

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Improving Network Resiliency Through)	PS Docket No. 11-60
Encouraging Coordination with Power Companies)	
)	
)	

COMMENTS OF CTIA

Thomas C. Power
Senior Vice President and General Counsel

Scott K. Bergmann
Senior Vice President, Regulatory Affairs

Matthew B. Gerst
Vice President, Regulatory Affairs

Patrick Donovan
Senior Director, Regulatory Affairs

CTIA
1400 Sixteenth Street, NW
Suite 600
Washington, DC 20036
(202) 785-0081

February 8, 2019

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY	1
II. WIRELESS NETWORK RESILIENCY IS CONTINUALLY IMPROVING UNDER A FLEXIBLE APPROACH THAT ADAPTS TO EACH UNIQUE DISASTER OR EMERGENCY.....	3
III. ENHANCING COORDINATION BETWEEN WIRELESS PROVIDERS AND POWER COMPANIES WILL FURTHER IMPROVE WIRELESS NETWORK RESILIENCY.	6
IV. CTIA SUPPORTS THE BDAC’S DISASTER RESPONSE AND RECOVERY WORKING GROUP’S EFFORTS TO IDENTIFY WAYS TO ENHANCE COORDINATION AMONG COMMUNICATIONS SERVICE PROVIDERS AND POWER COMPANIES.	8
V. CONCLUSION.....	10

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Improving Wireless Network Resiliency Through)	PS Docket No. 11-60
Encouraging Coordination with Power Companies)	
)	
)	

To: Public Safety and Homeland Security Bureau

COMMENTS OF CTIA

CTIA¹ submits these comments in response to the *Public Notice* issued by the Public Safety and Homeland Security Bureau (Bureau) regarding improving wireless network resiliency through encouraging coordination with power companies.²

I. INTRODUCTION AND SUMMARY.

As American consumers increasingly rely on mobile wireless services during and after natural disasters and emergencies, CTIA's member companies are more committed than ever to building resilient wireless networks, maintaining service continuity and, in any affected areas, restoring service promptly. To do so, wireless providers have invested billions of dollars in recent years to strengthen and harden networks, improve network resiliency and planning, and more recently, identify and implement key actionable steps outlined in the Wireless Resiliency

¹ CTIA® (www.ctia.org) represents the U.S. wireless communications industry and the companies throughout the mobile ecosystem that enable Americans to lead a 21st-century connected life. The association's members include wireless carriers, device manufacturers, suppliers as well as apps and content companies. CTIA vigorously advocates at all levels of government for policies that foster continued wireless innovation and investment. The association also coordinates the industry's voluntary best practices, hosts educational events that promote the wireless industry, and co-produces the industry's leading wireless tradeshow. CTIA was founded in 1984 and is based in Washington, DC.

² *Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency Through Encouraging Coordination with Power Companies*, DA 19-13 (rel. Jan. 3, 2019) (*Public Notice*).

Cooperative Framework (Wireless Cooperative Framework or Framework).³ These efforts have helped ensure the availability of wireless services during countless storms in recent years and expedite the restoration of service in those instances where networks were affected.

Indeed, through a series of historic Atlantic Hurricanes during 2017 and 2018, consumers were largely able to access wireless services to seek help and aid their recovery. For instance, at least 95 percent of cell sites in parts of Texas and Louisiana affected by Hurricane Harvey maintained service.⁴ Similarly, the percentage of cell sites in service in the areas affected by Hurricane Michael never fell below approximately 81 percent on a given day.⁵

Millions of consumers thus were able to rely on wireless service to call and text loved ones, connect with emergency personnel, receive important safety alerts, and engage with their community through social media. By way of example, 96,000 calls to 9-1-1 were delivered to Houston's 9-1-1 center during the initial phase of Hurricane Harvey, and the National Weather Service and local alerting authorities sent over 300 Wireless Emergency Alerts.⁶ The resiliency of wireless networks in response to Hurricane Irma allowed Miami-Dade County officials to urge residents to use mobile apps to find information about shelters, power outages, gasoline, and traffic.⁷ And, more recently, over 170 Wireless Emergency Alerts containing life-saving information were sent to consumers in areas affected by Hurricane Michael.⁸

³ Letter from Joan Marsh, AT&T Services, Inc.; Charles McKee, Sprint; Grant Spellmeyer, U.S. Cellular; Scott Bergmann, CTIA; Steve Sharkey, T-Mobile USA; and William H. Johnson, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket Nos. 11-60 & 13-239 (Apr. 27, 2016) (Wireless Resiliency Framework Letter) (submitted for filing by CTIA).

⁴ Comments of CTIA, PS Docket No. 17-344, at 5 (Jan. 22, 2018) (CTIA 2017 Resiliency Comments).

⁵ Comments of CTIA, PS Docket No. 18-339, at 2 (Dec. 17, 2018) (CTIA Hurricane Michael Comments).

⁶ CTIA 2017 Resiliency Comments at 5.

⁷ *Id.* at 6.

⁸ CTIA Hurricane Michael Comments at 7.

In recent comments to the Commission, CTIA described some of the issues that wireless providers faced in certain particularly devastated areas in the aftermath of Hurricane Michael, including coordination with power companies. Based on those experiences, CTIA encouraged stakeholders to develop recommendations to enhance coordination and avoid the potential for unintended consequences resulting from the race to restore vital electric and communications services. CTIA is looking forward to further addressing these challenges in this proceeding, in the Commission's Broadband Deployment Advisory Committee's (BDAC) Disaster Response and Recovery Working Group, and through the Department of Homeland Security's National Coordinating Center for Communications.

II. WIRELESS NETWORK RESILIENCY IS CONTINUALLY IMPROVING UNDER A FLEXIBLE APPROACH THAT ADAPTS TO EACH UNIQUE DISASTER OR EMERGENCY.

As CTIA previously explained, the resiliency of wireless networks during the historic 2017 and 2018 hurricane seasons was due principally to two factors: (1) substantial network infrastructure investments and resiliency and restoration practices implemented by wireless providers based on lessons learned from past storms; and (2) implementation of the Wireless Resiliency Framework.⁹ As a result of these efforts, during the hurricanes of 2017 and 2018, wireless networks largely withstood unprecedented conditions, and wireless providers were able to quickly expedite service restoration in the majority of instances where networks were affected.

In particular, wireless network operators have designed, deployed, and managed robust, resilient networks by implementing a regional approach to tailor network deployments and

⁹ See, e.g., CTIA Hurricane Michael Comments at 7-17; Comments of CTIA, PS Docket No. 11-60, at 5-14 (Jul. 16, 2018) (CTIA Framework Comments); Reply Comments of CTIA, PS Docket No. 17-344, at 3-8 (Feb. 21, 2018).

restoration plans as appropriate for local environments.¹⁰ These practices help keep critical network assets out of harm's way in numerous instances.¹¹ And where infrastructure was affected, wireless providers were able to maintain service continuity and expedite the restoration of service by deploying pre-positioned assets and dedicated teams trained to implement formal and informal recovery practices.

Wireless providers augmented these measures by taking actionable steps consistent with their commitments under the Wireless Resiliency Framework.¹² As CTIA previously described, the Framework has proven effective in enhancing service continuity and information sharing during and immediately after the 2017 and 2018 hurricanes. For example, wireless providers implemented disaster-based roaming arrangements on numerous occasions to maintain and restore service to consumers in the aftermath of recent storms, including Hurricanes Irma, Maria,

¹⁰ See, e.g., Comments of Verizon, PS Docket No. 17-344, at 4 (Jan. 22, 2018) (Verizon Comments) (“Verizon considers the likelihood of hurricanes and other natural disasters in an area to choose the safest, most secure locations for wireless equipment”); Comments of T-Mobile USA, Inc., PS Docket No. 17-344, at 7-8 (Jan. 22, 2018) (T-Mobile Comments) (noting that T-Mobile builds cell sites on platforms in areas of Texas prone to flooding and storm surges); Letter from Kara Leibin Azocar, Regulatory Counsel, Federal Affairs, GCI Communication Corp., to Public Safety and Homeland Security Bureau, Federal Communications Commission, PS Docket No. 11-60, at 1 (Nov. 26, 2018) (describing how GCI has developed and deployed its network based on GCI’s understanding of the Alaskan environment).

¹¹ Verizon Comments at 4-5 (noting that 98 percent of Verizon’s network facilities in the hardest hit areas of Texas remained in service during and after Hurricane Harvey as a result of a wide variety of methods and practices Verizon has implemented to increase network resiliency); T-Mobile Comments at 7 (noting that 85% of T-Mobile’s network remained operational during and in the aftermath of Hurricane Harvey).

¹² The nation’s five largest facilities-based wireless providers, AT&T, Sprint, T-Mobile, U.S. Cellular, and Verizon, all voluntarily committed to adopt the Framework at the time of its announcement in 2016, and others have signed on as well (including GCI and Southern Linc). See Wireless Resiliency Framework Letter; Letter from Kara Azocar, Regulatory Counsel, Federal Affairs, GCI Communication Corp., to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 11-60 (Sept. 1, 2017); Letter from Michael Rosenthal, Director of Legal & External Affairs, Southern Linc, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 11-60 (Sept. 5, 2017); see also Letter from Rebecca Murphy Thompson, EVP & General Counsel, Competitive Carriers Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket Nos. 11-60 & 13-239, at 1 (May 31, 2016).

and Michael.¹³ Signatories to the Framework also provided one another with mutual aid to help with service restoration and continuity. This aid came in many forms – portable generators, networks assets, and information sharing, to name a few – and the signatories recently confirmed that no party has been denied a request for mutual aid since the Framework became effective.¹⁴

While each of the commitments under the Framework helped to enhance resiliency and facilitate information sharing, the effectiveness of the Framework can also be attributed in part to its inherent flexibility. Rather than tying down resources, or requiring unnecessary actions based on inflexible mandates, the Framework enables wireless providers to tailor their resiliency and restoration efforts to real-world circumstances, based on real-time information, in order to maintain wireless services for consumers and local communities.¹⁵

In the lead up to, during, and after emergencies and disasters, one particularly important resiliency practice is on-the-ground coordination involving local power companies and

¹³ See, e.g., CTIA Hurricane Michael Comments at 12-13 (noting that AT&T granted a request for disaster-based roaming in the days following Hurricane Michael's landfall); Letter from Joseph P. Marx, Assistant Vice president, AT&T Services, Inc., to Lisa M. Fowlkes, Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission, PS Docket No. 11-60, at 14 (describing a roaming under disaster request during Hurricane Irma), 28-29 (describing involvement in roaming under disaster arrangements during Hurricane Maria), (Nov. 26, 2018) (AT&T Resiliency Response).

¹⁴ See CTIA Hurricane Michael Comments at 14; Southern Linc Wireless Resiliency Framework Response, PS Docket No. 11-60, at 3 (Nov. 26, 2018) (noting that Southern Linc has not declined any requests for mutual aid and has not been denied specific requests for mutual aid); Letter from Charles W. McKee, Vice President, Government Affairs, Sprint, to Lisa M. Fowlkes, Bureau Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission, PS Docket No. 11-60, at 3 (Nov. 26, 2018) (noting that there were no instances in which Sprint or another carrier declined a request for mutual aid); Verizon's Response to Letter from Lisa M. Fowlkes, Chief, Public Safety and Homeland Security Bureau, to William H. Johnson, Senior Vice President., Verizon, PS Docket No. 11-60, at 3 (Nov. 26, 2018) (Verizon PSHSB Inquiry Response) (noting Verizon faced no impediments implementing or honoring mutual aid requests that other providers asked of Verizon or that Verizon asked of other providers); AT&T Resiliency Response at 29-30 (similar).

¹⁵ See, e.g., CTIA Hurricane Michael Comments at 16-17 (discussing the numerous ways in which wireless providers aided communities in the aftermath of Hurricane Michael); CTIA Framework Comments at 12-13 (discussing the new and innovative solutions that wireless providers developed and deployed to restore connectivity in the aftermath of the 2017 hurricanes).

communication service providers. This coordination, often led by state or local emergency operation centers, is often a key element of resiliency and restoration depending on the nature of the emergency or disaster. For example, during and after Hurricane Michael, Verizon reports that it cooperated closely with the Bay County Florida emergency operation center to coordinate recovery efforts with the local power company.¹⁶ In addition, information sharing also occurs through the Department of Homeland Security's National Coordinating Center for Communications, which facilitates the sharing of information, such as the status of power restoration in an affected area.¹⁷

These examples demonstrate how increased coordination between wireless providers and power companies can help expedite service restoration and help consumers regain access to wireless services in the aftermath of a major disaster or emergency.

III. ENHANCING COORDINATION BETWEEN WIRELESS PROVIDERS AND POWER COMPANIES WILL FURTHER IMPROVE WIRELESS NETWORK RESILIENCY.

The resiliency of mobile wireless networks, like almost all other communications services, depends upon continuous access to electricity. In recent years, power companies have made investments to address issues related to the resilience of their services.¹⁸ However, challenges still exist for power companies, as well. For example, 99 percent of customers in Florida's Gulf County were without power on the day following Hurricane Michael's landfall.¹⁹

¹⁶ Verizon PSHSB Inquiry Response at 19-20.

¹⁷ See National Coordinating Center for Communications, <https://www.dhs.gov/cisa/national-coordinating-center-communications>.

¹⁸ See, Erin Ailworth, WSJ, *What Utilities Can Do to Strengthen the Grid*, Jan. 22, 2019.

¹⁹ See Florida Public Service Commission, Michael 2018 – Power Outage Data, https://secure.floridapsc.com/Files/PDF/HurricaneReport/Michael_10-11-18_1038.pdf?date=2/8/2019 12:06:08 PM.

Moreover, five days later, 99% of customers in Florida's Gulf County were still without power.²⁰

Recognizing these issues may occur, the wireless industry has instituted practices of its own to maintain wireless service in areas with no electricity, such as the pre-positioning of fuel and backup generators. While these actions help maintain mobile wireless networks in the face of unprecedented emergency events, additional coordination efforts between communications providers and power companies should be pursued in order to maintain vital communications services.

Historically, power companies operated as the first tranche of post-emergency or – disaster restoration. But with increasing consumer reliance on mobile services, and a demonstrable public interest in restoring wireless networks as quickly as possible, the wireless industry has now joined the first tranche of restoration services in many instances. In the race to restore critical services, however, there have been occasions where wireless providers and power companies have inadvertently operated at cross purposes.

As evidenced by recent events in the aftermath of Hurricane Michael, there were instances where more coordination between wireless providers and power companies would have been much more productive in restoring service. For example, Verizon recently told the Commission that following Hurricane Michael, the two major challenges it faced in restoring service were repeated fiber cuts by power company contractors, among others, and its inability to access damaged fiber rings blocked by debris and cleanup crews.²¹ Absent these challenges,

²⁰ See Florida Public Service Commission, Michael 2018 – Power Outage Data, https://secure.floridapsc.com/Files/PDF/HurricaneReport/Michael_10-15-18_0603.pdf?date=%202/8/2019%204:00:31%20PM.

²¹ Verizon PSHSB Inquiry Response at 2.

Verizon states that it could have restored services to most affected areas several days earlier.²²

T-Mobile similarly noted that, following Hurricane Michael, loss of service was caused in part by damage to aerial cabling networks by crews clearing debris following the storm.²³ And AT&T further informed the Commission that, of the three main causes of wireless service outages following hurricanes, two of these – loss of commercial power and loss of backhaul transport communications – could be mitigated by better coordination between wireless providers and power companies.²⁴

These examples are a mere snapshot of the types of challenges that might be addressed or mitigated by greater coordination between the wireless industry and power companies. For this reason, CTIA and its member companies are eager to see enhanced coordination between these industries in order to ensure restoration efforts are not, inadvertently, operating at cross purposes.

IV. CTIA SUPPORTS THE BDAC'S DISASTER RESPONSE AND RECOVERY WORKING GROUP'S EFFORTS TO IDENTIFY WAYS TO ENHANCE COORDINATION AMONG COMMUNICATIONS SERVICE PROVIDERS AND POWER COMPANIES.

As CTIA stated previously, each disaster and emergency presents its own set of unique challenges. Moreover, disasters affect each community in different ways. As a result, coordination between communications providers and power companies should take place in a coordinated but flexible manner that allows providers to take into account the unique challenges of particular events. The Commission's Public Notice appropriately focuses on the development of a flexible set of recommendations to enhance coordination between communications providers

²² *Id.*

²³ Comments of T-Mobile USA, Inc., PS Docket No. 18-339, at 3 (Dec. 17, 2018).

²⁴ Comments of AT&T, PS Docket No. 18-339, at 4-5 (Dec. 17, 2018).

and power companies which could help to encourage efforts that would minimize the types of challenges described above.

CTIA reiterates its support for the BDAC's Disaster Response and Recovery Working Group to develop a set of recommendations to improve coordination between communications service providers and power companies. This working group is charged with, among other things, developing best practices for coordination among wireless providers, backhaul providers, and power companies during and after a disaster. By closely examining the lessons learned from Hurricane Michael, this working group, and the broader BDAC, can make recommendations to enhance the resiliency of communications services that are essential to consumers and local communities recovering from emergencies.

These flexible recommendations will not only make communication services more resilient, but will also expedite service restoration in the years to come. Such an approach, moreover, would further CSRIC Best Practice 9-9-0655, which states, among other things, that communications providers should coordinate with power companies. CTIA member companies have already adopted this best practice, and the work of the BDAC may help to further these efforts.²⁵ Moreover, these flexible recommendations also likely would benefit power companies, who also stand to gain from enhanced coordination with communications providers.²⁶

CTIA is encouraged that the Commission has directed the BDAC to focus on this issue. Both CTIA and Verizon are members of the BDAC Disaster Response and Recovery Working Group, and the broader BDAC membership includes additional representatives from the wireless

²⁵ See, e.g., Verizon Comments at 6 (citing CSRIC BP Number 9-9-0655).

²⁶ See North American Electric Reliability Corporation (NERC), Grid Security Exercise GridEx IV: Lessons Learned at vii (Mar. 2018) (noting that power companies should strengthen their relationships with other critical infrastructure stakeholders to help address the challenges of a severe event).

industry, including representatives from AT&T and Sprint. The wireless industry looks forward to reviewing the record in this proceeding, engaging with stakeholders, and continuing to work to identify solutions and recommendations to improve coordination going forward.

V. CONCLUSION.

CTIA commends the Commission for this *Public Notice*, which highlights an issue CTIA and others have raised, as it will spur discourse and result in a record that the BDAC can consider as it seeks to enhance coordination between wireless providers and power companies in the lead up to, during, and in the aftermath of disasters and emergencies.

Respectfully submitted,

/s/ Patrick Donovan

Patrick Donovan
Senior Director, Regulatory Affairs

Thomas C. Power
Senior Vice President and General Counsel

Scott K. Bergmann
Senior Vice President, Regulatory Affairs

Matthew B. Gerst
Vice President, Regulatory Affairs

CTIA
1400 16th Street, NW
Suite 600
Washington, DC 20036
(202) 785-0081

Dated: February 8, 2019