PUBLIC NOTICE

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PUBLIC SAFETY AND HOMELAND SECURITY BUREAU SEEKS COMMENT ON IMPROVING WIRELESS NETWORK RESILIENCY THROUGH ENCOURAGING COORDINATION WITH POWER COMPANIES
PS Docket No. 11-60

Comment Date: February 2, 2019
Reply Date: February 17, 2019

This Public Notice is the second in a series that solicits input on the efficacy of the Wireless Resiliency Cooperative Framework (Framework).[1] Announced in April 2016,[2] the Framework is a voluntary wireless industry commitment intended to promote resilient communications and situational awareness during disasters. The Federal Communications Commission (Commission) has taken several steps to re-examine the Framework for purposes of restoring communications during and following disasters.[3] This Public Notice continues the Commission's line of inquiry into the Framework's effectiveness and builds upon the record we have received following the 2017 and 2018 Atlantic hurricane seasons.[4]

The Bureau now seeks information to help identify actions the Bureau, communications providers and power companies can cooperatively take to encourage and increase coordination in the power and communications sectors, before, during, and after an emergency or disaster.[5] In addition to stakeholders in the communications and power sectors, we are interested in hearing from industry and governments at

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[1] *See Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency to Promote Coordination through Backhaul Providers*, PS Docket No. 11-60, Public Notice, DA 18-1238 (PSHSB Dec. 10, 2018) (Backhaul Public Notice); *see also* FCC Launches Re-Examination of Wireless Resiliency Framework in Light of Recent Hurricanes, News Release (rel. Nov. 6, 2018).

[2] Letter from Joan Marsh, AT&T; Charles McKee, Sprint; Grant Spellmeyer, U.S. Cellular; Scott Bergmann, CTIA; Steve Sharkey, T-Mobile; and William H. Johnson, Verizon, to Marlene Dortch, Secretary, Federal Communications Commission, PS Docket Nos. 11-60, 13-239 (filed Apr. 27, 2016) (Framework Letter). In December 2016, the Commission adopted an Order supporting the Framework. *See Improving the Resiliency of Mobile Wireless Communications Networks, Including Broadband Technologies*, Order, 31 FCC Rcd 13745 (2016).

[3] *See* Backhaul Public Notice at 1 (describing prior Commission measures in connection with re-examining the Framework).

[4] *See Public Safety and Homeland Security Bureau Seeks Comment on Response Efforts Undertaken During 2017 Hurricane Season*, PS Docket No. 17-344, Public Notice, 32 FCC Rcd 10245 (2017) (Hurricane Public Notice).

[5] We will also refer to comments touching on these issues in response to other recent Public Notices. *See* Backhaul Public Notice; *Public Safety and Homeland Security Bureau Seeks Comment on Hurricane Michael Preparation and Response*, PS Docket No. 18-399, Public Notice, DA 18-1176 (PSHSB Nov. 16, 2018). The questions in this Public Notice are intended to obtain more detailed information about the coordination between the power and communications sectors and the impact of that on public safety and consumers during outages and service restoration.

all levels, as well as from consumers, including people with disabilities and those who may be disproportionately affected by communications outages, and any other interested stakeholders. We also ask commenters to relate their experiences regarding the extent to which communications systems (including wireline, wireless, satellite, broadcast, and cable networks) were impacted by the loss of power leading up to, during, and following disasters. The Bureau seeks to use this information to better inform our understanding, as well as help inform potential recommendations to the Commission on proposals that could promote a more resilient infrastructure in the face of a major storm or other disastrous event, as well as expedite restoration efforts.

A. Best Practices

Are there existing best practices on disaster coordination, preparation, and restoration between communications providers and power companies?[6] If so, what are these best practices, and to what extent and how are these practices routinely implemented? If such best practices exist and are not routinely implemented, why not and what are the significant consequences of not implementing the best practices? Similarly, if such best practices do not exist, why not and what are the consequences of the failure to have such best practices?

B. Preparation and Response Coordination

1. How do power companies and communications providers coordinate either in "blue sky"[7] planning or in the days before a looming disaster, to sustain and restore commercial power to provide continued communications services during commercial power failures? To what extent was this coordination implemented during the 2017 and 2018 hurricane seasons? What are the positive impacts and deficiencies, respectively, of this coordination?
2. What industry or intergovernmental forums, either formal or informal, exist to promote coordination and joint planning between communications providers and power companies? Have the power companies and communications providers leveraged these forums in the past and, if so, to what extent and to what effect?
3. Do the sectors coordinate in the placement of assets prior to the arrival of a storm? If so, to what extent did such coordination take place during the 2017 and 2018 hurricane seasons? If the sectors do not coordinate in this regard, why not and what were the major consequences of not doing so?
4. What particular lessons learned from prior events would be mutually beneficial to both power companies and communications providers in preparation for and in response to future events? In what ways could power companies and communications providers cooperate better before, during, and after a disaster to help improve the ability of communications services to sustain operations during a commercial power outage?
5. Information the Commission received from its Disaster Information Reporting System (DIRS)[8] reveals that downed fiber collocated to electric poles played a major role in disabling wireless communications during recent storms. News sources told the same

[6] We note that the CTIA Best Practices for wireless carriers are not focused on coordinating with power companies or utilities during disasters. *See* CTIA, Best Practices for Enhancing Emergency and Disaster Preparedness and Restoration, https://api.ctia.org/docs/default-source/default-document-library/best-practices-for-enhancing-emergency-and-disaster-preparedness-and-restoration.pdf (last visited Dec. 12, 2018) (CTIA Best Practices).

[7] A "blue sky" day is a regular day state before an event happens.

[8] *See* FCC, Disaster Information Reporting System (DIRS), https://www.fcc.gov/general/disaster-informationreporting-system-dirs-0.

story, including fiber cuts during restoration.[9] What was the impact of downed fiber and cut fiber on recent disaster recovery efforts? What was the cause of downed fiber and cut fiber? What steps did power companies take to ensure that their recovery efforts would not impede the recovery of communications service and would not cut or down fiber? Did pole mounted electrical wires used by power companies suffer in the same manner? What steps did communications providers take to ensure that their recovery efforts would not impede the recovery of power and would not cut or down power lines?

6. To what extent and by what processes do communications providers and power companies coordinate in siting transmission lines to avoid or harden deployments, like utility poles, that are prone to suffering wind damage in a disaster? How were these mechanisms used before and/or during recent storms? What are additional short and long-term methods that communications providers and power companies could use to facilitate coordination?

C. Prioritization of Restoration and Information Sharing

1. What particular challenges during the 2017 and 2018 hurricane seasons impacted the efficient and timely prioritization of service restoration for either power or communications services?
2. How can power companies and communications providers better coordinate efforts to prioritize efficient restoration of communications services?
3. What specific types of information available from power companies before and during disasters would help communications providers prepare for and continue operations during a commercial power outage? What format is this information currently available in? What format would be most helpful to communications providers?
4. What restrictions exist that might inhibit power companies from sharing this information? Are there alternative ways to get this information? If so, how?
5. What specific types of information should communications providers share with power companies before, during, and after disasters that could help power companies better prepare communications carriers for power outages during and after disasters? For example, would information similar to that reported by communications providers in DIRS be useful to power companies in their restoration efforts?[10]

D. Prospective Improvements for Coordination

1. To what extent would a voluntary cooperative framework, such as the Wireless Resiliency Cooperative Framework, be helpful in promoting coordination and information sharing between wireless providers and power companies before, during and after disasters? Are there existing partnerships or formal protocols or standards for electric utilities, for example, that could be expanded to include enhanced coordination and information sharing between power companies and communications providers?

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[9] *See, e.g.,* Sarah Krouse, *Fiber Damage Vexes Verizon After Hurricane Michael*, Wall St. J. (Oct. 14, 2018), https://www.wsj.com/articles/fiber-damage-vexes-verizon-after-hurricane-michael-1539541926. Commenters also noted storm-related damage to above ground communications cable and fiber cuts during restoration. *See* Verizon Comments, PS Docket No. 18-399, at 11 (Dec. 17, 2018); T-Mobile USA, Inc. Comments, PS Docket No. 18-399, at 3 (Dec. 17, 2018).

[10] Communications providers use DIRS to report communications infrastructure status, network status information, and situational awareness information to the Commission during times of crisis.

2. What specific gaps in coordination remain between power companies and communications providers, and to what extent could these gaps be addressed by a cooperative framework?

3. What other solutions are in place or could be established—other than or in addition to a cooperative framework—to promote a clear understanding of coordinated responsibilities between communications providers and power companies during disasters and other events where sustained power outages might affect the provision of communications service?

E. Government Coordination and Commission Efforts

The FCC, through its federal advisory committees, the Communications Security, Reliability and Interoperability Council and the former Network Reliability and Interoperability Council, has worked on cross-sector collaboration with the National Association of Regulatory Utility Commissioners,[11] the Utilities Telcom Council[12] and the North American Electric Reliability Council.[13] During disasters, the primary vehicle for Communications-Electric Sector coordination is the National Disaster Response Framework[14] administered through its Emergency Support Function (ESF) Annexes. The Bureau supports the FCC as a supporting agency to ESF#2 (Communications) and the Department of Energy is the coordinator and primary agency for ESF#12 (Energy). The FCC is also a member of the Department of Homeland Security's (DHS's) Critical Infrastructure Partnership Advisory Council which includes government and private sector coordinating councils for all 16 critical infrastructure sectors, including communications and electricity. These groups work at the sector level and collectively to address areas of high risk, often with a particular focus on cross-sector dependencies and issues.

Both the communications and electricity sectors also have active Information Sharing and Analysis Centers (ISACs) that coordinate information sharing before and during incidents within their private sector memberships and with other ISACs when such coordination is necessary. The ISACs operate outside direct government direction, although the communications ISAC is co-located and closely

[11] The National Association of Regulatory Utility Commissioners is the national association that represents state public service commissioners who regulate essential utility services, including energy, telecommunications, and water. *See* National Association of Regulatory Utility Commissioners, https://www.naruc.org/ (last visited Dec. 12, 2018).

[12] The Utility Telcom Council is a global association focused on the intersection of telecommunications and utility infrastructure. It represents the hands-on staff in the field and control rooms responding to storms, deploying new technologies, and securing energy and water infrastructure from various threats. *See* Utility Telcom Council, https://utc.org/ (last visited Dec. 12, 2018).

[13] The North American Electric Reliability Council is a not-for-profit international regulatory authority whose mission is to assure the effective and efficient reduction of risks to the reliability and security of the power grid. It develops and enforces Reliability Standards; annually assesses seasonal and long□term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. *See* North American Electric Reliability Council, https://www.nerc.com (last visited Dec. 12, 2018).

[14] The National Disaster Response Framework is a guide to how the Nation responds to all types of disasters and emergencies. It describes specific authorities and best practices for managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters. The National Response Framework describes the principles, roles and responsibilities, and coordinating structures for delivering the core capabilities required to respond to an incident and further describes how response efforts integrate with those of the other mission areas. *See* Federal Emergency Management Agency, National Disaster Response Framework, https://www.fema.gov/media-library/assets/documents/24647 (last visited Dec. 12, 2018).

coordinates with the DHS's National Coordinating Center for Communications (NCC)[15]—which is also the coordinating agency for ESF#2.

1. What existing federal administrative bodies or working groups, industry organizations, or intergovernmental processes would be appropriate vehicles to coordinate efforts in the power industry to support communications networks and systems resiliency during commercial power outages? Specifically, how would such processes help improve cross-sector coordination?
2. What mechanisms could promote cooperation between the communications industry and the power industry to promote sustained communications services and more efficient service restoration in disaster areas impacted by power outages?
3. What steps are other agencies, such as DHS and the Federal Emergency Management Agency, either independently or in partnership with each other or the FCC, taking to facilitate and improve the availability of power during disasters?
4. In the 2017 Hurricanes Report, the Bureau made recommendations on cross-sector cooperative arrangements with the power industry in conjunction with wireless service and backhaul providers.[16] Are there other actions for improving the communications sector's access to power, including back-up power during hurricanes and other disasters, and if so, what would those be?
5. Should the FCC coordinate with additional federal and state agencies to strengthen the ability of communications networks and systems to survive commercial power failures?
6. What actions would ensure emergency communications providers, particularly Public Safety Answering Points (PSAPs), have access to reliable power during events such as Hurricane Michael? How, if at all, are the power supply needs for PSAP's communications services different than those of commercial and residential customers?

F. Back-Up Power Best Practices

1. What industry and interagency entities or processes exist to promote the availability of commercial or back-up power to communications network elements during disasters?
2. What best practices exist for fueling and maintaining back-up generators in disaster situations? Which best practices have providers leveraged and to what extent were they effective during the 2017 and 2018 hurricane season?
3. What best practices exist to promoting more resilient commercial power for critical communications sites (e.g., redundancy, underground utilities, etc.)? Which practices have providers leveraged and to what extent were they effective during the 2017 and 2018 hurricane season?

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

[15] The NCC continuously monitors national and international incidents and events that may impact emergency communications. In cases of emergency, NCC Watch leads emergency communications response and recovery efforts under Emergency Support Function #2 of the National Response Framework. *See* Department of Homeland Security, National Cybersecurity and Communications Integration Center, National Coordinating Center for Communications, https://www.dhs.gov/cisa/national-coordinating-center-communications (last visited Dec. 12, 2018).

[16] 2017 Atlantic Hurricane Season Impact on Communications Report and Recommendations, PS Docket No. 17-344 at 29-30 (PSHSB 2018), https://docs.fcc.gov/public/attachments/DOC-353805A1.pdf.

filers should include their full name, U.S. Postal Service mailing address, and the applicable docket number: PS Docket No. 11-60. *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.

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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 Public Notice initiates a new proceeding, which will follow the "permit-but-disclose" rules contained in the FCC's *ex parte* rules.[17] 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 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

[17] 47 C.F.R. §§ 1.1200 *et seq.*

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, contact Suzon Cameron, Senior Attorney, Public Safety and Homeland Security Bureau, at (202) 418-1916, Suzon.Cameron@FCC.gov

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