Testimony on behalf of the

National Association of Regulatory Utility Commissioners (NARUC)

by

Chairman Colette D. Honorable,
NARUC President

before the

United States Senate
Commerce, Science and Transportation Committee
Subcommittee on Communications, Technology and the Internet

hearing on

PRESERVING PUBLIC SAFETY AND NETWORK RELIABILITY IN THE TRANSITION TO ALL-INTERNET PROTOCOL (IP) NETWORKS

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Chairman Pryor, Ranking Member Wicker, and Members of the Subcommittee, thank you for the opportunity to testify today on the IP Transition and its impact on Public Safety and network resiliency. Since 2007, I have been a Commissioner with the Arkansas Public Service Commission. Governor Mike Beebe designated me the Commission Chair in 2011. I am also President of the National Association of Regulatory Utility Commissioners (NARUC). NARUC is – like Congress – a bipartisan organization. Our members include public utility commissions in all of your States, the District of Columbia and U.S. territories with jurisdiction over telecommunications, electricity, natural gas, water and other utilities. NARUC member commissioners are the in-State experts on critical infrastructure in the utility sector and we are very familiar with network resiliency and service restoration issues.

I applaud the Subcommittee for holding this hearing because it is focused on the correct question – which public policy values should be preserved – rather than just on the particular technologies being used to provide services today. NARUC has consistently supported technological innovations that promote more resilient networks and provide better service. But preserving public safety and network reliability, along with other values that customers expect– such as universal access, competition (interconnection), and consumer protection--are also important concerns in *any* technology transition, including this one.

Federal and State policymakers must work together to ensure that emergency 911 services and network resiliency do not suffer as consumers migrate to new technologies. Advances in technology often call for new regulatory policies for both new and existing services.

As FCC Chairman Wheeler noted in a recent posting:

> "When the original 911 rules for wireless providers were first adopted, they were built on the assumption that the primary place consumers would use their wireless phones would be outside. But today, the vast majority of wireless calls are made from indoors, including 911 calls made from wireless phones.

> Commercial location-based services are raising consumers' expectations – if a smartphone app can locate them within seconds, why can't a 911 call center?"[1]

Why indeed?

To the Chairman's credit, the FCC initiated a proceeding to correct this deficit earlier this year in February. It was an initiative NARUC specifically endorsed by resolution.[2]

Some of these public-interest values present challenges that require the FCC to act – while others require close State-Federal collaborative efforts. The recent tornado in my home State of Arkansas was another unavoidable reminder of how important those collaborative efforts are to ensuring the resiliency of our critical infrastructure and the safety of our citizens.

An EF4 tornado hit Arkansas in April of this year. In one county alone, it destroyed 328 homes; significantly damaged 111 more, and impacted hundreds of others. A new intermediate school which had been rebuilt after a 2011 tornado was once again demolished. It was one of the worst storms during my tenure at the Arkansas Commission and grim evidence that no matter how well utilities and others plan and prepare, the awesome force of nature can and will find vulnerabilities in our critical communications and power infrastructures. It was another reminder of how important it is for policymakers to focus on the right questions.

As we transition to newer technologies, it is crucial for Congress and State and federal regulators to continue to focus on the right issues and recognize that our collective focus must be the consumer, especially with regard to public safety.

IP-based technologies can be more efficient than the technologies they are replacing. If properly implemented, they also can be more resilient than the old networks in certain ways.

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[1] See, Official FCC Blog: "Access and Public Safety: Enduring Elements of the Public Interest," By Tom Wheeler, FCC Chairman, January 30, 20144, available online at: http://www.fcc.gov/blog/access-and-public-safety-enduring-elements-public-interest.

[2] See, e.g., NARUC's May 14, 2014 Comments on Wireless E9-1-1 location accuracy requirements, at: http://www.naruc.org/Filings/14%200512%20NARUC%20Comments%20on%20911%20location%20accuracy.pdf.

Networks that shift to IP-technology are designed to be highly robust to random failures. However, such networks have new vulnerabilities that the earlier technologies did not. For example, so-called "circuit-switch" services are self-powering. The electricity that carries your voice on such system also provides power. IP-based services rely upon external power sources. Therefore if your landline telephone company still provides circuit-switched service, your phone will continue to work even through an electricity outage. If, however, the power goes out in your home and you have an IP-based phone system, you will only retain phone service – even if the rest of the network is operational – as long as your backup batteries last.[3] During prolonged outages, IP-based residential customers will almost certainly lose phone service. Wireless phones that require external power to recharge once their batteries drain have the same problem.

This is one example where regulatory oversight remains necessary regardless of changes over time in the technology used to provide a service. It is why NARUC has for years consistently urged Congress and federal regulators to take a technology-neutral approach to regulation.[4] The consumer cares if the phone service works during power outages and

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[3] See, e.g. Giorgianni, Anthony, "Verizon to eliminate free backup batteries for new residential phone customers: Decision by telecom giant could prevent 911 access during blackouts" Consumer Reports (December 12, 2013), online at: http://www.consumerreports.org/cro/news/2013/12/verizon-to-eliminate-free-backup-batteries-for-new-residential-phone-customers/index.htm. ("The company said that as of early as December, new FiOS customers who want a backup battery will have to pay a one-time charge of $29.99, buy it elsewhere, or do without. During a blackout, FiOS customers without a battery, household generator, or other type of backup power system will lose their landline voice service, including access to emergency 911.") See also, *U-verse Voice battery backup specifications*, "Upon installation of your AT&T U-verse Voice service, you are provided with a backup battery (or batteries) to help maintain your digital home phone service in the event of a short disruption of electrical power to your home." at: http://www.att.com/esupport/article.jsp?sid=KB409162&cv=814#fbid=esUgRWuZWBu.

[4] *NARUC Legislative Task Force Report on Federalism and Telecom* (July 2005). See also, NARUC's February 2003, NARUC passed *Resolution Relating To Voice Over The Internet Telecommunications*, available online at: http://www.naruc.org/Resolutions/voice_over.pdf, that notes "a significant portion of the nation's total voice traffic could be transported on IP networks within a few years" and urged the FCC to "confirm its tentative decision that certain phone-to-phone calls over IP networks are *telecommunications services*." In November 2003, NARUC passed a *Resolution on "Information Services",* at http://www.naruc.org/Resolutions/info_services.pdf, cautioning the FCC to consider the negative implications associated with a finding that IP-based services are subject to Title I jurisdiction, including the (i) uncertainty and reduced capital investment while the FCC's authority under Title I is tested; (ii) loss of consumer protections applicable to telecommunications services under Title II; (iii) disruption of traditional balance between federal and State jurisdictional cost separations; (iv) increased risk to

emergencies. When she calls 911, she wants that call to go to the right call center – she wants the call center to know where she is. The consumer does not distinguish whether the network provides the service using IP-protocol based or circuit-switched technology. Though sometimes a technology can engender a new problem,[5] the basic reasons why public service commissions and agencies like the FCC were created remain the same.

And there are only two.

First, we regulate where competition[6] is not vigorous enough to adequately protect consumers. Where competition is sufficient to protect consumers and ensure market choice and innovation, then there is a reduced need for regulatory oversight.

Second, we intervene to impose public interest obligations. Regardless of the level of competition, some oversight is always necessary to provide things the market will not. This includes protecting consumers from fraudulent actors and poor service quality, imposing requirements to facilitate or enhanced competitive forces, e.g., (1) requiring local number

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public safety… content; (vi) loss of State and local authority over emergency dialing services…" Those warnings remain valid today. See also, NARUC's 2008 *Resolution Regarding the Interconnection of New Voice Telecommunications Services Networks,* online at: http://www.naruc.org/Resolutions/TC%20Interconnection.pdf. ("NARUC applauds the numerous advances in technology . . . to enable the efficient transmission of voice telecommunications traffic and the continued successes in developing innovative means to deliver voice telecommunications services . . . it is in the public interest for telecommunications carriers to interconnect their networks to exchange traffic in a technologically neutral manner, as provided for under Sections 251 and 252.") See also, NARUC's February 2012 *Resolution on Mandatory Reporting of Service Outages by Interconnected Voice over Internet Protocol Service Providers*, asking the FCC to, *inter alia*, extend the mandatory service outage reporting requirements in 47 C.F.R. Part 4 to interconnected VoIP service providers.

[5] Some argue some technology specific rules may be needed to address the reduced resiliency of wireless and fiber networks. But there is no question that competing services should face similar rules. Both rely more on commercial power both at the network level and at the customer premise. The battery backup system installed with FiOS service is the responsibility of the consumer, after one year. There is a similar question, given the increasing number of wireless-only households, of backup power to cell towers. NARUC has raised concerns about the problem and had a panel on the interdependencies between the telecom and energy sectors at our conference last November.

[6] Experts will always argue about how to define a competitive marketplace or what level of competition is needed to eliminate market power concerns but that is a different question and debate. It is also a broader question than the one facing policymakers under the current law. Here the question is, does the 1996 Act allow the FCC to treat functionally equivalent services differently under an ad hoc (FCC-created) regulatory regime. And if it does, how on earth does it make sense for them to do so. Shouldn't competitors be subject to the same set of rules?

portability[7] and (2) facilitating interconnection in markets with competing carriers with widely divergent market power, assuring disabled access, emergency calling services and universal service, and, of course, today's topic – assuring a proper level of network reliability, as well as adequate plans that provide robust service restoration after disasters.

With regard to the recent storm in Arkansas, I remain very pleased with the recovery and restoration efforts in Vilonia and Mayflower. This included the immediate response of Governor Mike Beebe and the Arkansas Department of Emergency Management (ADEM), first responders and emergency personnel, along with the prompt response of our telephone companies. As an example of how important connectivity is during an emergency, I received a call at home near midnight after the storm from our Attorney General who was on the ground assisting with rescue efforts in Vilonia. He was concerned about a significant gas leak and requested expedited gas-service disconnection in the neighborhood at issue. I contacted Centerpoint's Regional Vice President and head of Arkansas operations who responded immediately, terminating service to the subdivision where a Level B leak was subsequently discovered. This was but one example of the excellent coordination among all involved in the emergency response effort that night.

As I touched on earlier, the recent storm outages have raised questions about the resilience of these new networks, as both wireless and fiber-based IP services are much more reliant on commercial power from end-to-end.

While regarded by some as old-fashioned, conventional wireline circuit-switched packetized technologies are supported by robust independent back-up power supply resources (e.g., central office standby diesel generators and battery banks), and continue to function during prolonged commercial power outages. As more consumers switch from wireline to IP or

[7] Number portability, which unquestionably facilitates competition, had to be forced on the wireless industry at a time when many considered that sector to be the poster child for a competitive market.

wireless service, we must assure that these technologies continue to provide back-up power during outages to maintain emergency communications.

This raises the real question of whether consumers signing up for fiber-based services are fully aware of the trade-offs inherent in shifting to a different protocol. Do they know of the backup power limitations of the network and at their premises? Are they aware of the additional burdens that making this change places upon them to assure their own safety?

For example, Verizon policy states that the battery backup system installed with FiOS service is the responsibility of the consumer, after a one-year warranty.[8] The condition of the battery can dramatically impact the length of backup power a customer will experience in a power outage. While future back-up units may use simple batteries available at the local grocery store or pharmacy, current models require specialized batteries that are not readily available and can be difficult to change. Are most customers who switch aware of and educated about these issues? For many, I suspect the answer is no.

On the wireless side, severe weather can also wreak havoc. As we learned after Superstorm Sandy, there can be problems with backup power at cell towers. NARUC voiced concerns about this by adopting a resolution in July 2013 urging State and federal regulators "to engage in meaningful dialogue with industry decision makers to develop policies and procedures that ensure telecommunications are maintained during power outages regardless of the technology and the communications protocols used to provide the services."[9]

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[8] See, e.g., "*Verizon battery backup policy*," available online at: http://www.verizon.com/Support/Residential/tv/fiostv/general+support/new+to+fios+tv/questionsone/121498.htm#.

[9] NARUC *Resolution Calling for National and State Collaboration to Ensure Reliable Wireline and Wireless Communications during Power Outages,* adopted July 24, 2013. Available at: http://www.naruc.org/Resolutions/Resolution%20Calling%20for%20National%20and%20State%20Collaboration%20to%20Ensure%20Reliable%20Wireline%20and%20Wireless%20Communications%20during%20Power%20Outages.pdf

However, the issue in Arkansas after our recent storm was not a lack of backup power at the cell tower but the complete destruction of some of the towers themselves. There really is no protective measure that can guarantee this type of situation will not occur again. The storm in April destroyed two large cell towers – a 300-ft tower in Vilonia and a 250-ft tower in Mayflower. Multiple wireless providers utilized both towers so coverage to the area was lost across almost all providers. Fortunately, the carriers know this kind of damage is a possibility and, because the equipment shelters were spared, wireless providers brought in temporary mobile tower units the night of the storm and restored some service, as well as additional equipment in the days after the storm.

I commend the carriers for their quick response. While the shorter mobile towers lacked the same coverage and capacity, it was nonetheless a big step forward. Verizon provided mobile towers, Wi-Fi and charging stations at the storm command center within hours of the tornado. AT&T also deployed several mobile charging stations so those in the impacted community could charge their devices and stay connected to friends and loved ones. They waived voice, data and text overage charges for a certain time period as well as set up a hydration station to provide water, snacks and shelter for volunteers. Windstream's service territory was also impacted. The company brought in a temporary trailer to provide power for charging cell phones, etc and it had 10 MB broadband services with computers available to members of the community. They also provided volunteers from other markets to assist in the repair and clean-up effort.

For any policymaker to decide whether any intervention or oversight of a carrier or carriers is necessary, access to information is crucial.

For emergency systems, policymakers at both the federal and State level need access to outage reporting data submitted by all competing providers, including interconnected VoIP

carriers. Without information about the root causes of outages, whether they are on the rise or the wane, we have no way of determining if any action is warranted. Literally, lives hinge on such decisions and, by extension, on access to such data.

In February 2012 the FCC adopted a Report and Order addressing outage reporting requirements by interconnected VoIP providers.[10] NARUC urged the FCC to act on this issue and in a resolution adopted earlier that month called for the agency to: 1) Extend the mandatory service outage reporting requirements in 47 C.F.R. Part 4 to interconnected VoIP service providers; 2) Require interconnected VoIP service providers to report service outage information comparable to that required from other communications service providers, and on a detail level and timeliness that will provide adequate network status information in support of State, county, and local emergency response efforts; 3) Expand the criteria in 47 C.F.R. Part 4 that defines a significant service outage to specifically include VoIP service problems affecting public access to 9-1-1, emergency service communications, utilities, and other telecommunications service providers; and 4) Provide State commissions with the opportunity to have direct and immediate access to the FCC's outage reporting database and to all outage reports filed by interconnected VoIP service providers.[11]

Carriers almost unanimously opposed the FCC's extension of mandatory outage reporting requirements to VoIP technologies. While it is easy to understand why a carrier might not want

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[10] FCC *Report and Order on The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*; PS Docket No. 11-82, Adopted: February 15, 2012 Released: February 21, 2012. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC0QFjAA&url=http%3A%2F%2Ftransition.fcc.gov%2FDaily_Releases%2FDaily_Business%2F2012%2Fdb0221%2FFCC-12-22A1.pdf&ei=C02GU8eQOemhsATdm4HYCQ&usg=AFQjCNFk05jz3-notvngKPR21ZABHWcvSA&bvm=bv.67720277,d.cWc&cad=rja.

[11] NARUC *Resolution on Mandatory Reporting of Service Outages by Interconnected Voice over Internet Protocol Service Providers,* adopted February 8, 2012, available online at: http://www.naruc.org/Resolutions/Resolution%20on%20VoIP%20Outage%20Reporting.pdf

such data available to policymakers, it is not prudent for those with the responsibility to assure public safety and network resiliency to eschew such information.

Carriers posited a series of unpersuasive "arguments" ranging from outage reporting is a waste of time to the specious argument that the FCC lacks the authority to impose such a mandate on interconnected VoIP providers just because they use IP protocol.[12] Similar arguments proliferate before NARUC member commissions. Carriers have denied some States access to outage data claiming State commissions do not have authority to require reporting solely because of the technology they use to carry their traffic. This is disappointing and contrary to the public interest.

In my State, under our State Emergency Plan, the PSC is responsible for coordinating between the jurisdictional utilities and other State agencies, principally the Arkansas Department of Emergency Management (ADEM). During emergencies, we provide a greater emphasis on the restoration of electric and natural gas service. As a result of State deregulation and existing jurisdictional ambiguity, because of the FCC's refusal to provide any regulatory classification of VoIP services, we play less of a role in telecom restoration.

It is imperative that we assist in the coordination between the electric and telecommunications utilities in the event of an emergency to understand the timeframes for the restoration of electric facilities and communications facilities, and aid in rescue and recovery efforts. We also assist by providing reports to ADEM on the status of any outages and restoration of electric, natural gas, and to a lesser extent telecommunications service.

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[12] FCC *Report and Order on The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*; PS Docket No. 11-82, Adopted: February 15, 2012 Released: February 21, 2012. Available at: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CC0QFjAA&url=http%3A%2F%2Ftransition.fcc.gov%2FDaily_Releases%2FDaily_Business%2F2012%2Fdb0221%2FFCC-12-22A1.pdf&ei=C02GU8eQOemhsATdm4HYCQ&usg=AFQjCNFk05jz3-notvngKPR21ZABHWcvSA&bvm=bv.67720277,d.cWc&cad=rja.

We were pleased when the FCC extended its outage reporting requirements to interconnected VoIP providers as NARUC recommended.[13] However, it failed to address our request to provide State commissions with direct and immediate access to the FCC's outage database and to all outage reports filed by interconnected VoIP providers.[14] This is a problem. States play a key role in coordination of outage restoration. We are the "boots on the ground" when disasters strike. Limited access to this information is counterproductive to our joint goal of quick and timely service restoration.

There is concern about the confidential treatment of such data in a handful of States due to their open record laws. However, that should not prevent the sharing of vital public safety information. The FCC should grant immediate access to the outage database and reports for those States meeting the confidentiality requirements. For those that do not meet such requirements the confidentiality issues can be easily resolved by requiring them to issue a certification that the information will be kept confidential, as has been done in the past. In addition, many States have statutory authority to protect highly sensitive or competitive information from public disclosure.[15]

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[13] February 8, 2012 Letter from James Bradford Ramsay, to FCC Chairman Genachowski and Commissioners McDowell and Clyburn, filed *In the Matter of the Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, at: http://apps.fcc.gov/ecfs/document/view?id=7021858903.

[14] See *In the Matter of the Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting To Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, FCC 12-22 (rel. Feb. 21, 2012, at note 230, mimeo at 43: ("We note that, in its ex parte filing on February 8, 2012, NARUC requests that the Commission provide State commissions with an opportunity to have direct and immediate access to outage reporting data and to all outage reports filed by interconnected VoIP service providers. See, NARUC February 8, 2012 Ex Parte Filing. NARUC's request is beyond the scope of this proceeding.")

[15] The Arkansas Commission's authority to keep information confidential is in Ark. Code Ann. Section 23-2-316(b): "(b) (1) Whenever the commission determines it to be necessary in the interest of the public or, as to proprietary facts or trade secrets, in the interest of the utility to withhold such facts and information from the public, the commission shall do so. (2) The commission may take such action in the nature of, but not limited to, issuing protective orders, temporarily or permanently sealing records, or making other appropriate orders to prevent or otherwise limit public disclosure of facts and information."

Emergency 911 services are a top priority in every State. Even in States that have adopted deregulatory telecom policies in recent years, all of them have focused on the need for continued oversight of 911 services. Emergency services and network reliability are a core value that does not change with the evolution of technology.

The IP transition is not about regulation or deregulation. The FCC has ample tools in the 1996 Act to eliminate unneeded regulation through the forbearance process.[16] Nor should the debate be technology-focused.

A change in the technology to provide a "functionally equivalent" voice service cannot allow carriers to escape State and federal disaster recovery, service quality, law enforcement access, universal service, disabled access and interconnection obligations. If the FCC is truly interested in a resilient network and reliable emergency 911 the best thing it can do is provide legal certainty over the classification of VoIP services and apply its policies in a technology-neutral manner.

In conclusion, what is important are the values we apply to the communications network not the technology used to deliver it. Chairman Wheeler has espoused four key values, which he refers to as the "Network Compact". They are universal accessibility, reliable interconnection, consumer protection, and public safety and security. The FCC reiterated these values and noted the need for the agency to work with State, local and tribal governments to uphold these values

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[16] See, e.g., 47 U.S.C. § 160(c) ("Any telecommunications carrier, or class of telecommunications carriers, may submit a petition to the Commission requesting that the Commission exercise the authority granted under this section with respect to that carrier or those carriers, or any service offered by that carrier or carriers."). See also, 47 U.S.C. § 253.

in its IP-transition trials order.[17] NARUC agrees that is what the Act requires. We have adopted our own set of guiding core principles.

In November 2012, NARUC chartered a task force on Federalism to review NARUC's 2005 policies and paper and to determine any changes to those policies required by the changing communications landscape. The resulting whitepaper was unanimously adopted at the NARUC Annual Meeting in November 2013.[18] At its foundation are core principles in line with that of the 1996 Act, and Chairman Wheeler's "network compact." They are: consumer protection; network reliability and public safety; competition; interconnection; universal service; and regulatory diversity.

While technologies change the expectations of consumer do not. Consumers expect the same quality of service, reliability, access to emergency service and the protections to which they have grown accustomed.

When hurricanes, tornadoes or other natural disasters unleash their destructive force they do not discriminate between a copper, fiber, or wireless networks. It is precisely for this reason that we as policymakers should not discriminate in applying our values. These values must be applied consistently and in a technology-neutral manner, especially when it relates to public safety.

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[17] "State, local and Tribal governments and leaders share this challenge, along with other federal entities. We will work alongside each other to ensure that, as networks transition, public safety is assured, access is universal, competition is promoted, consumers are protected, and the nation remains well-served by its critical communications infrastructure." From paragraph 9, Page 5, FCC Order, Report and Order and Further Notice of Proposed Rulemaking, Report and Order, Order and Further Notice of Proposed Rulemaking, Proposal for Ongoing Data Initiative, GN Docket No. 13-5, GN Docket No. 12-353, WC Docket No. 10-90, CG Docket No. 10-51, CG Docket No. 03-123, WC Docket No. 13-97, adopted January 30, 2014, available online at: http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0131/FCC-14-5A1.pdf.

[18] NARUC Federalism Task Force Report: Cooperative Federalism and Telecom In the 21st Century, adopted November 2013 and available at: http://www.naruc.org/Publications/Federalism-task-force-report-November-20131.pdf.

Consumers moving to these new services must be educated on their limitations and vulnerabilities as much as they are about the exciting bells and whistles. They must be informed of their new obligations, such as the responsibility to maintain battery backup systems. Failure to provide such vital information could prove deadly. NARUC members deal with network resiliency on a regular basis across the utility spectrum. We stand willing and able to work with this subcommittee, the whole of Congress, the FCC and industry to make sure all Americans enjoy the benefits of a resilient communications network. Thank you for your time and I look forward to any questions you may have.