

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Public Safety and Homeland Security Bureau)	PS Docket No. 18-339
Seeks Comment On Hurricane Michael)	
Preparation and Response)	

COMMENTS OF COMCAST CORPORATION

WILLKIE FARR & GALLAGHER LLP
1875 K Street, N.W.
Washington, D.C. 20006

Counsel for Comcast Corporation

Kathryn A. Zachem
Beth A. Choroser
Brian M. Josef
Regulatory Affairs

Francis M. Buono
Legal Regulatory Affairs

COMCAST CORPORATION
300 New Jersey Avenue, N.W.
Suite 700
Washington, DC 20001

Brian A. Rankin
Andrew D. Fisher
COMCAST CORPORATION
1701 JFK Boulevard
Philadelphia, PA 19103

December 17, 2018

TABLE OF CONTENTS

I.	INTRODUCTION AND SUMMARY.....	1
II.	COMCAST APPLIED EXPERIENCE FROM PAST HURRICANES TO PREPARE FOR MICHAEL AND MINIMIZE SERVICE DISRUPTION.....	2
A.	Preparations Before Landfall	3
B.	Restoration of Service.....	5
III.	COMCAST IS COMMITTED TO SERVING ITS CUSTOMERS AND COMMUNITIES.....	8
IV.	COOPERATION IS KEY TO EFFECTIVE RESPONSE AND RECOVERY.....	10
V.	CONCLUSION	12

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of)	
)	
Public Safety and Homeland Security Bureau)	PS Docket No. 18-339
Seeks Comment On Hurricane Michael)	
Preparation and Response)	

COMMENTS OF COMCAST CORPORATION

Comcast Corporation (“Comcast”) hereby responds to the Public Notice (“*Notice*”) issued by the Public Safety and Homeland Security Bureau (“Bureau”) of the Federal Communications Commission (“Commission”) in the above-referenced docket.¹

I. INTRODUCTION AND SUMMARY

With a strong presence in the Florida Panhandle and surrounding areas, Comcast experienced first-hand the devastation caused by Hurricane Michael and the challenges of recovering from this unprecedented storm. With 155 mile-per-hour winds, destructive storm surge, and widespread flooding, Michael completely destroyed communications infrastructure in the hardest-hit areas and knocked out power to numerous communities in its path, often for days or weeks. Amid fallen trees, snapped utility poles, and cut or downed cables, large portions of our network in the affected areas were destroyed.

Comcast built on experience from many years of providing service in hurricane-prone areas to harden and prepare its network and operations, share information and resources with partners in government and industry, and restore service as quickly and safely as possible after

¹ *Public Safety and Homeland Security Bureau Seeks Comment On Hurricane Michael Preparation and Response*, PS Docket No. 18-339, Public Notice, DA 18-1176 (Nov. 16, 2018) (“*Notice*”).

the storm passed. While some service disruption was inevitable from a natural disaster of this magnitude, the efforts of Comcast's dedicated employees have kept customers informed about preparation for the storm, how to stay connected during the storm, and restoration status post-storm. We also provided connectivity by opening Wi-Fi hotspots to the public and deploying our Xfinity "Wi-Fi On Wheels" van; expedited restoration of critical services; and are ultimately rebuilding an even stronger, more resilient network.

As in prior hurricanes and disasters, Comcast's commitment to the communities we serve goes well beyond restoration of the networks we operate and the services we offer. To help ease burdens on affected customers, Comcast suspended billing, offered service credits, and waived fees for missing or damaged equipment. We also made substantial contributions to hurricane relief efforts, including \$700,000 in cash and in-kind contributions to the Florida Disaster Fund. Comcast also donated 5,000 backpacks with school supplies to Bay County Public Schools and Jackson County Public Schools. As the areas hit hardest by Hurricane Michael continue to recover, Comcast remains committed to working with charitable organizations; federal, state, and local authorities; and other communications providers to support our communities and help those who lost so much get back on their feet.

II. COMCAST APPLIED EXPERIENCE FROM PAST HURRICANES TO PREPARE FOR MICHAEL AND MINIMIZE SERVICE DISRUPTION

As Comcast emphasized in response to the Commission's request for comment on the 2017 hurricane season, every disaster is different, and specific steps or tactics that work well in one situation may not apply or may actually be harmful in another situation.² Thus, "the best

² Comments of Comcast Corporation, PS Docket No. 17-344, at 11 (Jan. 22, 2018) ("*Comcast 2017 Hurricane Season Comments*").

strategy is to promote policies that allow flexibility to adapt to changing facts on the ground and encourage coordination and communication between service providers, electric utilities, and emergency officials.”³ Our experience with Hurricane Michael illustrates the benefits of flexible storm response policies. In contrast to the long, grinding path of 2017’s Hurricane Irma, Michael strengthened rapidly over the Gulf of Mexico from a tropical storm to a Category 4 hurricane and bore down on the Florida Panhandle with relatively little warning. This quickly developing situation demanded a nimble response, which was aided by our significant experience in preparing for different types of storm impacts. But while no single set of plans or practices can ensure adequate preparation for every storm, Comcast has a longstanding presence in Florida and other states that have weathered multiple hurricanes and natural disasters over the years. Consequently, our networks are built to high standards of reliability and resiliency, our crews are well-trained and well-equipped, and we have developed operating procedures to help maintain service and speed recovery under the changing circumstances of each event.

A. Preparations Before Landfall

On October 7, 2018, as Michael strengthened into a hurricane and Florida authorities declared a state of emergency, Comcast activated its storm preparation plans, set up four command centers in Florida, and began coordinating multiple calls per day with personnel in the field, government agencies, and other communications providers in the area. As state and local authorities activated their own Emergency Operations Centers (“EOCs”), Comcast participated in planning with and information sharing among multiple jurisdictions and industries.

To prepare for the storm, Comcast crews tested and refueled backup generators to keep our facilities operational in case of commercial power outages, deployed another 200 generators

³ *Id.*

to the Florida Panhandle, and staged fuel trucks nearby to support recovery operations. Comcast also sent two trucks of materials and equipment (e.g., generators, sandbags, spans, cables, fiber) to Panama City and Tallahassee to ensure we had all of these supplies staged and ready in advance of the storm. In all, Comcast pre-positioned *1.2 million feet* of aerial and underground cable in the Florida Panhandle to support our restoration efforts.

With more than 200 employees who live and work in the Florida Panhandle, one of Comcast's first priorities was to ascertain the status of its employees. We established personnel rosters, assessment routes, team logistics, and work schedules so that our network maintenance and construction crews could enter the field immediately following the storm's impact. Comcast also called in approximately 600 additional personnel from Pennsylvania, North Carolina, South Carolina, Texas, Florida, and Ohio to work on technical operations, network maintenance, and restoration efforts. Based on experience from previous disasters, we worked quickly to secure housing for crews arriving from out-of-state. Comcast also ensured that all employees and contractors had current credentials and access letters so they would not face delays in reaching critical locations and equipment once the storm passed.

In anticipation of Michael's landfall, Comcast sent notifications via email, text message, and "My Account" app messaging to all of its customers in the Tallahassee, Panama City, and Dothan (Alabama) areas with tips on preparing for severe weather and power outages.⁴ To help residents and emergency personnel stay connected, Comcast opened its network of more than 8,000 Xfinity Wi-Fi hotspots throughout the Florida Panhandle for anyone to use for free,

⁴ Comcast made similar information available through our website. See Comcast Preparations and Customer Tips for Hurricane Michael (Oct. 8, 2018), <https://florida.comcast.com/2018/10/08/comcast-preparations-and-customer-tips-for-hurricane-michael/> ("October 8 Update").

including non-Xfinity customers.⁵ Florida authorities, including the Governor's Office, helped spread the word by including information about Xfinity Wi-Fi hotspots in their outreach to residents as the storm approached.⁶ Comcast also reminded Xfinity Voice customers that by downloading the Xfinity Connect app, they could forward calls made to their home phone number to a mobile phone, check home phone voicemails, and send and receive free text messages.⁷ In addition, Comcast launched a dedicated website – <https://stormready.xfinity.com/> – where customers could request service or account suspensions, request credit for service outages, report downed lines, order new equipment, or request assistance from a Comcast team member by filling out a simple online form. Comcast also provided storm preparation tips and updates on our Florida Region blog at <https://florida.comcast.com/>, and materially increased capacity in our call centers to enhance our ability to communicate with customers and provide the best available information at all times.

B. Restoration of Service

Michael made landfall on the Florida Panhandle the afternoon of October 10, snapping trees and utility poles with some of the strongest winds on record in the area and causing severe flooding from storm surge and heavy rain. The impacts were particularly devastating in the Panama City area, where much of Comcast's cable plant was destroyed. Under emergency

⁵ See Comcast Opens Free Xfinity Wi-Fi Service to Aid Residents, Emergency Personnel as Hurricane Michael Approaches (Oct. 8, 2018), <https://florida.comcast.com/2018/10/08/comcast-opens-free-xfinity-wifi-service-to-aid-residents-emergency-personnel-as-hurricane-michael-approaches/>.

⁶ See News Release, Gov. Scott: Federal Pre-Landfall Emergency Declaration Signed by the President (Oct. 9, 2018), <https://www.flgov.com/2018/10/09/gov-scott-federal-pre-landfall-emergency-declaration-signed-by-the-president/> (noting the availability of more than 8,000 Xfinity Wi-Fi hotspots throughout the Florida Panhandle).

⁷ See *October 8 Update*.

response procedures in Florida, a disaster area first must be surveyed and cleared by power company personnel before restoration work on communications lines can begin. Comcast placed restoration crews on standby where downed power lines or other dangerous conditions existed until authorities granted an “all clear” to begin repairs. The evening of October 10, the same day the hurricane made landfall, Comcast deployed employees and contractors to work around the clock to assess damage and restore connectivity.

Within five days, 85 percent of Comcast customers in Tallahassee had their service restored.⁸ By the end of October, Comcast restored connectivity to more than 80 percent of all its customers affected by Hurricane Michael, although restoration remained particularly difficult in Panama City and Marianna, where infrastructure was severely damaged and certain areas were either physically inaccessible or still deemed unsafe to begin repairs.⁹ As of late November, Comcast crews had restored service in the Marianna and Sneads areas and continued to work tirelessly to finish line installation and network activation in the west side of Panama City, Lynn Haven, Pretty Bayou, and Hiland Park.¹⁰ Comcast is now working on the final phases of the new network that it is building throughout the Panama City area.¹¹

⁸ See Hurricane Michael Service Restoration Updates for Tallahassee and Dothan, AL (Oct. 15, 2018), <https://florida.comcast.com/2018/10/15/hurricane-michael-service-restoration-updates-for-tallahassee-and-dothan-al/>.

⁹ See Comcast Service Restoration Update for Panama City (Oct. 30, 2018), <https://florida.comcast.com/2018/10/30/comcast-service-restoration-update-for-panama-city-october-30/> (“October 30 Update”).

¹⁰ See Comcast Service Restoration Update (Nov. 27, 2018), <https://florida.comcast.com/2018/11/27/comcast-service-restoration-update-november-27/>.

¹¹ See Comcast Service Restoration Update (Dec. 5, 2018), <https://florida.comcast.com/2018/12/06/comcast-service-restoration-update-december-5/> (“December 5 Update”).

Among the greatest challenges in restoring service to customers after Hurricane Michael were widespread loss of commercial power and the damage to and destruction of network infrastructure serving Panama City and the surrounding areas. While most of Comcast's headend facilities were restored shortly after the storm or remained operational on generator power, it took long-term coordination with power companies and emergency authorities to restore power needed for equipment that provides service to individual subscribers' homes. In some cases, Comcast had to cut back and bypass damaged plant as a temporary measure to restore high-priority connections, such as a 10-digit line to a 911 call center in Wakulla County, before permanent repairs could be completed. Comcast also expedited repairs to damaged lines serving the Wakulla County EOC and Sheriff's Office, and in Marianna Comcast worked to get special lines restored for the Jackson County EOC, city offices, the police department, shelter, hospital, and other critical facilities.¹² Comcast also added new redundancy to further harden its network and to minimize the customer impact of any damage to plant during the restoration effort, for example by adding a new fiber connection between Dothan and Atlanta.

In the hardest-hit areas, Comcast's network had to be torn out and rebuilt from the ground up. This massive undertaking has progressed with unprecedented speed: Comcast installed more than 195 miles of new plant in the first two weeks of work and is on track to build out more than 650 miles across the affected areas once the project is finished.¹³ In combination with the additional redundancy noted above, this new network will benefit from state-of-the art fiber

¹² See A Restoration Update for the Florida Panhandle (Oct. 24, 2018), <https://florida.comcast.com/2018/10/24/a-restoration-update-for-the-florida-panhandle/> ("October 24 Update").

¹³ See *October 30 Update*; Comcast Service Restoration Update for Panama City (Nov. 7, 2018), <https://florida.comcast.com/2018/11/07/comcast-service-restoration-update-for-panama-city-november-7/>.

optics, new electronics, and, in many cases, new utility poles placed by power companies restoring service in the area. This new construction will meet all modern standards and codes, frequently replacing installations that had been grandfathered under older standards for existing poles and attachments. The new network will be capable of providing Gigabit Internet speeds to many customers in the Florida Panhandle using the existing connections that are already in most customers' homes.¹⁴ The end result will be a complete restoration of service and an even more resilient network for Comcast customers in the Florida Panhandle.

III. COMCAST IS COMMITTED TO SERVING ITS CUSTOMERS AND COMMUNITIES

With a long history in Florida and more than 200 employees in the Panhandle region, Comcast recognizes that recovery from a major hurricane involves much more than just repairing damaged infrastructure and bringing services back online. As members of the local community, we are committed to doing everything we can to assist in the broader relief effort and ease the experience for those who have suffered tremendous disruption and loss. These efforts range from complementary services and billing credits to substantial cash and in-kind contributions.

To help ease burdens on customers recovering from Hurricane Michael's devastation, Comcast suspended billing for customers located in the hardest hit areas of the Florida Panhandle, including impacted areas of Panama City and Marianna.¹⁵ This service credit is retroactive to October 10, when the storm made landfall. Comcast also suspended several account fees, including late payment and missing equipment fees, for all impacted customers, and is replacing damaged or missing equipment for free. For impacted Xfinity Mobile

¹⁴ See *October 30 Update*.

¹⁵ See Comcast Announces Service Credits for Customers Affected By Hurricane Michael (Oct. 18, 2018), <https://florida.comcast.com/2018/10/18/comcast-announces-service-credits-for-customers-affected-by-hurricane-michael/>.

customers, Comcast provided a courtesy credit to cover the outstanding balance on customers' accounts for three months.

As crews worked to restore service to customers' homes, Comcast deployed its Xfinity "Wi-Fi on Wheels" van to provide free wireless Internet service so residents and emergency personnel could stay connected.¹⁶ This customized van is outfitted with six Wi-Fi access points, which can provide wireless Internet connectivity to thousands of users over a 500 square-foot area, and can be moved from site to site in coordination with emergency officials to provide immediate connectivity. In October and November, the Xfinity Wi-Fi van was available from 9 a.m. to 5 p.m. daily in a shopping center parking lot in Lynn Haven, offering free Internet access to Comcast customers and non-customers alike. More recently, the van moved to the Callaway area as repair work progressed in that direction. To date, more than 40,000 individual sessions totaling more than 400,000 minutes of usage have been logged by users of the Xfinity Wi-Fi van.¹⁷

In addition, Comcast NBCUniversal made \$700,000 in cash and in-kind contributions toward Hurricane Michael relief efforts.¹⁸ As part of this pledge, the company made a \$350,000 cash donation to the Florida Disaster Fund, the State of Florida's official private fund established

¹⁶ See Comcast Xfinity "Wi-Fi on Wheels" Van Offering Free Internet at Downtown Tallahassee Library (Oct. 13, 2018), <https://florida.comcast.com/2018/10/13/comcast-xfinity-wifi-on-wheels-van-offering-free-internet-at-downtown-tallahassee-library/>; Xfinity "Wi-Fi on Wheels" Van Providing Free Internet in Panama City (Oct. 16, 2018), <https://florida.comcast.com/2018/10/16/xfinity-wifi-on-wheels-van-providing-free-internet-in-panama-city/>.

¹⁷ See *December 5 Update*.

¹⁸ See Comcast NBCUniversal Supports Hurricane Michael Relief Efforts in Florida (Oct. 22, 2018), <https://florida.comcast.com/2018/10/22/comcast-nbcuniversal-supports-hurricane-michael-relief-efforts-in-florida/>.

to assist communities as they respond to and recover from emergencies or disasters. We also donated \$350,000 worth of advertising on Comcast cable systems to run public service announcements for the Florida Disaster Fund to help relief organizations get important information out to local communities regarding disaster recovery.¹⁹ Additionally, local affiliates of NBC and Telemundo, including NBC-owned and Telemundo-owned stations, provided information to viewers on how they could contribute to relief efforts. Across our company, we will continue to identify ways to give back as the community continues to recover and rebuild.

IV. COOPERATION IS KEY TO EFFECTIVE RESPONSE AND RECOVERY

As Comcast commented last year, recent hurricanes reinforce the need for close coordination and open communications between service providers and federal, state, and local officials.²⁰ Hurricane Michael was no different and underscored the value of such cooperation in the aftermath of a major storm. Comcast's experience in the Florida Panhandle produced several success stories in this regard.

As noted above, Comcast began participating in EOC activities including standing calls with law enforcement, emergency managers, and private-sector stakeholders in affected communities well before the storm made landfall. As efforts shifted to damage assessment and recovery, we coordinated closely with the State of Florida EOC, including the Florida Highway Patrol, Florida Department of Transportation, and local police and sheriff's departments, to ensure our restoration crews had access to critical facilities, and to help secure our plant and equipment. Cooperation with law enforcement was essential to protect new fiber laid along

¹⁹ One example of these public service announcements is available at <https://youtu.be/CmIV0TRjGtQ>.

²⁰ *Comcast 2017 Hurricane Season Comments* at 12.

roadways for temporary repairs, and in guarding generators, construction materials, and other pre-positioned assets against theft and damage.

At the federal level, Comcast participated in twice-daily calls organized by the U.S. Department of Homeland Security's National Coordinating Center for Communications ("NCC"), which continuously monitors events that may impact emergency communications. These NCC calls helped ensure that federal agencies leading the response effort had the most current situational awareness of the storm's impacts on communications. The NCC, in turn, helped Comcast coordinate debris removal, site access, and Department of Transportation exemption letters that allowed our response teams to access the impacted communities. Comcast also participated in the Commission's Disaster Information Reporting System ("DIRS"), providing daily updates on the status of communications infrastructure while DIRS remained activated.

The *Notice* asks whether communications providers used alternative technologies to "compensate for the damage to wireline facilities, particularly those used for wireless backhaul, during the response."²¹ Comcast voluntarily took measures to support restoration of wireless services in the affected areas. For example, amid wireless outages in the Panama City area, Comcast made available an existing tower at its Lynn Haven headend to help a large wireless carrier set up a 10 GB microwave link to restore its backhaul significantly faster than wireline facilities could be repaired. Through open communication and use of available resources, Comcast played a "community first" role in assisting other communications providers in restoring service with the shared goal of helping first responders and consumers regain connectivity as quickly as possible.

²¹ *Notice* at 4.

The *Notice* also asks about reports of fiber cuts during the restoration process and any steps that service providers took to minimize such damage.²² Consistent with the cited reports, Comcast experienced multiple fiber cuts in the aftermath of Michael, primarily from the hurricane itself (e.g., as utility poles snapped or trees fell on aerial lines), but also from debris removal trucks and third-party restoration crews (e.g., when trucks loaded with debris inadvertently cut cables above roadways or cut our lines that, while marked, were lying on the ground after the storm).²³ After this initial experience, Comcast provided maps and diagrams of key network routes to the State EOC and to local EOCs, which warned third-party crews to use caution around those active lines. Awareness of these critical fiber links also helped law enforcement patrol these routes and guard against further damage. In addition, Comcast visibly marked its active lines, particularly those on the ground, with red flags to indicate they were live and direct other crews not to cut or remove them. Moreover, Comcast coordinated with the State EOC and affected counties overseeing debris removal to alert other parties engaged in restoration efforts to utilize and abide by these practices. These steps significantly reduced the reoccurrence of fiber cuts and contributed to a more effective recovery effort.

V. CONCLUSION

Comcast appreciates the opportunity to share this perspective on Hurricane Michael and commends the Commission for its timely assessment of the storm's impacts on communications. Comcast is proud of its preparation and response to this devastating hurricane, and we remain committed to a complete restoration of service, ongoing support for affected customers, and a positive presence in the communities we serve. We look forward to working with the

²² *Id.*

²³ *See October 24 Update* (noting that any new fiber cut “hinders our restoration efforts, as it requires our crews to go back and repair the new lines recently strung”).

Commission; federal, state, and local authorities; and other interested stakeholders to apply lessons learned from this experience and respond even more effectively to future disasters.

Respectfully submitted,

WILLKIE FARR & GALLAGHER LLP
1875 K Street, N.W.
Washington, D.C. 20006

Counsel for Comcast Corporation

/s/ Kathryn A. Zachem
Kathryn A. Zachem
Beth A. Choroser
Brian M. Josef
Regulatory Affairs

Francis M. Buono
Legal Regulatory Affairs

COMCAST CORPORATION
300 New Jersey Avenue, N.W.
Suite 700
Washington, DC 20001

Brian A. Rankin
Andrew D. Fisher
COMCAST CORPORATION
1701 JFK Boulevard
Philadelphia, PA 19103

December 17, 2018