

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

In the Matter of)	
)	
Public Safety and Homeland Security Bureau)	PS Docket No. 17-344
Seeks Comment on Response Efforts)	
Undertaken During 2017 Hurricane Season)	

To: The Public Safety and Homeland Security Bureau

COMMENTS OF PUBLIC KNOWLEDGE

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EXECUTIVE SUMMARY

Public Knowledge files these comments in response to the Federal Communications Commission's ("FCC" or "Commission") December 7, 2017 *Public Safety and Homeland Security Bureau Seeks Comment on Response Efforts Undertaken During 2017 Hurricane Season* Public Notice.¹ Public Knowledge commends the Commission for taking the first step to improving communications recovery during natural disasters, including hurricanes, and encourages the Commission to seriously consider the following comments.

In light of the devastation left by Hurricanes Maria, Irma and Harvey in 2017, it is imperative that the Commission evaluate how to improve its natural disaster recovery efforts, particularly in speedily recovering damages communications networks. Public Knowledge agrees with the Government Accountability Office's (GAO) recent study² on wireless network resiliency during and after a natural disaster. The Commission should seriously consider the recommendations given by the GAO and improve wireless network accountability in the light of devastating events of *force majeure*. In order to improve disaster recovery practices and provide adequate support to disaster victims, Public Knowledge recommends that the Commission hold further proceedings to address the policy concerns outlined in these comments. Finally, the Commission should use its Section 214 authority to ensure that Carriers repair vital copper wireline network or otherwise provide consumers with adequate replacement service.

¹ *Public Safety and Homeland Security Bureau Seeks Comment on Response Efforts Undertaken During 2017 Hurricane Season*, Public Notice, 32 FCC Rcd 10245 (2017).

² GAO, TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency (2018), <https://www.gao.gov/assets/690/688927.pdf>.

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I. THE FCC SHOULD ADDRESS THE CONCERNS RAISED BY THE GAO'S RECENT REPORT THAT IT HAS NOT ADEQUATELY EVALUATED THE VOLUNTARY INDUSTRY FRAMEWORK, OR ADEUATELY INFORMED THE PUBLIC ABOUT THE FRAMEWORK.

On January 9, 2018, the Government Accountability Office (“GAO”) released a Report entitled *TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency*.³ The Report focused on analyzing the Commission’s choice to abandon its efforts to require individual wireless carriers to disclose how well their network performed during emergency events and in lieu adopt the industry coalition’s Wireless Network Resilience Cooperative Framework. The industry’s Framework functions as an agreement allowing roaming between the Carrier’s networks during an emergency and shares aggregated data on network performance post-emergency. Though the FCC said it would engage with industry on the Framework’s implementation, the GAO found that the FCC “has limited formal plans to oversee or spread knowledge of the framework.”⁴ The Report found that the Commission lacks a formal plan to track, analyze, facilitate and hold accountable industry wireless carriers’ emergency resiliency and recovery efforts.⁵ Specifically, the GAO recommended that the FCC 1) track and evaluate the completion of the initial steps of the framework; 2) determine specific measures to evaluate whether or not the framework achieves the industry coalition’s goals; and 3) effectively communicate the framework to all public safety officials and other stakeholders.

Hurricanes Maria and Irma had devastating effects on the Caribbean during the 2017 hurricane season. Puerto Rico and The U.S. Virgin Islands (USVI) were among the hardest hit by

³ GAO, *TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* (2018), <https://www.gao.gov/assets/690/688927.pdf>.

⁴ *Id.* at Highlights Page.

⁵ *Id.* at Highlights Page.

the storms. As such, the communications networks for nearly all islands were devastated. Unfortunately as of January 2018, some communications infrastructure has not been repaired, leaving these Americans without connection or with poor connection to the rest of the world. In USVI, only 71 percent of fiber optics are currently online and operative, with some areas of St. John still without working wires at all.⁶ Though Project Loon brought mobile internet access to nearly 100,000 people,⁷ Puerto Ricans are still struggle to find a reliable internet connection almost four months after Hurricane Maria ravaged the island. The slow repairs of communications infrastructure in these areas and the lack of transparency from the Commission, amplified by the GAO's recent report on wireless prompts the policy proposals that follow. Public Knowledge urges the Commission to initiate a new proceeding to address the included policy concerns.

II. THE COMMISSION SHOULD HOLD FURTHER PROCEEDINGS AND ELICIT COMMENT TO ADDRESS THE FOLLOWING CONCERNS.

A. Each Carrier Should Have an Emergency Plan and Should Be Required to Communicate Said Plan to the Commission *Before* Natural Disasters Occur.

In order to ensure that carriers are well prepared for natural disasters, including devastating hurricanes, the Commission should consider requiring individual carriers to establish an emergency plan instead of a collaborative, one-size fits all approach to disaster recovery, like the existing Wireless Network Resilience Cooperation Framework. Requiring that each Carrier report their emergency plan to the Commission before a natural disaster cements a proactive

⁶ See viNGN, *Network Restoration Status*, <http://vingn.com/network-restoration-status/> (last visited Jan. 18, 2018).

⁷ Eric Brackett, *Project Loon has restored internet access to 100,000 people in Puerto Rico*, Digital Trends, Nov. 11, 2017, <https://www.digitaltrends.com/cool-tech/alphabet-activates-project-loon-over-puerto-rico/>.

approach to preserving the integrity of communications networks during emergencies, a time when communications may be the most vital.

B. The Commission Should Consider What Additional Preparations and Procedures Are Needed for Geographically Hard to Reach Areas.

Evidenced by the quick response by industry and government to Hurricane Harvey and (to an extent) Hurricane Irma, the continental United States has a geographical advantage for speedy recovery and repair of communications infrastructure and resilience. The Commission should consider what unique physical challenges face the more remote areas of the United States and its territories. For example, with regard to recent events, “[i]t is particularly important to take into consideration the fact that Puerto Rico is an island, with a central mountain system, that is exposed to year-round heat, humidity and yearly hurricane seasons, as well as storm surges in the coastal areas.”⁸ Additionally, the Commission should consider the unique challenges for these areas with regard to power.

While Puerto Rico and the Virgin Islands provide a clear example of geographically hard to reach areas, where fuel supply may run out before relief can bring in supplies, there are other areas in the United States that may create similar challenges. Even within the Continental United States, coastal islands or mountainous regions may present unique physical challenges for rescue methods. The Commission should consider how to identify these areas that require additional backup safeguards in order to ensure that communications remain robust in times of crisis, and that outages can be swiftly remedied.

⁸ Sandra E. Torres Lopez, Esq., President, Puerto Rico Telecommunications Regulatory Board, to Ajit Pai, Chairman, Federal Communications Commission at 1 (Dec. 13, 2017) (on file at <https://ecfsapi.fcc.gov/file/1222564125194/17122104-2.pdf>).

C. The Commission Should Consider Additional Back Up Power Requirements.

The number one barrier to restoring communications network capability in Puerto Rico and USVI after Hurricane Maria has been access to power. To address this major barrier to recovery after natural disasters, the Commission should consider requiring carriers to store backup power off of the electric grid. Further, the Commission should explore establishing guidelines for carriers' use of generator power to support temporary cell towers when generator fuel is low. Guidelines could include limited operating hours and/or limited full capacity and reduced service hours.

D. The Commission and USAC Should Consider Establishing a Special Universal Service Fund for Emergency Maintenance of Communications Infrastructure.

In light of devastation resulting from Hurricane Maria, Chairman Ajit Pai authorized up to \$76.9M in advance funds from the Universal Service Fund's high-cost program.⁹ Though this was similar to the aid offered by Chairman Martin after Hurricane Katrina,¹⁰ the damage caused by Hurricane Maria is unprecedented and will require additional funds and resources to restore. Further, the Commission should consider allowing this money to be allocated to aid low fuel situations similar to the fuel shortage in Puerto Rico after Hurricane Maria.¹¹

⁹ Press Release, Office of the Chairman Ajit Pai, FCC, Chairman Pai Announces Proposal to Assist Efforts to Restore Communications in Puerto Rico and the United States Virgin Islands (Oct. 3, 2017), https://apps.fcc.gov/edocs_public/attachmatch/DOC-347017A1.pdf.

¹⁰ Press Release, FCC, FCC Takes Steps to Assist in Hurricane Katrina Relief (Sept. 15, 2005), https://apps.fcc.gov/edocs_public/attachmatch/DOC-261096A1.pdf.

¹¹ Dawn Giel et al., *Puerto Rico, short on fuel, cannot deliver food and medicine to the victims of Hurricane Maria* (Sept. 28, 2017), CNBC, <https://www.cnbc.com/2017/09/28/puerto-ricos-fuel-supply-breaks-down-in-the-wake-of-marias-devastation.html>.

Additionally, the Commission should consider whether a permanent fund would be useful so that carriers and their customers can reliably count on funds being available rather than require the FCC to evaluate whether to make an appropriation on a case-by-case basis. In addition, the Commission should consider whether such a fund would make regular disbursements so that carriers can receive High Cost support explicitly for emergency planning and network hardening.

E. As Our Wireless Communications Network Evolves Towards a 5G Network, the Commission Should Consider Appropriate Changes to its Natural Disaster Recovery Guidelines to Support the Change in Network Infrastructure.

In the long term, the Commission should consider how the 5G upgrade to network infrastructure will impact the way communications networks are repaired after devastation of a natural disaster, particularly in regards to densification.

F. The Commission Should Require Carriers to Be Transparent on the Condition and Resiliency of Cell Towers Before Natural Disasters Hit So That Consumers Can Prepare Accordingly.

Again, in an effort to prevent mass communications outages like the unfortunate happenings in Puerto Rico and USVI after Hurricane Maria, the Commission should consider requiring Carriers to disclose conditions of cell towers to local consumers before a disaster hits to allow the public to plan accordingly for any expected outages.

G. The Commission Should Establish Suitable Metrics to Measure Whether Natural Disaster Recovery Efforts Are Adequate and Should Make Carrier Resiliency Information Available to the Public.

The Commission should consider whether it is possible, and by what means would be appropriate, to measure the adequacy of recovery efforts after a natural disaster. Using a rubric or other metric system to measure recovery efforts would create much needed transparency within the Commission's natural disaster coordination efforts with FEMA and other federal agencies.

Additionally, in an effort to prevent mass communications outages like the unfortunate happenings in Puerto Rico and USVI after Hurricane Maria, the Commission should consider requiring Carriers to disclose conditions of cell towers to local consumers before a disaster hits to allow the public to plan accordingly for any expected outages. As the Commission has observed with the publication of its broadband speed test, carriers respond to publication of information to the public. The Commission should harness the power of the market by ranking the response time and resiliency of carriers following a disaster. This would both allow consumers to reward carriers that invest in their networks, and encourage carriers to make such investments on their own to differentiate themselves from competitors.

III. THE COMMISSION SHOULD APPLY ITS SECTION 214 AUTHORITY TO ENSURE CARRIERS ARE REPAIRING COPPER NETWORKS OR OTHERWISE DEPLOYING ADEQUATE AND AFFORDABLE REPLACEMENT SERVICES.

A. The Commission's Section 214 Rules Were Adopted To Ensure Consumers Have Access To Adequate and Reliable Communications Services As Carriers Replaced Copper Networks.

In November of 2017, the FCC voted to rollback several elements of its Section 214's Copper Retirement and Service Discontinuance rules.¹² The Commission adopted the rules on a full and comprehensive record from years of proceedings to ensure consumers continue to have access to adequate and reliable communications services.¹³ Among the rules the Commission recently eliminated include a requirement that carriers provide advance notice to their customers prior to retiring their copper networks and the *de facto* retirement rule, which required carriers to provide notice if they failed to maintain their copper networks.¹⁴ The Commission also eliminated the functional test, which required providers to evaluate the effect of copper network retirement on the community it served.¹⁵ The Commission's Section 214 Copper Retirement and Service Discontinuance rules were a safeguard for consumers against harmful practices by Providers. Particularly, the Commission created the rules to ensure consumers received an

¹² See *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, WC Docket No. 17-84, FCC 17-154 (rel. Nov. 29, 2017) (“*2017 Report and Order and FNPRM*”).

¹³ See *Ensuring Customer Premises Equipment Backup Power for Continuity of Communications et al*, Notice of Proposed Rulemaking and Declaratory Ruling, 29 FCC Rcd 14968 (2014); *Technology Transitions et al*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015); *Technology Transitions et al*, Declaratory Ruling, Second Report and Order, and Order on Reconsideration, 31 FCC Rcd 8283 (2016).

¹⁴ *2017 Report and Order and FNPRM*, ¶¶ 22-80.

¹⁵ *Id.*, ¶¶ 128-156.

adequate replacement service when communications infrastructure had been damaged by a natural disaster, like a Hurricane.

B. The Commission Created Copper Retirement Rules in Response to Superstorm Sandy on Fire Island, New York.

The Commission's Copper Retirement and Service Discontinuance rules were specifically created after a breakdown in communications infrastructure repair in Fire Island, New York. In October 2012, Hurricane Sandy devastated the Eastern Coast of the United States, including Fire Island, New York. In the wake of the storm, Verizon reported that their wireline copper network in New Jersey and New York were essentially destroyed.¹⁶ Damage from the hurricane left some homes completely out of service, requiring a complete overhaul of the communications infrastructure.¹⁷ Almost a year later, Verizon responded to the storm's damage by replacing the damaged copper network with a new fixed wireless service called Voice Link. Upon installation, the people of Fire Island realized their new service was unreliable and an inadequate replacement for their previous service. Unlike the copper network, Voice Link did not provide internet access, and it frequently dropped important calls from around the island. The residents of Fire Island were dissatisfied with their replacement service provided by Verizon, and organized to bring the issue to the state regulators, and in turn the FCC. After careful evaluation and proceedings, the Commission created a series of rules and regulations around copper retirement, repair and replacement in order to ensure that a situation like Fire Island never happened again.

¹⁶ Letter From Frederick E. Moacdieh, Executive Director—Federal Regulatory Affairs, Verizon, to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission, Attach. (filed June 7, 2013) (Verizon Application), available at <http://apps.fcc.gov/ecfs/document/view?id=7022424983>.

¹⁷ Verizon Application at 1-2.

C. Puerto Ricans and Other Victims of Natural Disasters Are At Risk of Receiving Inadequate and More Expensive Networks Without Clear Rules From The Commission Overseeing Copper Retirement and Service Discontinuance.

Hurricane Maria has devastated communications infrastructure in Puerto Rico and the USVI. The Commission's own reports show that large percentages of consumers in Puerto Rico and USVI are still without wireline services today, which would include copper networks where available.¹⁸ Before the devastation of Hurricane Maria, 784,000 Puerto Ricans (nearly 25 percent of the island's overall population) only have access to one wired provider with no options to switch.¹⁹ The loss of these critical communications services means communities cannot contact loved ones, access critical information or utilize emergency services. Further, the Commission's recent rollback of its Section 214 rules means carriers have every incentive to replace copper networks with substandard communications services particularly in rural and other hard to serve areas. Puerto Ricans, US Virgin Islanders and other victims of natural disasters are therefore at risk of receiving inadequate, more expensive replacement services as carriers replace damaged copper networks.

Without clear rules from the FCC that protect the public interest when carriers choose to discontinue their copper networks, there is no way to ensure next-generation networks are a true upgrade for everyone. As carriers decide to replace their damaged copper networks with other technologies, it is critical that the Commission provides regulatory certainty to Puerto Ricans and other victims of natural disasters that any new network does not result in a downgrade in service.

¹⁸ FCC, Communications Status Report for Areas Impacted by Hurricane Maria (Jan. 17, 2018), https://transition.fcc.gov/Daily_Releases/Daily_Business/2018/db0117/DOC-348749A1.pdf.

¹⁹ BroadbandNow, *Internet Access in Puerto Rico*, <https://broadbandnow.com/Puerto-Rico> (last visited Jan. 22, 2018).

CONCLUSION

The Commission should move quickly to consider the above policy concerns and conduct further proceedings in regards to improving communications infrastructure recovery after natural disasters and ensure that carriers are repairing copper networks damaged by the recent storms or otherwise deploying adequate replacement services.

Respectfully Submitted,

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