

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

In the Matter of)	
)	
Public Safety and Homeland Security Bureau)	PS Docket No. 11-60
Seeks Comment on Improving Wireless Network)	
Resiliency Through Encouraging Coordination)	
with Power Companies)	
)	

**REPLY COMMENTS OF THE EDISON ELECTRIC INSTITUTE, THE GRIDWISE ALLIANCE,
THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION AND THE UTILITIES
TECHNOLOGY COUNCIL**

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SUMMARY

- Given the local nature of disaster events like hurricanes, before disaster events, the Federal Communications Commission (“FCC” or Commission”) should give priority focus to engaging regularly with state and local authorities and other stakeholders to inform its policies and to improve service restoration and cross-sector coordination. The FCC should also conduct regular engagement with other Federal stakeholders on these issues as well to inform its policies.
- During a disaster, the FCC should engage early with state and local authorities, including embedding FCC staff at state emergency operation centers (“EOCs”). The FCC should also encourage the communications industry to engage earlier in local emergency planning processes and focus on coordination with state, local and electric companies at the EOCs where priorities for restoration activities are coordinated.
- The record supports the FCC considering how to improve information flow between communications and power sectors.
- Given comments pointing to the Broadband Deployment Advisory Committee (“BDAC”) as a forum for recommendations for FCC policy, advocate for more electric industry seats on this committee.

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The Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association, and the Utilities Technology Council (collectively the “Electric Trade Associations”) respectfully submit these reply comments in response to the Public Notice issued by the Federal Communications Commission’s (“FCC” or “Commission”) Public Safety and Homeland Security Bureau (“Bureau”), which requests comments on improving wireless network resiliency through encouraging coordination with power companies, in the above referenced proceeding.¹ The Electric Trade Associations submit these reply comments to respond to certain comments filed in this proceeding and further emphasize their recommendations on how the Commission, communications providers and electric companies can cooperatively encourage and increase coordination in the communications and electric sectors before, during and after an emergency or disaster.

¹ See Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency through Encouraging Coordination with Power Companies, PS Docket No. 11-60, (Jan. 3, 2019) (“Public Notice”). See also Comments of the Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association and the Utilities Technology Council in PS Docket No. 11-60 (filed Feb. 8, 2018).

I. Discussion

A. Communications providers should continue hardening their infrastructure and designing networks to avoid single points of failure.

The Electric Trade Associations continue to urge the Commission to consider that infrastructure hardening and redundancy (where appropriate) are key to improving resiliency during and after a natural disaster.² American Electric Power Service Corporation (“AEP”) and Southern Company Services Inc. (“Southern”) note that both companies rely on their own networks for purposes of internal communications during disaster recovery and that those networks use back-up power and redundant backhaul to avoid outages created by the loss of commercial power and damaged fiber.³ Similarly, as part of an effort to modernize the energy grid, the electric power industry also is engaged in the deployment of advanced grid technologies and data analytics that enable the detection of outages, faults, and other system disturbances. For example, FirstEnergy reports in recent years having “invested billions of dollars for infrastructure improvements to improve resiliency and reliability of their electric systems.”⁴ Furthermore, FirstEnergy describes how commensurate upgrades and improvements in engineering and construction standards were also developed and implemented in large part to reduce customer interruption of service.⁵

All communications network designs need to account for the risks of the specific region. For example, an area subject to hurricanes and/or coastal flooding like the Panhandle of Florida

² See Comments of the Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association and the Utilities Technology Council at 11 (explaining the best way to avoid delays in restoration activities is to harden facilities by elevating sites and designing them to exceed standards for code compliance).

³ See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 2-6 in PS Docket No. 11-60 (filed Feb. 8, 2018).

⁴ See Comment of FirstEnergy Electric Utilities, at 3 in PS Docket No. 11-60 (filed Feb. 8, 2018).

⁵ *Id.*

should have different network design considerations than an area that is subject to ice storms or an area that experiences wildfires. Such differing risks should be considered in the respective communications provider's network hardening plans. Some examples of infrastructure hardening would be for communications providers to engage in strengthening their towers and their poles to withstand powerful winds, such as the 155 mph force winds experienced during Hurricane Michael.⁶ In addition, implementing extended back-up power at wireless towers, wireline communication network centers, and 911 call centers would help communications providers maintain communications when commercial power may be unavailable.⁷

It is also important for communications providers to design their networks to avoid single points of failure. AEP and Southern explain that the networks owned by these companies do not depend on a single transmission path for operability of the entire network.⁸ Instead these networks rely on redundant paths so that, for example, a single fiber cut cannot disable the entire network. Therefore, in areas where communications providers cannot avoid single points of failure, which was reportedly the case with the fiber running through the Panhandle of Florida, they need to pre-position temporary microwave systems for deployment if substantial damage is experienced. While cooperation and collaboration are important, cooperation itself will not sustain communications services during a commercial power outage.⁹ By designing and implementing redundancy and back-up transport alternatives into their systems, carriers can improve the resiliency of their networks.

⁶ See Comments of the Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association and the Utilities Technology Council at 13.

⁷ *Id.*

⁸ See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 3.

⁹ *Id.*

B. The Commission should promote best practices to address communications network back-up power deficiencies.

Electric company systems are built with back-up generation at critical sites so that a power outage at a single site or delayed restoration of electric service to that site does not disrupt the operability of the network. For example, AEP and Southern highlight that their systems are built with back-up generation at critical sites.¹⁰ FirstEnergy suggests that where applicable, back-up generation should be located at critical facilities with periodic performance testing.¹¹ Although communications providers should consider maintaining back-up power at critical sites, unfortunately they have resisted in the past.¹² Moreover, it cannot be overlooked that “many wireless carriers do not have generators even at sites that the carrier itself identified as critical to its network operations.”¹³ Thus, the Commission should review and consider recommendations from the BDAC Disaster Recovery Working Group, which encourages the best practice of maintaining enough back-up power to ensure continuity of critical communications, but also the Commission should consider encouraging prompt development of voluntary, industry-wide best practices aimed at improving communications network reliability and ensuring adequate back-up power is in place.

II. The Commission’s policies discourage hardening of communications networks via practices such as undergrounding in favor of pole attachments.

The Commission’s current pole attachment policy has favored inexpensive, rapid deployment of communications facilities over the reliability and safety of infrastructure.¹⁴ AEP

¹⁰ See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 3.

¹¹ See Comments of FirstEnergy Electric Utilities at 1.

¹² See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 3-5.

¹³ *Id.*

¹⁴ See Third Report and Order Declaratory Ruling, FCC 18-11, *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment* (WC Docket No. 17-84).

and Southern are correct that the Commission's goals are fundamentally at odds with system hardening efforts. The Commission cannot ignore the relationship between its policies to reduce the cost and time to process and make pole attachments or the observation that a fiber company "hardly ever opts for underground deployment where aerial deployment is an option" even though underground deployment means that the fiber is not only protected from the storm itself, but more protected from right-of-way disturbances during restoration efforts.¹⁵

The Commission's pole attachment policy also interferes with electric companies' ability to ensure the safety, reliability and resiliency of pole infrastructure. The record reflects the Commission's new rules on overloading are particularly problematic because electric companies are not allowed to require the attaching communications company to even submit specifications of the materials to be overloaded. Moreover, the resiliency of pole plant infrastructure will suffer under the Commission's current pole attachment rules that do not require analysis of existing pole loading and the impact of adding new attachments or require the correction of existing attachment violations.¹⁶ Finally, the resiliency of wireless networks cannot improve if pole owners are not allowed to require attaching communications providers to meet the same standards that pole owners impose upon themselves.

A. The Commission should focus on regular engagement with state and local authorities and other stakeholders.

Given the regional nature of storm events and subsequent restoration efforts and because electric distribution infrastructure is subject to state jurisdiction, the Electric Associations suggested to the Commission that the improvement of service restoration requires that infrastructure resiliency

¹⁵ See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 15.

¹⁶ See Comments of FirstEnergy Electric Utilities at 5.

and coordination response efforts also be focused at the state and local level. The record supports that the Commission can perform a valuable role in facilitating communication among industry stakeholders and regulators.¹⁷ Engagement at the Federal level is broadly valuable with respect to issues of national concern, however, given the regional nature of storm events and subsequent restoration efforts and because electric distribution infrastructure is subject to state jurisdiction, the improvement of service restoration requires that infrastructure resiliency and coordination response efforts also be focused at the state and local level. The Commission should support the states through coordination but do so in a manner that considers the unique nature of each state's natural disasters, as well as the existing protocols, procedures, and infrastructure in place to prepare for and respond to these disasters.¹⁸

Given the interdependencies of critical infrastructure, there is also support on the record for the Commission establishing ongoing, regular, and substantive meetings with the Federal Energy Regulatory Commission and the U.S. Department of Energy, as well as other federal agencies that are responsible for developing energy and water policies.¹⁹ However, the record also reflects that the Broadband Deployment Advisory Committee's ("BDAC") Disaster Recovery Working Group that is charged with, among other things, developing best practices for coordination among wireless providers, backhaul providers, and electric companies during and after a disaster, is an "important venue for developing the types of principles and best practices that can supplement the existing framework and practices to improve coordination between the communications sector and electric

¹⁷ See Comments of AT&T at 6-7 in PS Docket No. 11-60 (filed Feb. 8, 2018).

¹⁸ See Comments of the California Public Service Commission at 6 in PS Docket No. 11-60 (filed Feb. 8, 2018).

¹⁹ See Comments of the Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association and the Utilities Technology Council at 4. See also Comments of AT&T at 6-7.

companies.”²⁰ Verizon states that working through the BDAC will address the Commission’s concerns and “looks forward “ to participating in this group and applying its experience in the 2017 and 2018 hurricanes to improve and enhance how service providers use best practices to protect their networks from and timely restoration of service after major disaster events.²¹ Similarly, CTIA states that it is “looking forward” to addressing any recommendations to enhance coordination between communications providers and electric companies resulting from the BDAC’s work.²² CTIA notes that both CTIA and Verizon are members of the BDAC and that the “broader membership includes additional representatives from the wires industry, including representatives from AT&T and Sprint.”²³ However, electric companies do not have adequate representation in the BDAC, and the Commission should provide electric companies with greater representation in that group.²⁴ Expanding the membership of this group to include a balance of electric companies (investor-owned, rural electric cooperatives, and public power) operating in different regions of the nation would help this group make recommendations that will improve wireless network resiliency and continuity of service including improving coordination between the communications providers and electric companies.

²⁰ See Comments of the Communications Sector Coordinating Council at 7 in PS Docket No. 11-60 (filed Feb. 8, 2018).

²¹ See Comments of Verizon at 8 in PS Docket No. 11-60 (filed Feb. 8, 2018).

²² See Comments of CTIA at 3. See also Comments of NCTA – The Rural Broadband Association at 1-2 in PS Docket No. 11-60 (filed Feb. 8, 2018).

²³ See Comments of CTIA at 10. Note that the Communications Sector Coordinating Council also states that the BDAC includes “a number of CSCC members.” See Comments of the Communications Sector Coordinating Council at 7.

²⁴ Currently, there are only two electric industry representatives included in this group.

B. The Commission should encourage the communications providers to engage early with state and local authorities and critical infrastructure stakeholders.

The Commission should encourage greater involvement by communications providers with state and local officials at the state and local Emergency Management Agency (“EMA”) Emergency Operations Centers (“EOC”). While electronic and automated systems can help streamline restoration, representation at the EOC by all stakeholders from relevant industry sectors is crucial, as it will improve collaboration, address exceptions, and help maintain confidence and consistency in the recovery process.²⁵ It is important that all types of communications providers be in the EOC. The EOC mechanism is designed to provide government, public safety officials, and providers of public services – including electric companies and communications providers – with the information and coordination needed for recovery and restoration.

The value of coordination at the state and local level EOCs also is confirmed in the record. For example, AT&T notes that its coordination with electric companies occurs primarily through its emergency management process at the local level and through state and/or local EOCs.²⁶ The Competitive Carriers Association argues that coordination among carriers, third-party entities, and other governmental agencies to facilitate information sharing should occur at the state and local level.²⁷ NCTA states that given coordination, such as the sharing of work schedules, requires a high level of coordination among companies and enough flexibility to reflect local needs, coordination across executive teams at the state and local level should be encouraged.²⁸ The Alliance for Telecommunications Industry Solutions states that “there are existing state and local activities ...

²⁵ See Comments of the Edison Electric Institute, the GridWise Alliance, the National Rural Electric Cooperative Association and the Utilities Technology Council at 4.

²⁶ See Comments of AT&T at 4-5.

²⁷ See Comments of the Competitive Carriers Association at 6 in PS Docket No. 11-60 (filed Feb. 8, 2018).

²⁸ See Comments of NCTA – The Internet & Television Association at 3.

that provide for collaboration between power companies and local authorities with regard to clearing and restoration efforts” and similarly “recommends that this communication include the communications sector.”²⁹

Finally, the Commission can improve its situational awareness during a disaster event by having FCC representatives participate in the relevant EOCs to listen in real-time to inter-industry activities and to gather status directly at the source.³⁰

C. The Commission should promote information exchange to facilitate increased coordination between communications providers and electric companies.

The Commission should encourage communications among carriers, third-party entities, and other governmental agencies to facilitate information sharing. Transparency and coordination will promote more efficient action in the wake of disasters and emergencies.³¹ Both AEP and Southern report that these companies post information and updates to their respective websites that identify where there are outages and when electric service is expected to be restored in those area. There are no restrictions on sharing this information, which should enable communications providers to make informed decisions regarding the need for fueling back-up generation and other actions until commercial power is restored.³² This is typical in the electric industry, and yet many communications providers seem reluctant to share information with each other that would be critical to making informed prioritization decisions.³³

²⁹ See Comments of the Alliance for Telecommunications Industry Solutions at 4 in PS Docket No. 11-60 (filed Feb. 8, 2018).

³⁰ See Comments of AT&T at 6-7.

³¹ See comments of the Competitive Carriers Association at 6.

³² See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 11.

³³ See Comments of American Electric Power Service Corporation and Southern Company Services Inc. at 10-11.

The Commission also should encourage communications providers to plan for communicating with electric companies about major fiber routes and critical telecommunications paths during future disaster recovery efforts, including coordinating location services during emergencies. Telecommunications service providers are best positioned to take on the responsibility to proactively inform electric companies where their critical fiber is located. On that point, “tagging” fiber lines would help electric companies quickly identify which attachments on the poles belong to which communications service providers. The Commission therefore should require communications providers to tag their fiber lines to promote expedited hurricane response and service restoration. Another solution is for communications service providers to provide locators to electric company crews to facilitate locating underground facilities prior to excavation.

III. Conclusion

The Electric Trade Associations respectfully request that the Commission consider these reply comments to improve infrastructure security and resiliency and to promote safe, effective hurricane response and service restoration.

Respectfully submitted,

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