireline Competition Bureau. As proposed, the funding level would grow from $30.656 million to $40.069 million, representing an increase of $9.413 million, or a boost in spending of 31 percent. The full-time equivalent staffing for that component would increase from 176 to 217, or an increase of 41 staff (23 percent growth).

Can you please describe the work of this component and explain the rationale for the proposed increase?

Answer. Additional staff is needed in the Wireline Competition Bureau (WCB) in order to implement reforms to the universal service programs—the High Cost Fund, including the newly created Connect America Fund, the Mobility Fund, the Tribal Mobility Fund, as well as the revamped Rural Health Care and Lifeline programs. In addition, WCB is in the process of reforming the Schools and Libraries (E-Rate program) and the Universal Service Fund (USF) contributions system. We have heard from many members of Congress on the importance of implementing these reforms and moving ahead with this important process. While sequestration has had an impact on agency's budget, we will reprogram if necessary to take care of all essential services first. However, these additional resources are essential to ensure an efficient and timely process as the Commission continues to implement USF reforms and provides continued oversight over these important programs.

FCC REGULATORY FEES

*Question*. The Commission adopted an order on August 8 to update its regulatory fee structure. This order followed a Government Accountability Office (GAO) report that found the Commission's regulatory fee structure is out of date given many changes in the telecommunications market, in regulation, and in the Commission's work over the last decade. The recent FCC order describes the changes as initial steps to more comprehensively revising the Commission's regulatory fee program. The order also notes that the Commission will issue "shortly" a Second Further Notice of Proposed Rulemaking once more public input is considered.

How soon can we expect the Commission to take the next steps to modernizing its regulatory fee structure?

Answer. As you state, the Commission recently adopted an Order that is an important first step in reforming the Commission's regulatory fee program. The fees adopted in the rulemaking are intended to be interim measures aimed at reforming the fee program so that fees paid by all licensees will more accurately reflect the current cost of regulating them. In reviewing the record, the Commission determined additional, complex issues required further analysis. While the Order prescribed a conclusive readjustment of regulatory fees within 3 years, and I remain committed to meeting this goal, we must also ensure analysis of these highly complex issues is done properly.

SPECTRUM RESEARCH

*Question*. During the hearing, there was a brief discussion of the need for further research into how to harness and efficiently use radio spectrum. I would like to ask how the Commission can help spur innovation when it comes to maximizing use of radio spectrum for commercial uses. Earlier this month, the National Aeronautics and Space Administration (NASA) launched the Lunar Atmosphere and Dust Environment Explorer (LADEE). This mission includes a demonstration of two-way, high rate laser communications for space communications. While orbiting the moon, LADEE will communicate at broadband speeds with a receiver at the White Sands Missile Range in New Mexico. Such optical communications technology is similar to fiber optics but without the "fiber." Although such breakthrough technology faces technical challenges for terrestrial deployment, it is an example of spectrum research with enormous potential.

How can the Commission encourage and promote further research into innovative spectrum technologies?

Answer. The Commission has taken several steps to encourage and promote innovated spectrum technologies. Earlier this year, the Commission adopted a Report and Order to promote innovation and efficiency in spectrum use by expanding the types of available experimental authorizations. On August 9, 2013, the Commission adopted a Report and Order that modifies technical rules for the 60 GHz band to encourage technological development in these spectrum bands. The Commission has also begun a proceeding to examine how a potential 195 megahertz of spectrum in the 5 GHz band may be used for unlicensed use. Additionally, the Commission's Technological Advisory Council is looking at ways to identify spectrum bands that have the potential to become the new "beachfronts," and to assess technical or policy changes necessary to enable use this spectrum. I believe these efforts go a long way toward encouraging research into innovative spectrum technologies.

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## QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

NORTHERN BORDER ISSUES

*Question*. In November of last year I wrote to then Chairman of the Federal Communications Commission (FCC) Julius Genachowski on the importance of transparency as we conduct the first ever voluntary incentive auction. An important step to ensuring a successful auction is the completion of coordination with Canada in markets such as Chicago. What is the status of coordinating incentive efforts with Canada, and are there particular issues that still yet need to be resolved before moving forward?

Answer. The United States has a long and successful history of close cooperation with Canada and Mexico regarding the use of radio spectrum along the borders and we expect that this cooperation will continue through the incentive auction process. This history includes coordination related to the digital television (DTV) transition, experience that FCC staff will be applying in incentive auction coordination efforts. The Commission will continue to abide by our international agreements with both countries and intends to adhere to all statutory requirements.

The Commission and the State Department have been engaged in ongoing discussions with both Canada and Mexico on border issues related to the incentive auction. During the summer, I emphasized incentive auction-related coordination in high level meetings with our Canadian counterparts in Ottawa and Mexican counterparts at the International Telecommunication Union Global Symposium for Regulators in Warsaw. In September, I contacted the new Chairman of the recently-formed Independent Federal Communications Institute of Mexico (IFETEL), reiterating the need to continue spectrum coordination discussions related to Mexico's digital television (DTV) transition and the U.S. incentive auction. We conduct regular discussions with Canadian spectrum policy managers, and are working to con-

tinue or incentive auction dialogue with Mexico by scheduling such regular discussions with the spectrum policy managers at the new IFETEL.

As in any international negotiation, there are several unique stages, and progression from one stage to the next depends on a variety of factors. We anticipate one of the first areas where the United States will reach initial understandings with its Canadian and Mexican counterparts will concern the methodologies to be used for interference scenarios for television and future wireless services. We also anticipate seeking initial understandings related to the disposition of certain television allotments in Canada and Mexico that are currently protected under bilateral agreements.

We intend to design an auction, repacking process and band plan that are sufficiently flexible to facilitate a successful auction and meet our statutory obligation to preserve broadcast service, while taking into account potential international constraints. Any such constraints would not result in additional stations going off the air, but likely would impact the Commission's ability to clear spectrum.

As with the DTV transition, we want to ensure consumers still have access to over-the-air service to the greatest extent that we can, recognizing that in some cases, broadcast stations may choose to completely exit the broadcasting business. For those stations that choose not to participate in the incentive auction, the act requires the Commission to take reasonable efforts to ensure that coverage area and population served are retained for those stations subject to a channel reassignment in the repacking process. Commission staff continue to develop recommendations for the full Commission's consideration based on the record developed in the incentive auction proceeding.

In the end, I expect the international consultations related to the Spectrum Act will ultimately lead to a better designed and more successful incentive auction, and will create opportunities for greater spectrum efficiency and band harmonization across North America.

UNIVERSAL SERVICE FUND

*Question*. We commend the Commission for the hard work it has undertaken in carrying out its Universal Service Fund (USF) and Intercarrier Compensation (ICC) reform orders. However, we continue to hear from providers in rural areas that the new rules are still creating uncertainty and inhibiting new investments limiting deployment of new technologies. While acknowledging that reforms to USF and ICC are necessary and some current participants will see reductions in support, what steps, if any, is the Commission taking to address this issue?

Answer. The Commission's implementation of the USF/ICC Transformation Order continues to be guided by three key goals: expanding voice and broadband to the millions of unserved Americans, particularly in rural areas, while preserving voice and broadband in areas that would not be served absent support, increasing fiscal responsibility and accountability in high-cost universal service spending to ensure the long term sustainability of the universal service fund, and setting forth transition periods that recognize business realities.

As we hear from stakeholders about concerns with implementation, we will make adjustments as appropriate. For instance, on July 26, 2013, the Wireline Competition Bureau (Bureau) adopted an order maintaining the regression methodology used in 2013 for 2014, summing the capital and operating expense caps. This measure will provide additional predictability and certainty for rate-of-return carriers as the Bureau works to adjust the benchmarking methodology as directed by the Commission through an open and transparent process.

In addition, the Commission extended the transition for originating intercarrier compensation payments, a concern raised by many smaller, rate-of-return carriers. In particular, the revised methodology accounts for several additional drivers of cost in comparing spending between carriers, it takes recent investment into consideration, it extends the transition period to give carriers greater time to adjust, and it provides a streamlined process to address any concerns about the accuracy of carriers' data. The Commission also extended a number of reporting deadlines for the smaller carriers. Moreover, the Bureau has sought comment whether Connect America should provide support for stand-alone broadband services for the smaller carriers—an idea proposed by the smaller carriers and their associations. I want to assure you that the Commission will continue to work with all stakeholders, including rural carriers, throughout the reform process.

RURAL CALL COMPLETION

*Question*. While the Committee finds that the FCC's February 2012 Declaratory Ruling on Rural Call Completion Issues has helped make progress toward address-

ing call completion problems, the problems continue to occur. This issue, for both providers and customers, has now been continuing without clear resolution for years. What are your plans to address this issue? Do you believe the Commission has the authority, tools, and resources necessary to resolve this problem?

Answer. I take rural call completion concerns very seriously and the Commission is committed to ensuring reliable telephone service for consumers and businesses in rural America. The consequences of the problems can be dire, impacting businesses, families and public safety, and the Commission is committed to ensuring reliable telephone service in rural America.

The Commission has been attacking this problem on multiple fronts: investigating systemic problems with originating long distance providers, pointedly reminding long distance providers of their current obligations, proposing new Commission rules to address rural call completion problems, and acting daily on specific consumer and rural carrier complaints. These efforts are coordinated by an inter-bureau Rural Call Completion Task Force.

I also circulated an Order and Further Notice of Proposed Rulemaking that will help make sure that calls to rural areas are completed, which was approved by the Commission on October 28, 2012. The Order enhances the FCC's ability to investigate and crack down on this problem while also taking immediate steps that will improve the performance of long-distance calls to rural America.

In addition, earlier this year the Commission's Enforcement Bureau entered into a consent decree with long distance provider Level 3. Under the consent decree, Level 3 has committed to meeting certain benchmarks for completing calls to rural areas and is making a significant voluntary contribution to the U.S. Treasury. The Enforcement Bureau continues to investigate the call completion practices of voice communications providers.

T-BAND MISSION CRITICAL VOICE

*Question*. The Middle Class Tax Relief and Job Creation Act of 2012 required public safety users of T-band to vacate the spectrum no later than 2021. What, if any, impact does the Commission expect this will have on public safety mission-critical voice support? If T-Band is vacated, does the Commission believe there will be adequate spectrum available to public safety users to support mission-critical voice? Further, if the spectrum is vacated by public safety users, are there remaining hurdles to auctioning T-band for commercial use?

Answer. Section 6103 of the Middle Class Tax Relief and Job Creation Act of 2012 ordered the Commission to reallocate the T-band spectrum used by public safety and begin a system of competitive bidding to grant initial licenses for use of the spectrum within 9 years of enactment. Following enactment of the act, the Public Safety Bureau and the Wireless Telecommunications Bureau announced a freeze on certain forms of licensing in the T-band that could alter the spectrum landscape and thereby make implementing section 6109 more costly. The Public Safety Bureau and Wireless Telecommunications Bureau also waived the narrowbanding requirement for T-band licensees so that they would not have to commit resources to narrowbanding T-band systems that would eventually need to be relocated. The Bureaus took these steps to preserve the T-band status quo as much as possible while the Commission considers longer term options for implementing section 6109.

Earlier this year, the Public Safety Bureau and the Wireless Telecommunications Bureau released a public notice seeking comment on various issues related to implementation of the act. Among the issues raised in the public notice are alternative spectrum for public safety licensees that must vacate the T-band and the funding for relocating these licensees to that alternative spectrum. Commission staff is reviewing the record.

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QUESTION SUBMITTED BY SENATOR MIKE JOHANNS

*Question*. With respect to unlicensed spectrum—particularly that which permits consumers with mobile devices to make use of Wi-Fi—to what extent is spectrum congestion a problem that the Federal Communications Commission (FCC) intends to continue to address? What additional actions should the FCC take to address this issue?

Answer. The Nation's demand for unlicensed services continues to increase dramatically, and we need more spectrum to support these services. The 2.4 GHz band, which has been so critical to the success of Wi-Fi and other unlicensed technologies, is increasingly congested particularly in major cities. Densely populated centers are the most expensive geographic areas to deploy licensed networks. For that reason, earlier this year the Commission issued a Notice of Proposed Rulemaking that pro-

poses to make up to an additional 195 megahertz of spectrum in the 5 GHz band be made available for unlicensed services. A number of technical issues must be resolved, which requires coordination with the National Telecommunications and Information Administration (NTIA) to examine the impact these proposed rules may have on Federal users in the 5 GHz band, before final rules can be adopted. I am confident the Commission will resolve these issues quickly. The sooner we solve these issues, the sooner American innovation can show leadership in developing the 5 GHz band for unlicensed services.

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## QUESTIONS SUBMITTED BY SENATOR RICHARD C. SHELBY

### ACCOUNTABILITY FOR THE LIFELINE PROGRAM

*Question*. Chairwoman Clyburn, in a recent speech, you remarked, "One fair criticism of the Lifeline program in the past was that, after the change to also support mobile service, the program was subject to fraud and abuse." Such fraud and abuse includes reported cases where households have exceeded the limit of one Lifeline service per household, or have received a subsidy without being qualified for one. Although the Federal Communications Commission (FCC) has highlighted the problem of fraud and abuse in the program, it has yet to launch the "National Lifeline Accountability Database," a tool announced in January 2012 that will verify household compliance with data collected by subscribers. The "2012 Lifeline Year-End Savings Report" mentions that this database will be "operational" in 2013.

What is the current status of the National Lifeline Accountability Database? When will it become fully "operational"?

Answer. In the 2012 Lifeline Reform Order, the Commission established the National Lifeline Accountability Database (NLAD) to detect, prevent and eliminate duplicative support in the Lifeline/Link Up program. The NLAD is a key part of the Commission's reform efforts to cut fraud and abuse in the Lifeline program. The Universal Service Administrative Company, or USAC, administers the Lifeline program on behalf of the FCC. USAC has announced its selection of the vendor for NLAD. On October 23, 2013, the FCC's Wireline Competition Bureau released a public notice informing eligible telecommunications carriers (ETCs) receiving Lifeline support that the NLAD will be ready to accept subscriber information by December 2013.

*Question*. How will the FCC use the data it receives from this database to ensure that fraud and abuse are significantly curbed?

Answer. The NLAD database will utilize subscriber data provided by ETCs to identify and reduce current instances of duplicative support. All ETCs must query the NLAD prior to attempting to receive reimbursement from the fund to determine whether a prospective subscriber is currently receiving a Lifeline service from another carrier; and whether anyone else living at the prospective subscriber's residential address is currently receiving a Lifeline service. If the NLAD indicates that a prospective subscriber is currently receiving a Lifeline service, the ETC must not provide and shall not seek or receive Lifeline reimbursement for that subscriber.

*Question*. In addition, Chairwoman Clyburn, in your speech, you stated that reforms to the Lifeline programs "are working as intended" and "are on track to save the Universal Service Fund an incredible $2 billion, by the end of 2014."

What metrics does the Commission use to demonstrate that the reforms are currently "working as intended"?

Answer. The Commission is very proud of the reforms that have been implemented in the Lifeline program, but we continue to strive to eliminate all waste, fraud, and abuse from the program. Through specific targeted reforms to the Lifeline program, the Commission is on track to meet its projected target of saving $2 billion through 2014 compared to what would have been spent absent reform. The following are examples of savings to the program that have resulted from implementation of the reforms. To date, the Commission has saved over $180 million through the use of checks to prevent reimbursement for duplicate subscribers. In addition, at least $400 million was saved in 2013 from the de-enrollment of as many as 4 million subscribers through the 2012 recertification process. An additional $30 million will be saved on an annualized basis from the de-enrollment of over 275,000 subscribers for non-usage in 2012. Through the partial elimination of the Link Up program, the Commission realized over $93 million in savings in 2012 as Link Up expenditures dropped from roughly $14 million per month in May 2012 to less than $200,000 per month in December 2012.

*Question*. Where do the projected savings of $2 billion come from, specifically? Will the Commission use the savings to reduce the Universal Service Fund contribution factor, a fee that service providers pass along to consumers?

Answer. The Lifeline program is on track to save the estimated $2 billion by the end of 2014. These savings will be achieved through reform and modernization of all aspects of the program. The reforms include:

—requiring consumers to provide proof of eligibility at enrollment;
—requiring consumers to certify that they understand key program rules and to recertify annually their continued eligibility for support;
—limiting the Lifeline benefit to one per household;
—eliminating Link Up support for all providers except those that receive high-cost universal service support on Tribal lands;
—establishing a uniform, nationwide floor for consumers' eligibility to participate in the program, which States may supplement;
—enhanced requirements concerning marketing and advertising practices of supported carriers; and
—putting in place a robust audit requirement for providers entering the Lifeline program and an ongoing independent audit requirement for providers drawing more than $5 million from the Fund.

In addition, the FCC, in partnership with USAC, has also identified and cut substantial amounts of duplicative Lifeline support, resulting in the de-enrollment of hundreds of thousands of subscribers with more than one Lifeline supported service. These reforms are in place, are working as intended, and are cutting waste, fraud and abuse from the program while ensuring that low-income consumers have access to basic voice communications. Finally, to the extent Lifeline reforms contribute to an overall reduction in the contribution factor, consumers would benefit from those savings.

*Question*. Currently, Lifeline is the only program funded by the Universal Service Fund that does not operate under a cap on the funds available for distribution to eligible telecommunications providers. Spending on the program has grown significantly from $819 million in 2008 to an estimated $1.8 billion in 2013.

Given the growth trajectory in recent years, is the Commission considering placing a cap on funds distributed from the Universal Service Fund for Lifeline? Why or why not?

Answer. When we adopted reforms in early 2012, the Commission unanimously determined that it was appropriate to assess the impact of the reforms before moving forward with a budget. The Commission unanimously opted for a savings target as an initial matter. We exceeded the $200 million savings target in 2012 and are on track to save $2 billion by the end of 2014. The $9.25 support amount that the Commission adopted in the Order is an interim rate, and there is a Further Notice for comment on the optimal level of support for voice services. We continue to monitor the impact of our reforms and determine whether additional reforms are necessary.

*Question*. In the wake of Hurricane Katrina, the FCC had "conditionally granted TracFone's petition for forbearance from the facilities requirement" to provide Lifeline service. In April 2008, the Commission designated TracFone as an "Eligible Telecommunications Carrier" for Lifeline on a more permanent basis, which then allowed other telecom providers to access Lifeline funding without owning facilities.

Given that there is no longer a requirement for providers who receive Lifeline subsidies to own facilities, does the Commission have a limit on the number of new servicers who are eligible for Lifeline subsidies? Why or why not?

Answer. The States have an important role in overseeing the Lifeline program—they have been partners of the FCC in reform and in oversight and enforcement. Under section 214(e)(2) of the Communications Act, States designate providers as ETCs to participate in the Lifeline program, and to receive Lifeline support, including, in most cases, wireless ETCs. Currently, all but 10 States and the District of Columbia handle the designation of Lifeline-only wireless ETCs to participate in the program. States have broad authority to conduct thorough reviews of ETC applications.

In addition to the statutory requirements, the FCC's reforms require that providers demonstrate that they are "financially and technically capable of providing Lifeline service in compliance with program rules." In deciding whether to designate a provider to participate in Lifeline, a State or the FCC must, among other things, examine how long the company has been in business, whether the provider intends to rely exclusively on universal service disbursements to operate its business, whether the provider receives or will receive revenue from other sources, and whether it has been subject to enforcement action or ETC revocation proceedings in any State. As part of the Commission's ongoing commitment to combat waste,

fraud, and abuse in the program, all non-facilities-based providers seeking to become Lifeline-only ETCs are now required to have a compliance plan approved by the FCC staff before being designated as an ETC by a State or the FCC. FCC staff thoroughly reviews these plans to ensure that providers have procedures in place to adhere to the new stringent program requirements.

CONNECTED

*Question*. The White House's June 6, 2013 press release announcing the President's ConnectED initiative calls on the FCC to "modernize and leverage its existing E-Rate program" in order to "connect 99 percent of America's students to the Internet through high-speed broadband and high-speed wireless within 5 years."

How would the White House's initiative, ConnectED, differ from what the E-Rate program currently offers?

Answer. On July 19, 2013 the Commission issued a Notice of Proposed Rulemaking (NPRM) seeking comments on modernizing the E-Rate program. As part of the E-Rate Modernization NPRM, the Commission sought comments on adopting a goal for the program of ensuring that schools and libraries have affordable access to 21st century broadband that supports digital learning. In proposing that goal, the Commission also sought comment on how to measure its success in reaching that goal, and, among other things, specifically sought comment on the specific speed goals laid out in the President's ConnectEd initiative. The E-Rate program does not currently have specific broadband connectivity goals for our Nation's schools and libraries.

*Question*. Would the White House proposal to "modernize and leverage" the E-Rate program add an additional cost burden to the Universal Service Fund? Is this a feasible goal given the fact that the E-Rate program operates under a funding cap adjusted each year based on an inflation benchmark?

Answer. The E-Rate Modernization NPRM proposes that one of the goals of the program should be maximizing the cost-effectiveness of the E-Rate program. Consistent with that proposed goal, the NPRM seeks comment on whether the other proposed goals can be achieved within the current funding cap, and how best to do so. For example, the NPRM seeks comment on phasing out support for certain legacy services, such as paging services, and on whether increased use of consortium purchasing or bulk buying can be used to make E-Rate purchases more cost effective.

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## QUESTIONS SUBMITTED TO HON. JESSICA ROSENWORCEL

## QUESTIONS SUBMITTED BY SENATOR TOM UDALL

PUBLIC SAFETY COMMUNICATIONS AND INTEROPERABILITY

*Question*. The origins of the Federal Communications Commission's (FCC's) public safety mission pre-date the creation of the agency. In 1912, Congress enacted legislation in response to radio distress call failures during the Titanic sinking. Twelve years ago, the terrorist attacks of 9/11 exposed a radio interoperability problem that put first responders' lives at additional risk. Some police and fire crews could not communicate via radio handsets with each other. The FCC has a strategic goal to promote the availability of critical communications infrastructures that are reliable, interoperable, redundant, and rapidly restorable.

How would you rate the FCC's attainment of this strategic goal? What is needed to address any deficiencies and on what timetable?

Answer. In public service, public safety is paramount. It is our first and highest duty. For the Commission, that direction comes from the very beginning of the Communications Act, where Congress instructed the agency to make available "to all the people of the United States. . . rapid, efficient, Nation-wide, and world-wide wire and radio communication service" in order to promote the "safety of life and property[.]".

Natural disasters and other emergencies not only cause immeasurable hardship on those directly affected, they can wreak havoc on our communications systems. When these systems fail, the Commission has a duty to identify why, and a duty to consider policy changes that can prevent such failures from happening again.

In my time at the Commission, I believe that we have made significant progress. For instance, when the Derecho storm struck the Mid-Atlantic and Midwest, we learned that too many 9–1–1 calls were not answered. I immediately called for a staff investigation into what happened. Our findings were striking. Seventy-seven public safety answering points spanning six States lost some connectivity. This af-

fected more than 3.6 million people. Seventeen 9–1–1 call centers lost service completely, leaving over 2 million people without access to 9–1–1.

As a result of our investigation into these communications failures during the Derecho, we now have more clarity about what happened. We know that back-up generators and switches failed, power failures undermined monitoring capabilities, 9–1–1 centers were left in the dark without service—and without notice. Even better, we have proposals to correct these problems which I expect will be Commission policies in the very near future.

The Commission also has a duty to help bring forward the next generation of 9–1–1 communications. New technologies are remaking our commercial and civic life. They have the potential to remake emergency communications. But if we are honest, we must acknowledge that all of these new opportunities to improve emergency communications come hand-in-hand with new challenges.

To better understand these challenges, I have visited over a dozen 9–1–1 call centers in communities across the country. In these visits, I am always amazed by the individuals I see taking emergency calls. I am always struck by their grace under pressure. But I am also struck by the number of systems they use for a single call and the sheer volume of information they have to understand and process.

In the not so distant future, this flood of information could turn into a digital deluge of photographs and videos. It is here that so-called cloud computing holds real promise. I believe that by moving systems into the cloud, we can make information available to the right people at the right time. For instance, a call taker may not need to see the video of a car accident. In fact, the video might even be distracting. But for a police officer being dispatched to the scene, the video could be vital. By uploading information to the cloud, the information can be available for the people who need it, when they need it.

While the Commission does not have the resources to provide direct funding for 9–1–1 call centers, help may be on the way. The Middle Class Tax Relief and Job Creation Act reestablished the National E–9–1–1 Implementation Coordination Office and directed it to conduct a comprehensive study of next generation 9–1–1 costs. More than that, this law provides up to $115 million in grant funding for next generation 9–1–1 projects, based on revenues from the Commission's upcoming spectrum auctions.

But our work is not done. The networks we rely on every day are changing. Today fewer consumers rely on traditional wireline telephones. One in three households now relies exclusively on wireless phones. On top of that, digital Voice over Internet Protocol (VoIP) services are growing fast. Unlike their wireline predecessors, wireless and VoIP services are dependent on commercial power. This means we need to start understanding what happens to essential services when the power goes out. Specifically, we need to ask hard questions about back-up power and how to make our networks more dependable when we need them most. After all, technology evolves but our need to stay connected does not. So it is time for an honest conversation about network reliability in the wireless and digital age. This must be an essential feature of our ongoing policy work on the IP transition.

Finally, there is another component to this discussion—consumers. We migrate so much of our lives to our wireless devices, premised on the idea that they are always on. But emergencies can take the most connected among us and turn us into wireless teetotalers. The Commission should take on a role in helping consumers prepare for the next event with longer-lasting back-up batteries, solar chargers, and more.

RURAL TELEMEDICINE

*Question*. Telehealth technologies can greatly enhance rural medical services. New Mexico is a large State with many residents living far from urban areas. So telehealth sometimes offers the best avenue to help meet healthcare needs. That is why I am working in a bipartisan manner with Senator Thune and others to help reduce some of the barriers to telemedicine.

Could you share your thoughts on improving the Rural Health Care program as part of broader Universal Service reforms? I'm interested in hearing what you believe those barriers are and how they can be overcome.

Answer. Telehealth and telemedicine technologies have the power to enhance the quality of healthcare, improve medical outcomes, and lower costs. In particular, in rural areas, telemedicine technologies can collapse distance and time, linking rural patients to expert physicians in urban areas while avoiding the risks and costs of transport.

In December 2012, the Commission adopted an Order (FCC 12–150) that updated our existing rural healthcare universal service mechanism, which makes available

$400 million to rural healthcare providers for broadband services. I fully supported this effort. The newly updated Healthcare Connect Fund encourages healthcare providers from both rural and urban areas to join together in consortia. This allows rural communities to better access specialists in urban areas, while fostering higher capacity broadband services at lower costs.

I believe this program will become a great resource to support the broadband networks needed to make telemedicine a reality in rural areas. But there is still work to be done. Beyond networks and bandwidth, broader policy factors like restrictive State licensing rules and limitations on insurance reimbursement can impact the ultimate success of telemedicine. So going forward, it is my hope that the Commission can work with its Federal and State partners to ensure that our efforts to make telemedicine successful are not impeded by dated licensing regimes and reimbursement policies.

NATIONAL LIFELINE ACCOUNTABILITY DATABASE

*Question*. Your testimony notes that the Commission adopted reforms to the Lifeline program to help low income persons get telephone service. As you know, Lifeline dates to the Reagan administration and was expanded to include wireless phone service during the presidency of George W. Bush. Here is what one Lifeline user from the Navajo Nation had to say: "I got help when I fell and broke my ankle. I called an ambulance and went to the doctor." Another wrote, "I've been stranded during bad winter weather, and my Lifeline has helped me . . . ." So this initiative can indeed be a "Lifeline" for low income persons in a time of emergency or when applying for a job. Yet it is important that the Commission continue reforms to guard against waste, fraud, and abuse. One of the recent Lifeline reforms is a new National Lifeline Accountability Database. This database will help weed out "double dipping" if there are duplicate participants receiving Lifeline assistance.

Can I have your assurance that the Commission is committed to implementing this database as soon as possible?

Answer. I am fully committed to the speedy implementation of the Commission's ongoing Lifeline reforms. The National Lifeline Accountability Database requirements were adopted in the Commission's Lifeline Reform Order in January 2012 (FCC 12–11), which predated my arrival at the Commission. Staff has reported to me that the National Lifeline Accountability Database will begin accepting carrier information by the end of this year. The first five States to be loaded into the database are Oklahoma, Arkansas, Louisiana, Maryland, and Washington, with all States projected to be loaded by the end of the first quarter of 2014. Commission staff, in conjunction with the Universal Service Administrative Company, has already held a series of webinars for industry and State commissions regarding the database requirements.

LIFELINE REFORM

*Question*. I understand that the Commission may be reviewing a proposal to prohibit in-person distribution of phone handsets to Lifeline customers. This could negatively impact Lifeline-eligible residents of Tribal lands in New Mexico. For example, eligible phone companies would not be able to use mobile stores to reach residents from remote Tribal areas and provide them with phones. Moreover, some remote areas do not have postal service for regular mail delivery of a handset.

As the Commission considers proposals to further modify the Lifeline program, will you carefully take into account the special circumstances facing residents on Tribal lands where the digital divide is so acute?

Answer. The Lifeline program is an important part of keeping everyone in this country connected, especially for those residing in Tribal lands. Telecommunications deployment in Tribal lands for both basic and advanced services has long lagged behind the rest of the country. For this reason, the Lifeline program has been particularly important for tribal communities. After all, having access to telephone service is essential for calling emergency services, being able to secure a job, taking care of loved ones, and managing routine interactions with government and with healthcare providers. However, across the board, all of our universal service programs merit regular review, attention, and care. To this end, the agency must continuously evaluate the Lifeline program to ensure that it is meeting its intended purpose under section 254(b) of the Communications Act—that quality voice services are available at affordable rates for low-income consumers throughout the Nation.

As noted above, the Commission began reform of the Lifeline program in January 2012, before my arrival at the agency. These reforms have already shown significant reduction of waste, fraud, and abuse in the program. But our work is not yet done. The specific proposal to prohibit in-person distribution of handsets has not come be-

fore my office. However, as the Commission continues to consider reforms to the Lifeline program, I am committed to taking into account the unique circumstances that impact Tribal lands. Apart from making good sense, this is what law requires us to do.

E-RATE 2.0/CONNECTED PROPOSAL

*Question*. E-Rate is an important education technology program to help schools connect to the Internet. In New Mexico, E-Rate helps 915 schools and 69 libraries. More than 330,000 school children in New Mexico benefit from this support. I am excited about potential innovations to help improve student achievement. With newer technologies to enrich the learning experience, from distance learning to massive open online courses.

Could you expand on your testimony about how E-Rate could be modernized to better meet the needs of schools in the current broadband era?

Answer. In New Mexico and across the country, E-Rate has brought connectivity to our Nation's schools and libraries. In fact, over the course of 17 years, E-Rate has helped connect more than 95 percent of public school classrooms to the Internet. This is impressive. But there is more work to be done. Because we are quickly moving from a world where what matters is connectivity to a world where what matters is capacity. Already, year-in and year-out, the demand for E-Rate support is double the roughly $2.3 billion the Commission now makes available annually. Moreover, the agency's own survey indicates that 80 percent of schools and libraries believe that their broadband connections do not meet their current needs.

Those needs are only going to grow. School administrators are facing tough choices about limited bandwidth in the classroom. How to divvy it up, what grades and classrooms get it, and what programs they can run on it. This means that without adequate capacity our students are going to fall short. For my part, I believe that it is time for E-Rate 2.0. We need to protect what we have already done, build on it, and put this program on a course to provide higher speeds and greater opportunities in the days ahead.

In July 2013, the Commission began this process with a rulemaking proceeding. I believe we need to focus on two basic issues if we want to see E-Rate 2.0 up and running fast: setting capacity goals and simplifying the application process.

First, E-Rate 2.0 must be built on clear capacity goals. The fact that we have connected so many schools and libraries with E-Rate is good. But the job is not done. We can fix this with capacity goals. By the 2015 school year, every school should have access to 100 megabits per 1,000 students. Before the end of the decade, every school should have access to 1 gigabit per 1,000 students. Libraries, too, will need access on par with these capacity goals. To get to these goals, we need to take a hard look at the existing program. We need to collect better data from each of our applicants about what capacity they have and what capacity they need. Then I think we can make adjustments to how we prioritize funding to ensure that schools shorter on capacity get greater access to support.

Furthermore, capacity goals will signal to markets that the United States is serious about making digital education a priority. This will yield more opportunities through greater scale for new services, teaching tools, and devices—everywhere. And the spillover effect for this kind of broadband in local communities is substantial. Building gigabit capacity to anchor institutions like schools and libraries is the ticket to gigabit communities and the ticket to digital education and economic growth.

Second, we need ideas from stakeholders far and wide about how to simplify the application process. The E-Rate process is complex. We need to take a fresh look at how the complexity of our existing system can deter small and rural schools from applying. To this end, in our rulemaking we ask about the feasibility of multi-year applications. This could substantially reduce paperwork and administrative expense. We also ask how to encourage greater use of consortia applications. This could mean greater scale and more cost-effective purchasing. I think these are good ideas. We should be open to others—especially from those who know the challenge of filling out E-Rate forms year-in and year-out.

TRIBAL LANDS' DIGITAL DIVIDE AND GOVERNMENT-TO-GOVERNMENT RELATIONS

*Question*. I want to thank you for your efforts to tackle the digital divide facing Native American communities. Telephone access on Tribal lands still lags far behind the rest of the country. Broadband access may be as low as 10 percent on Tribal lands. This appalling digital divide creates real hardships for people, particularly in emergency situations. That is why the work of the Commission's Office of Native American Affairs and Policy is so important. Engagement with Tribes on a govern-

ment-to-government basis is critical to solving communications challenges in Indian Country. This subcommittee's appropriations bill instructs the Commission to develop a plan to fully implement its existing Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes.

Will you support a Commission effort to develop a plan to implement the Commission's statement of policy on government-to-government relations with Indian Tribes?

Answer. Absolutely. Telecommunications deployment in Indian Country for both basic and advanced services lags behind the rest of the country. This is a troubling and persistent problem that requires attention. In March 2013, the Federal Communications Commission's Office of Native Affairs and Policy issued a report that laid out the Commission's priorities for tribal consultation and coordination, including the upcoming Tribal Mobility Fund auction and implementing the tribal engagement obligation that is part of the Commission's new universal service fund reforms. I fully support these efforts. Going forward, I will continue to support the Office of Native Affairs and Policy's efforts to implement the Commission's statement of policy on government-to-government relations with Indian Tribes.

BILL SHOCK AND WIRELESS "CRAMMING"

*Question*. I authored legislation to prevent cell phone "bill shock," unexpected increases in one's monthly bill. So I am pleased that the Commission worked with wireless providers to come to a voluntary agreement on free consumer alerts for cell phone users. Millions of American wireless customers now benefit from notifications to help avoid "overage" charges. But I am still concerned about some practices that can hurt consumers, such as "cramming." Cramming is a practice in which telephone customers are billed for enhanced features such as voice mail, caller-ID and call-waiting that they have not ordered. The Federal Trade Commission reached a settlement with a company that apparently "crammed" unauthorized charges onto cell phone bills for phony anti-virus scans that showed up when smart phone users played the Angry Birds game app.

What is the FCC doing to address these consumer issues? Is the range of remedies available to the FCC adequate to meaningfully address these problems? Has the prevalence of these unauthorized practices been reduced in recent years? What recourses does a customer have if victimized by one of these deceptive practices?

Answer. In 2011, the Senate Committee on Commerce, Science, and Transportation found that telephone companies had been placing approximately 300 million third-party charges on phone bills every year, costing consumers more than $2 billion. Moreover, the Committee investigation found that a vast majority of the charges were fraudulent fees being crammed on to consumer bills.

In response to these findings, the Commission took steps before I arrived to prevent cramming from taking place on wireline phones. Specifically, the Commission adopted rules (FCC 12–42) requiring telephone companies to notify subscribers of options to block third-party charges. It also adopted policies to make third-party charges more apparent on phone bills.

These rule changes have been effective. Our data reflects a reduction in cramming since these rules were put in place. But the rules the FCC adopted were limited to wireline phones. Now, however, my understanding is that approximately 60 percent of cramming complaints are for wireless phone bills. I therefore believe that the time for the Commission to act to end wireless cramming is now—before the fraudulent practice costs consumers billions more dollars and immeasurable aggravation.

FCC CONSUMER COMPLAINTS DATA

*Question*. I would like to ask you about ways to improve how the FCC can better help consumers. The Commission receives consumer complaints and other public feedback through its website and other means. These data, however, are only made public on a very limited basis.

What steps could the Commission take to facilitate public access to this complaint data? How can new technologies potentially help the Commission use this information to identify important issues for an official action or response?

Answer. I agree that our consumer complaint process could be improved to better help consumers. In my time at the agency, it has become apparent that while the digital age advances, our consumer complaint process is stuck in the analog era. It's time for an upgrade.

The Commission receives approximately 400,000 complaints and inquiries annually. Dedicated Commission staff process these complaints and inquiries. But our

consumer complaints online interfaces are dated. I believe we need to improve these interfaces and the information we provide to consumers.

Furthermore, the Commission should make the consumer data we collect more open to the public. Currently we publish our consumer complaint data quarterly, in snapshot form. The Commission should consider making its data more open, in machine-readable formats, and if possible, with application programming interfaces (APIs) and common metadata tagging schemes. We should use this data to inform the Commission's policy activities. Going forward, with more granular public data, the Commission or members of the public could slice and dice these numbers and identify meaningful trends that deserve our attention, our concern—or even our praise.

TV BLACKOUTS DURING RETRANSMISSION DISPUTES

*Question*. During a recent dispute over retransmission fees, nearly 3 million Time Warner Cable customers lost access to CBS programming. In response, you stated that media companies should "accept shared responsibility" for putting consumers' interests above other interests during such disputes.

Given the FCC's authority under section 325 of the Communications Act, what more can the FCC do to better protect consumers during such retransmission disputes?

Answer. The vast majority of retransmission and carriage negotiations proceed uneventfully. But we have had some disputes that were not resolved swiftly. It can mean that when a cable or satellite customer turns on the television to watch the news, the game, or their favorite programming, they get stuck with a dark screen. This is not right. When consumers get caught in the crossfire, they become collateral damage in the dispute between these companies.

If the parties can't reach resolution after some period of time, the FCC should use its "good faith" authority under the law to help bring an end to this disagreement and prevent long blackouts like this from happening. I don't think long blackouts are good for consumers. Furthermore, I believe that when they happen for extended periods of time consumers are owed a refund.

At the same time, I think it is important to recognize that if these disputes are happening more frequently or getting more attention right now, it is at least in part because the media landscape is changing. There are now many more platforms—digital platforms—over which programming companies may want to make their content available. That is a good thing—because more platforms mean more opportunities and more choices for consumers to view content of all kinds.

PROTECTING PERSONS WITH DISABILITIES

*Question*. The 21st Century Communications and Video Accessibility Act was passed by Congress in 2010 to update our Nation's telecommunications protections for people with disabilities. The law contains groundbreaking protections to enable people with disabilities to access broadband, digital and mobile innovations. There are approximately 36 million Americans with hearing loss and 25 million with a significant vision loss. In 2009, a study conducted by the FCC revealed that people with disabilities are less likely to use Internet-based communications technologies: 65 percent of Americans have broadband at home, but only 42 percent of Americans with disabilities have these services. This gap is due in part to physical barriers that people with disabilities confront in using the Internet. It is for this reason that the National Broadband Plan, adopted by the Commission in March 2010, recommended that Congress and the FCC should modernize accessibility laws to keep pace with broadband technologies.

What is the level of compliance with the communications provisions of the 21st Century Communications and Video Accessibility Act (Public Law 111–60), enacted October 8, 2010? What is the status of FCC implementation of this law? To what extent do accessibility barriers continue to exist for persons with disabilities?

Answer. The 21st Century Communications and Video Accessibility Act was an historic legislative effort to update our Nation's communications policies and provide greater protections for people with disabilities. I am proud that the Commission has devoted significant resources to implementing this important law.

To date, the agency has reinstated video description rules, developed policies for Internet protocol (IP) closed captioning and accessibility to emergency information, put in place a new deaf-blind equipment distribution program, updated its telecommunications relay service (TRS) rules, updated its hearing aid compatibility policies, created a clearinghouse for information about equipment services, and taken action on emergency assistance through short message service (SMS) texting. Work is also underway on rules for accessible user interfaces and program guides.

All of this means that many requirements of this law are just now taking effect. So going forward, it is essential to monitor the effectiveness of our actions. That is because enforcement is just as important as implementation. So to make sure these policies do the good Congress intended, our monitoring must be constant, and our oversight vigilant. This oversight should include an effort to identify what accessibility barriers continue for people with disabilities even after passage of this law. In the past, for instance, the retail availability of accessible devices has been uneven. In the end, it must be our goal to make sure that digital age opportunity is extended to everyone in this country—including those with disabilities.

SPECTRUM RESEARCH

*Question*. During the hearing, there was a brief discussion of the need for further research into how to harness and efficiently use radio spectrum. I would like to ask how the Commission can help spur innovation when it comes to maximizing use of radio spectrum for commercial uses. Earlier this month, the National Aeronautics and Space Administration (NASA) launched the Lunar Atmosphere and Dust Environment Explorer (LADEE). This mission includes a demonstration of two-way, high rate laser communications for space communications. While orbiting the moon, LADEE will communicate at broadband speeds with a receiver at the White Sands Missile Range in New Mexico. Such optical communications technology is similar to fiber optics but without the "fiber." Although such breakthrough technology faces technical challenges for terrestrial deployment, it is an example of spectrum research with enormous potential.

How can the Commission encourage and promote further research into innovative spectrum technologies?

Answer. Our airwaves are infrastructure. Though they are invisible, they are a national resource. We must put them to use in ways that are smart, efficient, and—true to statute—consistent with the public interest. But the demands on our airwaves are growing at breathtaking speed. We now have more wireless phones than people. More than half of those phones are smartphones. One in three adults now owns a tablet computer. All of these devices are using more of our airwaves than ever before.

But what we do today with mobile is only the tip of the proverbial iceberg. According to recent projections, in the next 5 years, mobile data traffic will be 13 times what it is right now. Moreover, what will emerge in the next few years is a mountain of 50 billion wireless connected devices and a whole brave new world of the Internet of Things.

To respond successfully to these seismic changes the Commission must encourage wireless innovation. Innovation will take three forms—spectrum policy, topology, and technology. With respect to spectrum policy, the Commission is on its way to conducting the world's first incentive auctions. With respect to topology, the Commission has taken steps to expand the use of small cells, including in the 3.5 GHz band.

But some of the most unheralded work the Commission is doing is on the third component of wireless innovation, technology. New technologies do not arrive on the scene without exhaustive study. So the Commission has adopted rules that allow investigation of new equipment through experimental licenses. These licenses have helped produce a wide array of new technology, such as systems to support rocket launches, patient monitoring equipment, and new robotic technology for the armed forces.

The Commission recently updated its rules to further expedite wireless experimentation, providing more up front and early opportunity to innovate. The new rules should provide more power to explore at research laboratories and universities. But to fully realize the potential of this research, the Commission must take steps to bring new devices to the public quickly. This is why, for the first time in over a decade, we are beginning to take a serious look at how new radio equipment is approved. Earlier this year, the Commission initiated a proposed rulemaking designed to expedite the equipment authorization process. Right now, new devices can take months to make it through our certification process. Because the number of devices in this process is expanding, the Commission must act to update its processes to meet this demand. By moving new devices through our approval process more quickly we can put them on the market sooner. Moreover, I think combining streamlined equipment authorization with new experimental licenses could provide a powerful jolt to wireless innovation.

## QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

### NORTHERN BORDER ISSUES

*Question*. In November of last year I wrote to then Chairman of the Federal Communications Commission (FCC) Julius Genachowski on the importance of transparency as we conduct the first ever voluntary incentive auction. An important step to ensuring a successful auction is the completion of coordination with Canada in markets such as Chicago. What is the status of coordinating incentive efforts with Canada, and are there particular issues that still yet need to be resolved before moving forward?

Answer. The Middle Class Tax Relief and Job Creation Act requires that the Commission take "all reasonable efforts" to ensure that broadcast stations that are repacked as part of the incentive auction retain geographic and population coverage. The law also specifically directs the agency to coordinate with Canada and Mexico during this process.

My understanding is that the Commission and State Department have been engaged in on-going discussions with both Canada and Mexico on border issues related to the incentive auction. There is reason to believe that we will have sufficient arrangements in place before the auction, especially given the history of a good working relationship with Canada.

Ultimately, the Commission must abide by our international agreements with both countries. Our auction process, repacking process, and band plan must be designed to be sufficiently flexible to facilitate a successful auction and meet our statutory obligation to preserve broadcast service, while taking into account potential international constraints.

Of course, it is important to note that this is not a static effort, but a process. Coordination must be continuous. We must be in an ongoing dialogue with both our northern and southern neighbors to make sure that our spectrum interests are coordinated and that opportunities to use this resource are maximized.

### UNIVERSAL SERVICE FUND

*Question*. We commend the Commission for the hard work it has undertaken in carrying out its Universal Service Fund (USF) and Intercarrier Compensation (ICC) reform orders. However, we continue to hear from providers in rural areas that the new rules are still creating uncertainty and inhibiting new investments limiting deployment of new technologies. While acknowledging that reforms to USF and ICC are necessary and some current participants will see reductions in support, what steps, if any, is the Commission taking to address this issue?

Answer. As you note, over a year and a half ago, the Commission took historic steps to update its high-cost universal service fund and intercarrier compensation system. Though it predated my arrival at the Commission, I commend my colleagues for their effort. They refocused the high-cost universal service system from last century's technology to the broadband and wireless challenges of this century. They put it on a budget. They also increased accountability throughout.

But I worry that our reforms to the high-cost universal service system are extremely complex. I fear that this complexity can deny carriers dependent on them the certainty they need to confidently invest in their network infrastructure. So when opportunities arise to simplify our rules in a manner that is fiscally sound, good for rural consumers, and bound to inspire investment—we should seize them.

Recently, the Commission has taken steps to increase certainty for rural providers. In February 2013, we adopted changes to our regression model to provide rate of return carriers with additional flexibility to meet our new limits. (FCC 13–16) We did it when we adjusted our rules to distribute a second round of incremental support from the first phase of the Connection America Fund for price cap carriers. (FCC 13–73) And we did it when we determined to freeze the regression model for 1 year until we get better data to make further adjustments. I am willing to make further changes when doing so simplifies our rules, does not break our budget, and brings better service and more investment to rural communities.

### RURAL CALL COMPLETION

*Question*. While the Committee finds that the FCC's February 2012 Declaratory Ruling on Rural Call Completion Issues has helped make progress toward addressing call completion problems, the problems continue to occur. This issue, for both providers and customers, has now been continuing without clear resolution for years. What are your plans to address this issue? Do you believe the Commission has the authority, tools, and resources necessary to resolve this problem?

Answer. Failure to complete calls to rural subscribers can cut families off from relatives, lead rural businesses to lose customers, and create dangerous delays for public safety communications. This is unacceptable. That is why I wholeheartedly supported our recent rulemaking (FCC 13–18) that proposed new record-keeping requirements for originating facilities-based interstate service providers, including wireless providers and interconnected voice over Internet protocol (VoIP) providers. Adopting these requirements would mean the Commission would have the data necessary to go after bad actors, vigorously enforce its rules, and bring an end to rural call completion problems. The Commission plans to vote on an order to implement these rules in our public meeting on October 28, 2013. I fully support this effort. Furthermore, I believe the Commission has the authority to address the rural call completion problem.

T-BAND MISSION CRITICAL VOICE

*Question*. The Middle Class Tax Relief and Job Creation Act of 2012 required public safety users of T-band to vacate the spectrum no later than 2021. What, if any, impact does the Commission expect this will have on public safety mission-critical voice support? If T-band is vacated, does the Commission believe there will be adequate spectrum available to public safety users to support mission-critical voice? Further, if the spectrum is vacated by public safety users, are there remaining hurdles to auctioning T-band for commercial use?

Answer. As you note, section 6103 of the Middle Class Tax Relief and Job Creation Act directs the Commission to reallocate the 470–512 MHz (or T-band) spectrum used by public safety and to auction new licenses in that spectrum within 9 years of enactment. Congress further directed that public safety licensees must discontinue their T-band operations within 2 years after the auction is completed.

Earlier this year the Commission's Public Safety and Homeland Security Bureau issued a public notice asking questions about implementation of this section of the law. Among the issues raised is finding alternative spectrum for public safety licensees that must vacate the T-band and the funding for relocating these licensees to that alternative spectrum.

The Commission is still considering long-term alternatives for current T-band public safety spectrum users. One potential option may be for public safety users to migrate their operations to the LTE system currently being developed by the First Responders Network Authority—FirstNet. I am hopeful that the Commission will be able to locate new spectrum for public safety users. Ensuring continuity of operations for all of our first responders is absolutely critical.

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QUESTION SUBMITTED BY SENATOR MIKE JOHANNS

*Question*. With respect to unlicensed spectrum—particularly that which permits consumers with mobile devices to make use of Wi-Fi—to what extent is spectrum congestion a problem that the Federal Communications Commission (FCC) intends to continue to address? What additional actions should the FCC take to address this issue?

Answer. Demand for wireless capacity is growing at breathtaking speed. Worldwide, mobile data traffic increased 70 percent just last year. According to recent projections, in the next 5 years, wireless broadband traffic will be 13 times what it is right now. Wireless networks using licensed spectrum will not be able to meet this demand alone. Unlicensed spectrum, or Wi-Fi, is a necessary part of the solution. Already, more than a third of wireless traffic is offloaded to unlicensed spectrum. This number will continue to grow, as some analysts predict that over the next 5 years more than half of mobile traffic will be offloaded from licensed networks to unlicensed technologies.

Today, most unlicensed traffic uses the 2.4 GHz band, which is also the home of countless other devices, like cordless phones, microwave ovens, and Bluetooth technology. Extensive use is leading to overcrowding in the band.

So it is necessary for the Commission to take steps to find new spectrum for unlicensed services. To this end, the agency recently took steps to make very high frequency spectrum in the 60 GHz band available for Wi-Fi use.

The Commission also initiated a proceeding earlier this year where it recognized the potential for increased Wi-Fi use in various spectrum bands in the 5 GHz range. Some of the bands in this range are encumbered by Federal users and it could take time before they are available for commercial use. However, our Federal colleagues at the Department of Defense sent us a letter on July 17 of this year acknowledging that it will not need the 5.150–5.250 GHz band and that it could be made available for Wi-Fi use. I believe that we should seize this opportunity. Specifically, we can

take the flexible rules that have been the script for an unlicensed success story in the 5.725–5.825 GHz band and expand them to this lower portion of the 5 GHz band. If we do, the 802.11ac standard that is already in use in this band is bound to really take off. This will mean more potential for unlicensed use in this band—and less congestion on licensed wireless networks.

Finally, in the Middle Class Tax Relief and Job Creation Act, Congress gave the Commission the authority to hold wireless incentive auctions and as part of this effort create guard bands in the 600 MHz band that are technically reasonable to prevent harmful interference. Under the law, these guard bands may be made available for unlicensed use.

In sum, I believe that in our increasingly mobile and connected world, a balanced approach that includes both licensed and unlicensed spectrum is the key to unlocking the full economic benefits of wireless broadband.

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## QUESTIONS SUBMITTED TO HON. AJIT PAI

### QUESTIONS SUBMITTED BY SENATOR TOM UDALL

#### PUBLIC SAFETY COMMUNICATIONS AND INTEROPERABILITY

*Question*. The origins of the Federal Communications Commission's (FCC's) public safety mission pre-date the creation of the agency. In 1912, Congress enacted legislation in response to radio distress call failures during the Titanic sinking. Twelve years ago, the terrorist attacks of 9/11 exposed a radio interoperability problem that put first responders' lives at additional risk. Some police and fire crews could not communicate via radio handsets with each other. The FCC has a strategic goal to promote the availability of critical communications infrastructures that are reliable, interoperable, redundant, and rapidly restorable.

How would you rate the FCC's attainment of this strategic goal?

Answer. The promotion of reliable public safety communications has long been a goal of the FCC, and that has become all the more true since Congress passed the Middle Class Tax Relief and Job Creation Act of 2012. In that legislation, Congress established the First Responder Network Authority (FirstNet) and tasked the Commission with overseeing FirstNet's license and providing it with funding through the commercial auction of spectrum. We have already granted FirstNet's license and adopted technical rules for its spectrum. And this January, the FCC will hold its first major auction of spectrum in almost 6 years, the proceeds of which will go to FirstNet. For all of these reasons, I therefore believe that the FCC is doing its part to facilitate the creation of a national interoperable public safety broadband network.

*Question*. What is needed to address any deficiencies and on what timetable?

Answer. The FCC needs to continue moving forward with its spectrum auctions so that there is sufficient funding on the table for FirstNet, Next Generation 911, deficit reduction, and other national priorities identified in the Middle Class Tax Relief and Job Creation Act of 2012. In particular, we must hold a successful broadcast incentive auction, and it is our goal to do so by the end of 2014.

#### RURAL TELEMEDICINE

*Question*. Telehealth technologies can greatly enhance rural medical services. New Mexico is a large State with many residents living far from urban areas. So telehealth sometimes offers the best avenue to help meet healthcare needs. That is why I am working in a bipartisan manner with Senator Thune and others to help reduce some of the barriers to telemedicine.

Could you share your thoughts on improving the Rural Health Care program as part of broader Universal Service reforms? I'm interested in hearing what you believe those barriers are and how they can be overcome.

Answer. I share your belief in the importance of telemedicine. It can improve health, save lives, reduce costs, ease burdens on patients and patients' families, and spur innovation. I have personally seen its power and promise across America, from Kansas to California to Alaska. So I am pleased that the Commission reformed its rural healthcare program in December 2012 to create the Healthcare Connect Fund. Those changes—including a streamlined application process and the encouragement of consortia—came into effect only recently, and I look forward to monitoring how they affect the landscape of telemedicine, especially in traditionally underserved areas. Governments at all levels should also examine other barriers to telemedicine. For example, restrictive State licensure requirements can make it difficult for qualified physicians in one State to treat patients in other States through telemedicine.

TRIBAL LANDS' DIGITAL DIVIDE AND GOVERNMENT-TO-GOVERNMENT RELATIONS

*Question*. I want to thank you for your efforts to tackle the digital divide facing Native American communities. Telephone access on Tribal lands still lags far behind the rest of the country. Broadband access may be as low as 10 percent on Tribal lands. This appalling digital divide creates real hardships for people, particularly in emergency situations. That is why the work of the Commission's Office of Native American Affairs and Policy is so important. Engagement with Tribes on a government-to-government basis is critical to solving communications challenges in Indian Country. This subcommittee's appropriations bill instructs the Commission to support to develop a plan to fully implement its existing Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes.

Will you support a Commission effort to develop a plan to implement the Commission's statement of policy on government-to-government relations with Indian Tribes?

Answer. Yes, I would support such an effort.

NATIONAL LIFELINE ACCOUNTABILITY DATABASE

*Question*. Your testimony notes that the Commission adopted reforms to the Lifeline program to help low income persons get telephone service. As you know, Lifeline dates to the Reagan administration and was expanded to include wireless phone service during the presidency of George W. Bush. Here is what one Lifeline user from the Navajo Nation had to say: "I got help when I fell and broke my ankle. I called an ambulance and went to the doctor." Another wrote, "I've been stranded during bad winter weather, and my Lifeline has helped me . . . ." So this initiative can indeed be a "Lifeline" for low income persons in a time of emergency or when applying for a job. Yet it is important that the Commission continue reforms to guard against waste, fraud, and abuse. One of the recent Lifeline reforms is a new National Lifeline Accountability Database. This database will help weed out "double dipping" if there are duplicate participants receiving Lifeline assistance.

Can I have your assurance that the Commission is committed to implementing this database as soon as possible?

Answer. Waste, fraud, and abuse in the Lifeline program is a major problem. The Commission has recently taken strong enforcement action against those who sign up the same consumers for Lifeline multiple times (sometimes called the "intracompany duplicates" problem). But there is more to do. The National Lifeline Accountability Database is a good example of a necessary next step, and I fully support its swift implementation.

LIFELINE REFORM

*Question*. I understand that the Commission may be reviewing a proposal to prohibit in-person distribution of phone handsets to Lifeline customers. This could negatively impact Lifeline-eligible residents of Tribal lands in New Mexico. For example, eligible phone companies would not be able to use mobile stores to reach residents from remote Tribal areas and provide them with phones. Moreover, some remote areas do not have postal service for regular mail delivery of a handset.

As the Commission considers proposals to further modify the Lifeline program, will you carefully take into account the special circumstances facing residents on Tribal lands where the digital divide is so acute?

Answer. As we take steps to combat the waste, fraud, and abuse in the Lifeline program, we should always take account of the circumstances facing those who truly need the service. In particular, we should closely examine how reforms would affect those in remote Tribal areas.

BILL SHOCK AND WIRELESS "CRAMMING"

*Question*. I authored legislation to prevent cell phone "bill shock," unexpected increases in one's monthly bill. So I am pleased that the Commission worked with wireless providers to come to a voluntary agreement on free consumer alerts for cell phone users. Millions of American wireless customers now benefit from notifications to help avoid "overage" charges. But I am still concerned about some practices that can hurt consumers, such as "cramming." Cramming is a practice in which telephone customers are billed for enhanced features such as voice mail, caller-ID and call-waiting that they have not ordered. The Federal Trade Commission (FTC) reached a settlement with a company that apparently "crammed" unauthorized charges onto cell phone bills for phony anti-virus scans that showed up when smart phone users played the Angry Birds game app.

What is the FCC doing to address these consumer issues?

Answer. The FCC shares jurisdiction with the FTC over issues like cramming. The FCC's primary role is resolving cramming complaints against common carriers. The staff of the Consumer and Governmental Affairs Bureau (CGB) receives complaints from consumers. To the extent such complaints warrant investigation, CGB refers those complaints to the staff of the Enforcement Bureau. In addition, the Commission currently has an open rulemaking on cramming. In August, CGB issued a Public Notice seeking to refresh the record in that proceeding to see if further Commission action is needed in this area.

*Question*. Is the range of remedies available to the FCC adequate to meaningfully address these problems?

Answer. The Commission has the authority to impose substantial forfeitures against common carriers that violate the Communications Act at levels likely adequate to meaningfully address any complaints it receives. See 47 U.S.C. section 503. The Commission has used this authority to take action against those who engage in cramming.

*Question*. Has the prevalence of these unauthorized practices been reduced in recent years?

Answer. According to the Commission's consumer complaint data, the number of cramming inquiries decreased from 296 in the first quarter of 2012 to 97 in the first quarter of 2013.

*Question*. What recourses does a customer have if victimized by one of these deceptive practices?

Answer. If a consumer is victimized by cramming, he or she can file a complaint at either the FCC or FTC.

FCC CONSUMER COMPLAINTS DATA

*Question*. I would like to ask you about ways to improve how the FCC can better help consumers. The Commission receives consumer complaints and other public feedback through its website and other means. These data, however, are only made public on a very limited basis.

What steps could the Commission take to facilitate public access to this complaint data?

Answer. We should publish an online dashboard. This dashboard should provide one-stop shopping for members of the public seeking to find out how the Commission is doing, among other things, in resolving complaints and addressing petitions.

*Question*. How can new technologies potentially help the Commission use this information to identify important issues for an official action or response?

Answer. By publishing key performance metrics in an online dashboard, the Commission would be able to target areas that are in need of greater Commission attention. It would also provide the public and members of Congress with the information they need to spur the agency to act more quickly. I proposed this and related ideas for making the Commission more efficient and accountable this past February. See "Remarks of Commissioner Ajit Pai Before the Federal Communications Bar Association" at 3, http://hraunfoss.fcc.gov/edocs__public/attachmatch/DOC-319045A1.pdf.

SPECTRUM RESEARCH

*Question*. During the hearing, there was a brief discussion of the need for further research into how to harness and efficiently use radio spectrum. I would like to ask how the Commission can help spur innovation when it comes to maximizing use of radio spectrum for commercial uses. Earlier this month, the National Aeronautics and Space Administration (NASA) launched the Lunar Atmosphere and Dust Environment Explorer (LADEE). This mission includes a demonstration of two-way, high rate laser communications for space communications. While orbiting the moon, LADEE will communicate at broadband speeds with a receiver at the White Sands Missile Range in New Mexico. Such optical communications technology is similar to fiber optics but without the "fiber." Although such breakthrough technology faces technical challenges for terrestrial deployment, it is an example of spectrum research with enormous potential.

How can the Commission encourage and promote further research into innovative spectrum technologies?

Answer. There are several things the Commission can do to encourage further research into innovative spectrum technologies. One is to grant experimental licenses, as appropriate, to universities, research laboratories, medical institutions, and others in order to allow them to test cutting-edge technologies without unnecessary regulatory roadblocks. (On January 31, 2013, the FCC adopted an order modernizing its rules regarding the Experimental Radio Service in order to facilitate such innovation. See http://hraunfoss.fcc.gov/edocs__public/attachmatch/FCC-13-15A1__

Rcd.pdf.) Similarly, the agency could apply its existing authority under section 7 of the Communications Act more systematically and rigorously. Section 7 states that "[t]he Commission shall determine whether any new technology or service proposed in a petition or application is in the public interest within one year after such petition or application is filed." Taking this statutory mandate seriously and resolving petitions involving new and innovative spectrum technologies within 1 year would help to encourage and promote further research.

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## QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

### NORTHERN BORDER ISSUES

*Question*. In November of last year I wrote to then Chairman of the Federal Communications Commission (FCC) Julius Genachowski on the importance of transparency as we conduct the first ever voluntary incentive auction. An important step to ensuring a successful auction is the completion of coordination with Canada in markets such as Chicago. What is the status of coordinating incentive efforts with Canada, and are there particular issues that still yet need to be resolved before moving forward?

Answer. Coordinating spectrum use along our national borders must be a priority for the Commission if the broadcast incentive auction is going to be a success. I'm pleased that some discussions have already started, but I believe that we need to intensify these efforts. We must have sustained, high-level engagement, and if asked, I stand ready to do whatever I can to help advance this process along.

### UNIVERSAL SERVICE FUND

*Question*. We commend the Commission for the hard work it has undertaken in carrying out its Universal Service Fund (USF) and Intercarrier Compensation (ICC) reform orders. However, we continue to hear from providers in rural areas that the new rules are still creating uncertainty and inhibiting new investments limiting deployment of new technologies. While acknowledging that reforms to USF and ICC are necessary and some current participants will see reductions in support, what steps, if any, is the commission taking to address this issue?

Answer. Although the USF/ICC Transformation Order was in many ways a necessary step toward reorienting the Universal Service Fund toward broadband, I fear that the quantile regression analysis (QRA) benchmarks adopted therein have resulted in unpredictability and uncertainty, chilling the investment climate and impeding the deployment of next-generation technologies and broadband services to rural Americans. I laid out several steps in February I thought the Commission should take, such as holding the benchmarks constant for a period of several years so that carriers could plan their (necessarily long-term) infrastructure investments, in order to ameliorate the harms caused by the QRA benchmarks. See http://hraunfoss.fcc.gov/edocs__public/attachmatch/FCC-13-16A6.pdf. I still believe that, should the Commission retain the QRA benchmarks, we should modify their implementation in this manner. I hope to see progress on this issue in the future.

### RURAL CALL COMPLETION

*Question*. While the Committee finds that the FCC's February 2012 Declaratory Ruling on Rural Call Completion Issues has helped make progress toward addressing call completion problems, the problems continue to occur. This issue, for both providers and customers, has now been continuing without clear resolution for years. What are your plans to address this issue? Do you believe the Commission has the authority, tools, and resources necessary to resolve this problem?

Answer. On October 28, the Commission adopted new rules to collect data on how often calls to rural areas are properly completed. With that information, the Commission will be in a significantly better position to determine the source or sources of rural call completion problems and take appropriate action. As a general matter, the Commission has broad authority to ensure that calls dialed from one telephone number to another go through. So if we are willing to take appropriate enforcement action against bad actors, I believe that we will be able to resolve this problem.

### T-BAND MISSION CRITICAL VOICE

*Question*. The Middle Class Tax Relief and Job Creation Act of 2012 required public safety users of T-band to vacate the spectrum no later than 2021. What, if any, impact does the Commission expect this will have on public safety mission-critical voice support? If T-band is vacated, does the Commission believe there will be ade-

quate spectrum available to public safety users to support mission-critical voice? Further, if the spectrum is vacated by public safety users, are there remaining hurdles to auctioning T-band for commercial use?

Answer. Earlier this year, the Commission's Public Safety and Homeland Security Bureau and Wireless Telecommunications Bureau sought comment on how to implement the required vacatur of the T-band by public safety users. I look forward to reviewing the record developed in that proceeding to determine how best to implement the statutory requirement you mentioned. And as we do so, we must strive to minimize any negative impact on public safety users.

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QUESTIONS SUBMITTED BY SENATOR MIKE JOHANNS

*Question*. Your testimony notes that " . . . the [quantile regression analysis] QRA benchmarks have resulted in unpredictability and uncertainty, chilling the investment climate and impeding the deployment of next-generation technologies and broadband services to rural Americans."

Do you have a suggestion for what should replace the model in use? Is it your view that the Federal Communications Commission (FCC) should not be using benchmarking at all? Or should it use a model other that which you have criticized?

Answer. There should be limits on the universal service support a carrier can receive. In this era of fiscal restraint, no company can expect the Government to continue to fund its expenses without question. But it is critical to remember that the QRA benchmarks do not reduce the size of the Universal Service Fund (USF). They merely impact how funds are distributed. And I have serious doubts about the utility of the QRA benchmarks as they have been implemented.

The chief problem with the QRA benchmarks model at this point is its unpredictability. Carriers making decisions in 2013 need to know how the model will affect their recovery years down the road, because infrastructure investment is necessarily a long-term decision. Yet the QRA benchmarks can change each year. What is more, if a carrier's QRA benchmarks in any given year decrease for any reason, it may experience a sudden and dramatic loss in USF support under the current framework. This framework, then, not only undermines the statutory promise that universal service support be "predictable," it also impedes if not deters altogether the deployment of next-generation networks in rural areas that otherwise may never have access to next-generation services.

I laid out two proposed changes to our rules back in February that would have ameliorated these effects: (1) holding the benchmarks constant (while adjusting for line loss) for a period of several years; and (2) using a transition year to ease the effect of benchmark decreases on carriers. See http://hraunfoss.fcc.gov/edocs__public/attachmatch/FCC-13-16A6.pdf. I still believe that, should the Commission retain the QRA benchmarks, we should modify their implementation in this manner. I hope to see progress on this issue in the future and would be willing to work with you should you wish to explore the matter further.

*Question*. With respect to unlicensed spectrum—particularly that which permits consumers with mobile devices to make use of Wi-Fi—to what extent is spectrum congestion a problem that the FCC intends to continue to address? What additional actions should the FCC take to address this issue?

Answer. Spectrum congestion in the unlicensed 2.4 GHz band has become a major problem, as recognized by Congress in the Middle Class Tax Relief and Job Creation Act of 2012. Pursuant to that statute, the Commission opened a rulemaking on expanding the unlicensed use of spectrum in the 5 GHz band in February. I believe the Commission should move forward with that rulemaking in the near future.

5 GHz spectrum is especially well-suited for unlicensed use. Its short-range propagation characteristics enable localized reuse of the spectrum with minimal risk of interference. Wider channels help achieve faster speeds and higher throughputs. In fact, a super-wide channel would allow for throughputs as high as 1 gigabit per second. And the technical standard for this next-generation Wi-Fi—IEEE 802.11ac—already exists. So if the FCC can act to make available more unlicensed spectrum in the 5 GHz band, that would mean less congestion for the millions of Americans who rely on Wi-Fi every day.

*Question*. Your prepared testimony mentions at least 2 things that the FCC could do (or continue to do) in the 5 GHz band. First, you noted that the FCC could continue to make smart deployments of unlicensed portions in the 5 gigahertz (GHz) band. Second, you mentioned "creating a more unified set of rules for the 5 GHz spectrum."

What specifically should the FCC do to create a more unified set of rules? How would these rules expand unlicensed use in the 5 GHz band? Would the types of rules you envision differ for the different portions of the 5 GHz band?

Answer. The next-generation Wi-Fi standard—IEEE 802.11ac—achieves maximum performance when operating over a contiguous 160 MHz channel. Our goal therefore should be to harmonize the Commission's technical rules in the 5 GHz band wherever possible in order to allow for the use of such wide channels. For example, we should strive to harmonize the rules governing the U-NII-1 band with the rules governing the neighboring U-NII-2A band, such as by increasing the maximum power in the U-NII-1 band. Such harmonization would allow for the most productive use of this spectrum and provide the greatest benefit to American consumers.

CONCLUSION OF HEARINGS

Senator UDALL. With that, the subcommittee hearing is hereby recessed. Thank you very much, again.

[Whereupon, at 11:55 a.m., Wednesday, September 11, the hearings were concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]