



PUBLIC NOTICE

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PUBLIC SAFETY AND HOMELAND SECURITY BUREAU SEEKS COMMENT ON HURRICANE MICHAEL PREPARATION AND RESPONSE

PS Docket No. 18-339

Comments Due: December 17, 2018

Introduction

On October 10, 2018, a Category 4 hurricane made landfall near Mexico Beach, Florida, in the Panhandle region.¹ Hurricane Michael, which formed in only three days, carrying 155-mile-per-hour winds, was the strongest storm to hit the Panhandle, the fourth most intense storm to make landfall in the United States, and the strongest storm to hit the continental United States since Hurricane Andrew in 1992.² Hurricane Michael caused severe damage to Florida, Georgia, the Carolinas and Virginia,³ with the Florida counties of Bay and Gulf suffering the most. It caused 45 known fatalities, with 35 in Florida,⁴ as well as significant adverse effects on Florida's and Georgia's timber, cotton, and pecan industries.⁵ Hundreds of thousands of people lost power from several hours to a few weeks.⁶ Almost two weeks after Hurricane Michael smashed into the Florida Panhandle on a path of destruction that led all the way to the Georgia border, more than 100,000 Florida customers were still without power.⁷

While the restoration of communications services in most areas affected by Michael proceeded at

¹ The National Hurricane Center at the National Oceanic and Atmospheric Administration (NOAA) defines Category 4 as "sustained winds (*i.e.*, lasting at constant speed for at least one minute) of between 130-156 mph. See Saffir-Simpson Hurricane Wind Scale, <https://www.nhc.noaa.gov/aboutsshws.php>.

² See *Hurricane Michael is the most powerful storm to hit Florida Panhandle on record*, CBS NEWS (Oct. 10, 2018), <https://www.cbsnews.com/news/hurricane-michael-is-the-most-powerful-storm-to-hit-florida-panhandle-on-record>.

³ See *Georgia girl killed in Hurricane Michael identified*, SAVANNAH MORNING NEWS, (Oct. 11, 2018), <https://www.savannahnow.com/news/20181011/georgia-girl-killed-in-hurricane-michael-identified>.

⁴ See *Officials: Hurricane Michael killed at least 35 in Florida, 45 total*, WCTV (Oct. 29, 2018), <https://www.wctv.tv/content/news/officials-hurricane-michael-killed-at-least-35-in-florida-45-total-498873341.html>.

⁵ See Andrew Skerritt, *Hurricane Michael: A likely \$4 billion dollar blow to Georgia, Florida farms and timber*, TALLAHASSEE DEMOCRAT (Oct. 21, 2018), <https://www.tallahassee.com/story/news/2018/10/21/hurricane-michael-billions-damage-farm-timber-crop-destroyed-florida-georgia-cotton-pecans-chickens/1659685002/>.

⁶ *Michael's death toll jumps as crews search for survivors - live updates*, (Oct. 12, 2018), CBS NEWS, <https://www.cbsnews.com/live-news/hurricane-michael-damage-florida-flooding-georgia-power-outage-weather-deaths-today-live-updates>.

⁷ INSURANCE JOURNAL, <https://www.insurancejournal.com/news/southeast/2018/10/22/505288.htm> (citing state Department of Emergency Management website).

a normal speed, the recovery was much slower in Bay County and Gulf County. For example, one week after Michael made landfall, more than one-third of cell sites in those two counties were still out of service.⁸ Moreover, Florida government officials voiced concern with about the degree of progress in those areas.⁹

Michael's rapid movement and intensity prompted the Commission to reach out immediately to federal, state, and local stakeholders to offer assistance, gather information, and coordinate resources. As part of this mobilization, the Commission relied on remote communications technologies like the National Shared Remote Equipment Network (NSREN) to assess the communications environment on the ground. In addition, Commission staff held joint calls with wireless carriers and broadcasters to determine the operational status and needs of communications in the affected area. This outreach and information sharing was crucial to providing timely situational awareness to key stakeholders and first responders, such as the Federal Emergency Management Agency (FEMA).

The Commission issued two public notices more than 24 hours in advance of the storm making landfall. The first public notice reminded the public and key communications service providers that the Commission's Operations Center was available 24/7 to assist relief and restoration efforts.¹⁰ The second public notice provided emergency communications providers with detailed information on how to obtain waivers of the Commission's rules and/or special temporary authorizations (STAs) to maintain or provide necessary communications.¹¹ The Commission also created a one-stop webpage for Hurricane Michael-related information.¹²

In coordination with FEMA, the Commission activated the Disaster Information Reporting System (DIRS)¹³ for 101 counties across Florida, Georgia, and Alabama located in the expected path of the storm.¹⁴ DIRS is a voluntary, efficient, web-based system that communications companies, including wireless, wireline, broadcast, and cable providers, can use to report communications infrastructure status and situational awareness information during times of crisis. The Commission determines whether to activate DIRS in conjunction with FEMA and announces the areas that will be covered to participating providers via public notice and email. Each day that DIRS was active, the Commission released (in English and in Spanish) a report on the status of various communications platforms (wireline, wireless, and cable) in the affected areas.¹⁵ In consultation with FEMA, DIRS was deactivated for all areas

⁸ Communications Status Report, FCC, *Communications Status Report for Areas Impacted by Hurricane Michael at 4, October 17, 2018* (rel. Oct. 17, 2018), <https://www.fcc.gov/document/hurricane-michael-communications-status-report-october-17-2018> (last visited Nov. 11, 2018).

⁹ News Release, Gov. Scott: *Thousands Working to Restore Cell Service* (Oct. 14, 2018), <https://www.flgov.com/2018/10/14/gov-scott-thousands-working-to-restore-cellular-service/> (last visited Nov. 16, 2018).

¹⁰ See *Federal Communications Commission Provides 24/7 Emergency Contact Information for Hurricane Michael*, Public Notice, DA 18-1033 (rel. Oct. 9, 2018).

¹¹ See *The Public Safety and Homeland Security Bureau, in Coordination with Multiple Other Bureaus, Issues Procedures to Provide Emergency Communications in Areas Affected by Hurricane Michael*, Public Notice, DA 18-1034 (rel. Oct. 9, 2018).

¹² See <https://www.fcc.gov/michael>.

¹³ See FCC, *Disaster Information Reporting System (DIRS)*, <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>.

¹⁴ *Public Safety & Homeland Security Bureau Announces the Activation of the Disaster Information Reporting System in Response to Hurricane Michael*, Public Notice, DA 18-1037 (rel. Oct. 9, 2018).

¹⁵ See, e.g., Communications Status Report, FCC, *Communications Status Report for Areas Impacted by Hurricane Michael, October 11, 2018* (rel. Oct. 12, 2018), <https://docs.fcc.gov/public/attachments/DOC-354510A1.pdf> (last visited Nov. 14, 2018).

affected by Hurricane Michael on October 26, 2018.¹⁶

On October 8, the Commission's Public Safety and Homeland Security Bureau (Bureau) stood up its Incident Management Team to monitor the hurricane's impact in affected areas. The Bureau participated in daily calls with FEMA and the Department of Homeland Security's National Coordinating Center for Communications to discuss the status of communications in areas impacted by Hurricane Michael, as well as industry efforts to restore communications functionality and infrastructure. The Commission issued dozens of STAs and waivers of its rules to assist service providers, local and state agencies, and others with regulatory flexibility needed to continue to operate in the affected areas or otherwise maintain their compliance with the Commission's rules.¹⁷

Request for Comment

By this Public Notice, the Bureau now seeks public comment to better inform its understanding and awareness of stakeholders' readiness, preparation, and response with respect to Hurricane Michael.

A. Service Provider Preparation and Response

Nationwide service providers have been instrumental in developing well-known and widely-disseminated industry best practices that address communications operations in high-risk areas like the hurricane-prone Gulf Coast.¹⁸ With this in mind:

1. Were these best practices implemented? If so, how? If not, why not, and what were the major consequences of not implementing those best practices?
2. In cases where certain best practices were not implemented, would their implementation have prevented, or at least mitigated outages, and/or enhanced restoration in the affected areas?
3. To the extent these best practices involve cross-industry and/or government participation, was such participation available and effective?

Restoration in the counties first hit by Hurricane Michael (Bay County and Gulf County in Florida) appears to have been slow compared to many prior hurricanes in 2017 and 2018. With this in mind:

4. Why did restoration in these counties take additional time and what can be done to expedite service restoration in the future?
5. What do service providers believe were the obstacles to restoring communications systems almost a week after Hurricane Michael?

Recognizing that information on the hurricane's likely path and severity did not become widely disseminated until approximately the first week of October:

6. To what extent were service providers able to pre-position equipment, supplies, and/or resources close to the affected areas in advance of the storm?
7. How did the pre-positioning of such assets impact the continued availability of communications services during the storm?
8. How did the pre-positioning of such assets facilitate or, where resources were not pre-positioned impede recovery?

Regarding restoration of communications services:

9. What were the most effective means to restore connectivity within the communications infrastructure, and how long did it take to do so?

¹⁶ See FCC's *Public Safety & Homeland Security Bureau Announces Deactivation of the Disaster Information Reporting System for Hurricane Michael*, Public Notice, DA 18-1105 (rel. Oct. 26, 2018).

¹⁷ See, e.g., *Request for Waiver of Section 54.514 of the Commission's Rules, et seq.*, Order, DA 18-1101 (rel. Oct. 26, 2018).

¹⁸ See, e.g., Communications Security, Reliability and Interoperability Council (CSRIC) Best Practice (BP), Alliance for Telecommunications Solutions (ATIS), <https://www.atis.org/bestpractices/>.

10. News outlets and DIRS reported situations of fiber cuts during restoration.¹⁹ Even ten days after the storm hit, companies reported in DIRS that major fiber facilities were still out of service in Florida. Many communications providers reported having restored fiber links disabled by repair efforts from other entities, include power utilities. How often and when did these cuts occur? What caused these fiber cuts? What steps, if any, did service providers take to minimize such cuts?
11. Were other communications services, such as satellite services, mobile ad-hoc networks, Wi-Fi services, mesh-based communications architectures, experimental projects, or other services/technologies used and effective in providing connectivity? In what ways did these technologies compensate for the damage to wireline facilities, particularly those used for wireless backhaul, during the response? Should the FCC encourage the inclusion of such services—including power utilities—in future mitigation plans?

Regarding 911 communications:

12. How were 911 call centers, also known as Public Safety Answering Points (PSAPs), affected by Hurricane Michael?
13. Were PSAPs able to receive 911 calls, and did redundancy and diversity in the circuits to the PSAPs contribute significantly to 911 reliability?
14. Were PSAPs able to handle the call volume before, during, and after landfall?

Regarding the provision of emergency alerts over the Emergency Alert System (EAS) or through Wireless Emergency Alerts (WEA):

15. To what extent did alert originators find the use of the EAS and WEA to be effective? What other alerting methods were used? If you chose not to use the EAS or WEA, why not?
16. For service providers, were there any issues with the transmission of the EAS or WEA messages?

Regarding the Wireless Resiliency Cooperative Framework (Framework), we are particularly interested in how the first two prongs of the Framework (regarding roaming and mutual aid) were (or were not) implemented and both the timeliness and effectiveness of the service providers' implementation:

17. To what extent was the Framework and each of its elements (i.e., requesting roaming, providing mutual aid to service providers, enhancing municipal preparedness, increasing consumer readiness, and publishing DIRS aggregated data) effective or not, in the affected areas?²⁰
18. What are examples of positive impacts and/or deficiencies in wireless service providers' use of the Framework, and, if so, what should be improved?

Regarding broadcasters:

19. What was the impact of Hurricane Michael on television and radio broadcasters?
20. Did broadcasters face any unique challenges?
21. What was unique about this impact compared to previous hurricanes?
22. To what extent did broadcast-specific best practices exist prior to this hurricane, and what were they? Were they implemented? If so, did they prove effective?

B. Questions Regarding Prospective Improvements to FCC Response

¹⁹ See, e.g., Sarah Krouse, *Fiber Damage Vexes Verizon After Hurricane Michael* (Oct. 14, 2018), WALL STREET JOURNAL, <https://www.wsj.com/articles/fiber-damage-vexes-verizon-after-hurricane-michael-1539541926>.

²⁰ See Letter from CTIA, AT&T Services, Inc., Sprint, US Cellular, T-Mobile USA, and Verizon to Marlene H. Dortch, Secretary, Federal Communications FCC (April 27, 2016), <https://ecfsapi.fcc.gov/file/60001707365.pdf>. This Framework was adopted by the FCC. See *Improving the Resiliency of Mobile Wireless Communications Networks*, et al., Order, 31 FCC Rcd 13745 (2016).

The FCC, together with its partners at FEMA, responded to Hurricane Michael with the information and the tools it had at its disposal. We are particularly interested in comments that can shed light on how these capabilities and processes can be improved in the future given our experience with Hurricane Michael.

23. Are there tools or practices that the FCC should consider to improve its response and post-disaster restoration efforts?
24. The Commission kept DIRS active for 16 days. What DIRS information proved most useful to first responders? Are there extraneous or unnecessary data points contained in DIRS that detract from its overall usefulness?
25. What improvement could be made to DIRS to minimize burdens on participating service providers, improve the quality of information, and otherwise streamline the process?
26. What specific improvements could be made to DIRS to make it more useful for users like FEMA? For example, what additional information, including licensee information, could improve response and coordination efforts?
27. The FCC also created a webpage dedicated to Hurricane Michael, to include public notices, Commission orders, news releases, statements, and presentations.²¹ From that website, the public could download daily communication status reports giving an overview of the communications situation in affected areas.²² Were those reports useful, and how might they be improved?

The Commission recently issued a report and recommendations on the 2017 Atlantic Hurricane season.²³ Beyond the recommendations in that Report, are there other actions the FCC should consider to improve its response to hurricanes and disasters, and if so, what would those be?

C. Questions Regarding Communications Service User Experience

28. How did service providers make consumers aware of the specific causes of the apparent prolonged communications outages following Hurricane Michael?
29. How do service providers determine what effect these outages had on consumers directly?
30. Were consumers able to effectively reach 911 services during and after Hurricane Michael? If not, please provide specific information, such as the date and time of any communications (or attempted communications), the service provider's name, and any follow-up efforts made, whether by consumers or the provider.
31. Over a quarter of Floridians speak a language other than English in their homes.²⁴ Were emergency communications services available in languages other than English?
32. Were emergency communications available and in formats accessible to people with disabilities and others with specific communications needs?
33. Did providers deliver WEA and/or EAS alerts and if so, when and where? Did consumers receive WEA and/or EAS messages in connection with Hurricane Michael and, if so, were they helpful?
34. Did consumers notify their service providers about outages? If so, how were those concerns addressed?
35. Did service providers respond to questions or complaints about communications outages quickly and appropriately?
36. What measures could either service providers or the Commission consider to improve the

²¹ See <https://www.fcc.gov/michael>.

²² See <https://www.fcc.gov/michael>, "Communications Status Reports."

²³ See Report, 2017 Atlantic Hurricane Season Impact on Communications Report and Recommendations (PSHSB Aug. 2018), <https://docs.fcc.gov/public/attachments/DOC-353805A1.pdf>.

²⁴ See *More than 27% of Floridians speak other languages*, TAMPA BAY TIMES (Aug. 6, 2013), <https://www.tbo.com/news/florida/more-than-27-of-floridians-speak-other-languages-20130806/>.

capability of service providers to ensure that consumers have adequate information and accessibility to communications during and after a disaster?

Procedural Matters

Interested parties may file comments on or before the dates indicated on the first page of this document. Comments may be filed using the FCC's Electronic Comment Filing System (ECFS). All filers should include their full name, U.S. Postal Service mailing address, and the applicable docket number: PS Docket No. 18-339. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <https://www.fcc.gov/ecfs/filings>.

Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the FCC's Secretary, Office of the Secretary, Federal Communications Commission FCC.

- All hand-delivered or messenger-delivered paper filings for the FCC's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (tty).

Parties wishing to file materials with a claim of confidentiality should follow the procedures set forth in section 0.459 of the FCC's rules. Casual claims of confidentiality are not accepted. Confidential submissions may not be filed via ECFS but rather should be filed with the Secretary's Office following the procedures set forth in 47 C.F.R. § 0.459. Redacted versions of confidential submissions may be filed via ECFS. Parties are advised that the FCC looks with disfavor on claims of confidentiality for entire documents. When a claim of confidentiality is made, a public, redacted version of the document should also be filed.

This Notice initiates a new proceeding which will follow the "permit-but-disclose" rules contained in the FCC's *ex parte* rules.²⁵ By requiring as such, the public interest is served by ensuring transparency regarding the persons commenting in this proceeding. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the

²⁵ 47 CFR §§ 1.1200 *et seq.*

proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to FCC staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the FCC has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the FCC's *ex parte* rules.

For further information regarding this proceeding, Jeffery Goldthorp, Public Safety and Homeland Security Bureau, at (202) 418-1096, jeffery.goldthorp@fcc.gov.

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