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

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

COMMENTS OF THE EDISON ELECTRIC INSTITUTE AND THE UTILITIES TECHNOLOGY COUNCIL

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SUMMARY

On October 10, 2018, Hurricane Michael made landfall as a 155-mph Category 4 storm. The tragic loss of life and the enormous economic costs that resulted bear witness to the magnitude of this hurricane. It caused 2.6 million power outages overall across Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia,[1] and there were 400,000 customers without power in the state of Florida alone.[2] Unlike Hurricane Florence and Hurricane Harvey that were characterized by historic flooding from heavy rain, Hurricane Michael not only resulted in a tremendous storm surge that was concentrated in the Florida Panhandle area but also wind gusts that in some locations exceeded 130 mph.[3] It was the strongest hurricane to hit the continental United States since Hurricane Andrew in 1992.[4]

Since 1992, electric companies have been able to integrate new practices into restoration efforts to speed restoration for customers. First and foremost, preparation and pre-positioning of equipment has significantly improved emergency response and service restoration over the years.

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[1] *See* "Factbox: Over 940,000 U.S. customers without power after Michael," Reuters (Oct. 12, 2018), available at *https://www.reuters.com/article/us-storm-michael-outages-factbox/factbox-over-940000-us-customers-without-power-after-michael-idUSKCN1MM2HV*.

[2] *See* "400,000 without power in Florida after Hurricane Michael," Tampa Bay Times (Oct. 11, 2018), available at https://www.tampabay.com/florida-politics/buzz/2018/10/11/400000-still-without-power-in-florida/.

[3] *See* "Hurricane Michael: What you need to know," USA Today (Oct. 13, 2018), available at https://www.usatoday.com/in-depth/news/2018/10/10/michael-graphics/1590739002/. An observing site near Tyndall Air Force Base, east of Panama City, measured a wind gust to 129 mph early on the afternoon of Oct. 10, and a gust to 107 mph was reported 1 mile south of Panama City. See "Hurricane Michael Recap: Historic Category 4 Florida Panhandle Landfall; Swath of Wind Damage and Flooding Into the Carolinas, Mid-Atlantic," Weather.com (Oct. 13, 2018) available at https://weather.com/storms/hurricane/news/2018-10-11-hurricane-michael-recap-gulf-coast-southeast.

[4] *See* "Michael is the strongest hurricane to hit the continental US since Andrew," CNN Wire (Oct. 11, 2018), available at https://wtkr.com/2018/10/11/michael-is-the-strongest-hurricane-to-hit-the-continental-us-since-andrew/.

Second, system standards, design and maintenance can pay substantial dividends in terms of resiliency. Finally, coordination and communication between electric companies and communications providers can help to improve the speed of recovery, for both electricity and communications customers, from catastrophic events like Hurricane Michael.

The Commission should support long-term forward-thinking strategies for improving communications service restoration, infrastructure resiliency and coordination of response efforts that address communications operations. First, given the interdependencies of critical infrastructure, the FCC should establish ongoing, regular and substantive meetings with the Federal Energy Regulatory Commission and the U.S. Department of Energy. Given that distribution infrastructure is subject to state jurisdiction, the FCC should also engage with state regulatory agencies as well. These meetings could greatly help to inform the Commission's policies and provide a forum for considering ways to improve service restoration and cross-sector coordination in the aftermath of emergencies like Hurricane Michael. Second, the FCC should promote greater information sharing with electric companies. Specifically, the FCC should provide electric companies with access to information that is reported by communications service providers to the Disaster Information Reporting System ("DIRS") and information about communication providers' fiber assets.

Electric companies should also have greater representation in the Wireless Resiliency Cooperative Framework and the Broadband Deployment Advisory Committee, Disaster Recovery Working Group. Finally, EEI and UTC support open, balanced, flexible and cooperative approaches to promoting the development of long-term strategies to improve communications restoration and resiliency. The FCC should adopt this approach to develop productive solutions that will help consumers.

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COMMENTS OF
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I. Introduction

The Edison Electric Institute ("EEI") and the Utilities Technology Council ("UTC") respectfully jointly submit these comments in response to the Public Notice issued by the Federal Communications Commission ("FCC" or "Commission") Public Safety and Homeland Security Bureau seeking comment on Hurricane Michael preparation and response, in the above referenced proceeding.[5] EEI and UTC submit these comments to better inform the Commission's understanding and awareness of electric industry readiness, preparation, and response with respect to Hurricane Michael. The issues the Commission is likely to examine regarding the reliability, resiliency and continuity of communications networks are of key importance to the electric industry, which also faces unique challenges after Hurricane Michael and other emergency situations. Moreover, modernization of the electric grid is a national priority, as is broadband as well, as advanced infrastructure will play an important role in achieving this country's goals of energy reliability, security and resiliency. In turn, telecommunications providers, like virtually all modern society, rely upon electricity to power their innovative technologies.

[5] *See* Public Safety and Homeland Security Bureau Seeks Comment on Hurricane Michael Preparation and Response, PS Docket No. 18-339, (Nov. 16, 2018) ("Public Notice").

EEI is the trade association that represents all U.S. investor-owned electric companies. Collectively, EEI's members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly and indirectly employ more than seven million people in communities across the United States. EEI's members invest more than $100 billion each year to build a smarter energy infrastructure and to transition to even cleaner generation resources. Electric companies are among the nation's largest users of communications services and operate some of the largest private communications networks, therefore EEI has filed comments with the Commission in various proceedings affecting the interests of its members.

UTC is the international trade association for the telecommunications and information technology interests of electric, gas and water utilities and other critical infrastructure industries. UTC's members include large investor-owned electric companies who serve millions of customers across multi-state service territories, as well as smaller rural electric cooperative and public power utilities, which may serve only a few thousand customers in isolated communities or remote areas. UTC's members own, manage and control extensive infrastructure that they use to support the safe, reliable and secure delivery of essential services to the public at large.

II. Interdependency of electric and telecommunications sectors

EEI's and UTC's members rely on many other critical sectors, like rail and pipelines to deliver fuel. However, the United States' communications networks and its electric grids are integrally linked. Electric companies depend upon their own communications networks and services to carry out their core mission of safely and reliably delivering electric service to their consumers. Reliable communications systems support a multitude of vital electric company responsibilities, including maintenance, remote control and monitoring, dispatch of field crews in service territories and communication with customer meters. Electric companies further depend on communications systems for various internal uses that include mapping for remote locations and

pinpointing outages or other problems, transmitting schematics, blueprints and other data to field crews, and maintaining video surveillance to prevent copper theft and to provide overall security throughout the grid. Further, these networks are vital for internal communications between offices to improve operational efficiency and to quickly and effectively respond to weather events.

Given the need to maintain reliable and secure communications, generally electric companies design, build and operate their own private internal communications networks. These networks include wireless and wireline networks. They are engineered and operated to meet high standards of reliability, including extended back-up power and diverse routing. These private internal networks remained operational during and after many significant hurricanes and other emergencies. For example, in the aftermath of Hurricane Katrina, the Southern Linc network (that is owned by Southern Company) was one of the few communications networks in the affected areas that continued to operate.[6] Although electric companies use commercial communications services to meet some of their communications needs, they rely on their own private internal communications networks to ensure the safe, reliable and secure delivery of essential electric, gas and water services.

To meet the electric industry's requirements for reliability, security and resiliency, communications systems must provide electric companies sufficient coverage and capacity under any condition in both rural and urban areas—particularly after severe weather events when other forms of communications are often disrupted. In addition, electric company communications

[6] *See* Hurricane Katrina: A Nation Still Unprepared, S. Rept. 109-322 109th Cong. 2d Sess. at 289, available at https://www.congress.gov/109/crpt/srpt322/CRPT-109srpt322.pdf (reporting how Mississippi Power "recognized the importance of communications to an effective response, particularly the ability to communicate with thousands of additional workers brought in from outside the region to help with restoration and repairs," adding that the communications system was "designed with considerable redundancy and proved reliable despite suffering catastrophic damage").

systems must comply with rigorous mandatory and enforceable reliability standards adopted by the Federal Energy Regulatory Commission ("FERC") and the North American Electric Reliability Corporation ("NERC"). Compliance with these standards requires electric companies to employ reliable, secure communications systems that are hardened, provide diverse routing, and possess the capacity to handle large amounts of traffic over wide areas with an extremely low level of latency.

During disasters, such as Hurricane Michael, electric companies rely on communications networks for communication with and among service crews in the field to support their efforts to maintain or quickly restore electric service. In addition to essential voice communication between operational staff and line workers in the field, electric companies use the communication infrastructure to provide critical situational awareness data. Such data enables electric companies to determine the status of substations, transmission/distribution protective devices and line sectionalizing devices. This data is critical in enabling an electric company to determine the scope and magnitude of the damage after a major event, which enables the electric company to more efficiently evaluate the damage assessment and skill sets of the mutual assistance crews being brought to bear for the restoration effort. In these type of events, electric companies work closely with public safety entities, telecom carriers and first responders. Under these circumstances, communications networks should operate at the highest levels of reliability, consistent with networks that support first responder communications.

It should be noted that as part of a massive effort to modernize the electric grid, this nation's electric companies, with billions of dollars of federal assistance, have made significant investments in the deployment of Smart Grid technology. This technology relies upon communications systems and networks to help expedite real-time system monitoring and controls. One of the benefits of this investment is a grid that enables electric companies to be far more responsive in times of

emergency. Smart Grid technology enables electric companies to more efficiently and effectively locate, troubleshoot, isolate and repair outages by providing electric companies with information in real-time and the ability to automatically isolate fault locations. Smart Grid technology aids in the restoration efforts by providing electric companies with tools and information that facilitates storm response and restoration by improving situational awareness and damage assessments.

Finally, it is important to note that virtually all electric companies use communications services and devices to interact with their customers. For example, electric companies have successfully used automated telephone dialing systems to disseminate non-marketing information to their customers (e.g., outage and account information). Electric companies also use internet websites to inform and interact with their customers regarding services and events. More recently, electric companies have offered their customers smart phone "apps" to do things like report outages and down wires, monitor electric company restoration efforts, pay bills and check account information. Electric companies also increasingly rely upon social media (e.g., Facebook and Twitter) to manage their communications with customers. Furthermore, electric companies rely upon communications services to coordinate industry activities during large scale disasters.

III. Mutual assistance by electric companies during emergencies

The electric industry is unique in many ways. The electric grid is an interdependent machine, composed of thousands of different operators. As a result, the electric companies have found common cause to work together to operate the system reliably, and to defend it and to facilitate restoration when power is disrupted. This is true of the largest investor-owned electric companies and includes all segments of the electric industry down to the smallest rural electric cooperatives. The electric industry is particularly proud of its mutual assistance program, in which electric companies voluntarily send staff and equipment to help others recover from emergencies. EEI and UTC believe this is unique in American industry.

Actual coordination of the release and assignment of electric company resources were made on a daily basis and often several times a day among the voluntary electric company mutual assistance groups across the U.S.[7] EEI has prepared a brief document, "Understanding the Electric Power Industry's Response and Restoration Process," to answer frequent questions about the mutual assistance process.[8] In addition, many agreements and protocols, including an EEI–sponsored agreement addressing basic payment, safety, liability and similar issues during emergency response activities, are in place to facilitate this voluntary mutual assistance effort. As with any effort of this magnitude, the electric industry looks to find lessons to perform better the next time.

IV. Hurricane Michael electric company restoration efforts

To better inform the Commission of stakeholders' readiness, preparation and response with respect to Hurricane Michael, the FCC's Public Safety and Homeland Security Bureau (the "Bureau") requested comment on whether and how service providers implemented best practices that address communications operations in high-risk areas like the hurricane-prone Gulf Coast. Although primarily focused on the practices of the "[n]ationwide services providers," the Bureau invited comment to understand to what extent these best practices involve cross-industry and/or government participation, and whether such participation was available and effective?[9]

Less than a week after Hurricane Michael devastated the Southeast, electricity had been restored to more than 2.6 million—or approximately 95 percent of—customers impacted by the

[7] Public power utilities and electric cooperatives have independent but complimentary mutual aid programs to support their members. The electric sector also coordinates at a strategic level through the Electricity Subsector Coordinating Council.

[8] *See* "Understanding the Electric Power Industry's Response and Restoration Process," available at https://www.eei.org/issuesandpolicy/electricreliability/mutualassistance/Documents/MA_101FINAL.pdf.

[9] *See* Public Notice at 3.

fast-moving and devastating storm.[10] In just days, investor-owned electric companies, public power utilities, and electric cooperatives mobilized an army of more than 35,000 workers from 27 states and Canada to restore power safely and as quickly as possible. This workforce included company personnel, contractors and mutual assistance workers. Much of this workforce and their equipment was pre-positioned prior to Hurricane Michael making landfall.

The Florida Panhandle communities were hardest hit from the hurricane and crews from electric companies worked around the clock to concentrate their efforts in those communities to rebuild (not just repair) electric company networks.[11] In the most severely damaged communities, workers faced challenging conditions and limited access to areas. It is very important to understand that entire sections of the energy grid needed to be rebuilt in some of these communities and many of the customers without power were not be able to be reconnected due to the severe damage to their homes and businesses even after electric service was restored to the grid. It is also important to note that electric companies worked closely with state and local officials in these communities to coordinate their efforts according to emergency response plans that they developed together.

The electric industry applied lessons learned from Superstorm Sandy and Hurricanes Matthew, Harvey, and Irma to streamline the response and accelerate restoration efforts for Hurricanes Florence and Michael. For example, electric companies coordinated mutual assistance resources more efficiently using the National Response Event framework and RAMP-UP tool and

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[10] *See* "Power Restored to 95% of Customers After Hurricane Michael," T&D World (October 17, 2018), available at https://www.tdworld.com/electric-utility-operations/power-restored-95-customers-after-hurricane-michael.

[11] There were reportedly 15,000 electric company personnel in Florida before Hurricane Michael made landfall. For example, electric company crews were stationed in Tallahassee before the storm hit. *See* "Power companies sending repair crews before Hurricane Michael hits Tallahassee," Tallahassee Democrat (Oct. 9, 2018), available at https://www.tallahassee.com/story/news/2018/10/09/power-companies-sending-repair-crews-before-michael-hits-tallahassee/1566235002/.

helped to expedite the movement of crews and heavy equipment.[12] In addition, the Electricity Subsector Coordinating Council ("ESCC") engaged with the highest levels of government to ensure unity of effort and unity of message.[13] Government partners gave feedback that the daily industry-government coordination calls were extremely helpful in providing them with the latest information on electric companies' response efforts in the field. The electric industry also collaborated across sectors with the oil and natural gas and telecommunications industries. Electric companies' investments to harden the energy grid and to make infrastructure more resilient also paid off, as fewer customers lost power compared to previous incidents.[14]

Likewise, many customers benefited from innovations such as smart grid technologies and the use of drones for damage assessment, which provided situational awareness and enabled a more efficient response. The electric industry continues to advocate for policies that expand electric companies' opportunities to operate drones, and companies were able to secure FAA waivers to fly drones during the response to Hurricane Michael.

Effective, consistent communications were also vital to keeping customers informed. Electric companies in Hurricane Michael's path used text messages and robocalls to communicate

[12] The National Response Framework was established by EEI member companies to provide national level coordination of mutual assistance resources for the more severe incidents. These processes and procedures also help strength industry response in less severe incidents as does the Resource Allocation Management Program ("RAMP-UP") for Utility Personnel an online tool developed by EEI and its members to support mutual assistance resource allocation.

[13] The ESCC serves as the principal liaison between leadership in the federal government and in the electric power sector, with the mission of coordinating efforts to prepare for national-level incidents or threats to critical infrastructure. The ESCC facilitates and supports policy- and public affairs-related activities and initiatives designed to enhance the reliability and resilience of the electric grid. These activities include all hazards, steady-state preparation, and emergency preparedness, response, and recovery for the nation's electricity sector.

[14] *See* "Tracking the pace of power restoration in Florida after Hurricane Michael" Tallahassee Democrat (Nov. 7, 2018), available at https://data.tallahassee.com/michael-power-outages/.

with millions of customers. They also used emails, social media, and advertisements across both traditional and digital media outlets to emphasize storm safety and preparedness tips and to provide information on how they would respond to the storm.

V. Suggestions for improvements to communications restoration after Hurricane Michael

In the Public Notice, the Bureau asked for comment on service provider preparation and response, including specific adherence to and effectiveness of best practices, causes of delays in certain counties (e.g., Bay and Gulf counties) where restoration was slow, and the extent to which equipment was pre-positioned and the degree to which recovery was delayed due to the failure to pre-position equipment.[15] Regarding the restoration of service, the Bureau invited comment on the most effective means of restoring communications and the length of time it took to restore communications. In that regard, the Bureau also invited comment on fiber cuts, including reports by communications providers that fiber links that had been restored were subsequently disabled by repair efforts from other entities, including power utilities. Moreover, the Bureau invited comment on the use of wireless technologies to compensate for damage to wireline facilities, particularly whether the FCC should encourage the use of such services – including electric companies – in future mitigation plans. Finally, the Bureau invited comment on the Wireless Resiliency

[15] According to the Commission's Hurricane Michael reports, on Friday, Oct. 12, there were about 12 percent of the cell sites that were down in 110 counties across three states—Florida, Alabama and Georgia. Bay County, Fla., where the storm made landfall, was among the hardest hit with 73 percent of cell sites out. On Monday, Oct. 15, the Commission reported that as of Sunday there were nearly 300,000 households that were still without home internet, phone or TV service in Florida, Georgia and Alabama, and about 15 percent of cell sites in 21 Florida counties were still without wireless service. *See* "Fiber outages slow cell recovery after Hurricane Michael," CNET (Oct. 16, 2018), available at https://www.cnet.com/news/fiber-outages-slow-cell-recovery-after-hurricane-michael/. *See also* "Hurricane Michael Victims Greatest Fear: People Starting to Forget", New York Times (Oct. 21, 2018), available at https://www.cnet.com/news/best-holiday-gifts-for-under-100/.

Cooperative Framework, particularly whether it was effective and examples of where it provided positive impacts or deficiencies.

Based upon the experience of electric companies during emergency response after Hurricane Michael, there are several measures the Commission should consider. First, communications providers should consider hardening their infrastructure. Electric companies in Florida have had gone through an extensive infrastructure hardening program for the electrical grid;[16] and communications service providers would likely see similar positive results by hardening their networks. Some examples of infrastructure hardening would be strengthening towers and poles to withstand powerful winds, such as the 155 mph force winds during Hurricane Michael. In addition, implementing extended back up power at wireless towers and wireline communication network centers and 911 call centers would also help communications providers to maintain communications when commercial power is unavailable.

Second, communications providers should design their networks to avoid single points of failure like the electric industry.[17] In areas where communications providers cannot avoid single points of failure, which was reportedly the case with the fiber running through the Panhandle area of Florida, they need to pre-position temporary microwave systems for deployment if a substantial fiber cut is experienced.

[16] The Florida Public Service Commission issued a report reviewing how electric companies performed during Hurricanes Irma and Matthew concluding that storm-hardening the electric grid work to reduce power outages. *See* "Storm-hardening works to reduce power outages, but other improvements needed State regulatory says," South Florida SunSentinel (July 31, 2018), available at https://www.sun-sentinel.com/business/fl-bz-psc-storm-review-report-20180731-story.html.

[17] Electric company networks are characterized by diverse routing and redundant systems that avoid single points of failure.

Third, post-storm restoration communications for electric companies and communications providers may be best accomplished using push-to-talk voice and cellular data. A comprehensive restoration communications plan needs to be in place for this and this should be an objective of FirstNet. In addition, the Commission should formally clarify that FirstNet has a fundamental obligation to ensure interoperability for all applications between the FirstNet network and other wireless networks. [18]

Regarding the causes for delays in certain counties where restoration was slow, electric companies that were in those counties working to restore services reported the storm damage was related to damage caused by wind or flooding from storm surge. The way to avoid such delays from happening is to harden facilities by elevating sites and to design them to exceed standards for code compliance. Electric companies reported that tree and debris removal was a significant factor that led to fiber damage because the fiber that was intertwined in the debris was fragile and became over extended or bent. To address this issue in the future, 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 could have different network design consideration than an area that is subject to ice storms or an area that experiences fires. All these risks should be considered in the respective communications provider's hardening plan.

To address pre-positioning of equipment, the communications industry should consider establishing a pool of common recovery assets that are shared across communications providers. This pool of assets would include portable towers, generators, fuel tanks, microwave backhaul

[18] *See* Middle Class Tax Relief and Job Creation Act of 2012 § 6203(c)(3)(A), Pub. L. No. 112-96, 126 Stat. 156 (2012) (providing for the establishment of a Technical Advisory Board for First Responder Interoperability to develop recommended minimum technical requirements to ensure a nationwide level of interoperability for the nationwide public safety broadband network).

equipment, and other types of communications equipment that are commonly used by communications providers during recovery and restoration in the aftermath of disasters. As described above, electric companies have already successfully implemented sharing arrangements of workforces for mutual aid and restoration equipment during storm recovery. A similar approach could be adopted by the communications industry to create a pool of common recovery assets that would be shared across communications providers to help restore service during hurricane response and recovery.

In response to the Bureau's questions about service restoration and fiber cuts, electric companies reported that they were able to use cellular, microwave and satellite communications to provide connectivity for business continuity on an individual basis, dependent upon access to nearby facilities and bandwidth requirements. This is standard practice for electric companies that are highly trained and experienced in hurricane response and recovery. Communications providers should also pre-position back-up communications systems to mitigate against the potential impact of fiber cuts that are likely to occur during hurricanes and emergency response.

EEI and UTC are aware that during Hurricane Michael, a small number of fiber cuts were performed during debris removal, but given the different entities, organizations and people involved in this effort, it is not clear which entity performed the cuts. Moreover, fiber cuts rarely happen during emergency power restoration, and some regions of the Panhandle did not have any complaints about fiber cuts during Hurricane Michael or during any of the previous recent hurricanes including Irma. However, the severity of the storm in the Florida panhandle was much worse than those that previously hit the U.S. This is evident from 7000 poles being replaced by Gulf Power compared with 2000 poles replaced by Georgia Power which was in a much larger

storm path. The large number of poles and greater amount of debris associated with that damage led to a greater exposure to fiber cuts.

It is important to underscore that these fiber cuts were unavoidable to perform timely restoration of electric service and were very limited in number. It is also important to emphasize that electric companies did take actions during Hurricane Michael restoration to share information about facilities with field crews, including posting notices on poles and working with communications provider to patrol key fiber routes. With this information all parties worked with additional caution while working to restore all infrastructure. This helped to reduce the quantity of fiber cuts that were being experienced. Finally, EEI and UTC emphasize that as a matter of standard operating procedure, electric companies do not touch let alone cut third party communications lines on poles or on the ground.[19]

It is important to note that even though the number of fiber cuts were few, the lack of alternative communications (i.e., back-up systems) in the area made the practical impact of these fiber cuts worse than it would have been otherwise. Another likely contributing factor to fiber cuts could be construction practices by fiber companies. For example, underground fiber placed near poles (in some cases even touching poles) makes damage to fiber when the pole is replaced more likely. A further contributing factor is when cables are left lying on the ground for extended periods of time, where anyone or anything could deliberately or inadvertently cut it and probably assume that the fiber was already broken or inoperable.

Electric companies managed to avoid these issues to a large extent because they were embedded in and in constant contact with state and local officials before, during and after Hurricane

[19] State and local officials may do so if the lines pose a threat to public safety, such as blocking traffic.

Michael. Accordingly, greater involvement by communications providers with state and local officials would help to protect against fiber cuts in the future. There also needs to be a plan to communicate major fiber routes and critical telecommunications paths during future hurricane 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, electric companies have previously suggested to the Commission that tagging fiber lines would be helpful for electric companies to identify which attachments on the poles belonged to which communications providers; and EEI and UTC reiterate this request to urge communications providers to tag their fiber lines as a policy that would promote expedited hurricane response and service restoration. Another solution is for telecommunications service companies to provide locators to electric company crews to facilitate locating underground facilities prior to excavation. Finally, network designs need to account for the fact that some damage and loss of service while clearing debris may be unavoidable. Back-up communications, diverse routing and other methods could have helped mitigate the impact of fiber cuts during Hurricane Michael.

With regards to the Bureau's questions about Wireless Emergency Alerts ("WEA") and the Wireless Resiliency Cooperative Framework ("Framework"), electric companies reported that WEA was useful for obtaining information about road blocks and unpassable roadways and that the Framework could be adapted to promote transparent sharing of information between electric companies and communications providers to help position resources for improved restoration. In the same way, electric companies also should have access to information that communications providers report to DIRS, so electric companies can understand where communications services are available. Allowing electric companies transparent access to DIRS information and the Framework will give insight to first responder requirements and likely provide a better restoration focus. This

will benefit all entities because there are many dependencies between electric companies and communications providers. As noted earlier in these comments, restoration of communications services requires power and electric companies require communications for comprehensive grid control. In addition, broadcast services need wireless communications and fiber. Better information sharing through WEA, the Framework and DIRS will benefit everyone and help to restore services faster.

VI. The Commission should take a strategic and coordinated approach to improving restoration and recovery after hurricanes.

In addition to these tactics, the Commission should also consider a comprehensive strategic approach to improving restoration and recovery after hurricanes and other emergencies. In this regard, EEI and UTC recommend establishing regular meetings between representatives from the Commission and other federal agencies (e.g., FERC, U.S. Department of Energy, and U.S. Department of Homeland Security, etc.) to educate each other about policies that affect electricity, water, gas and communications, as well as emergency response. This will help to break down silos that may be impairing the ability of electric companies, communications providers and first responders to work together before, during and after hurricanes like Michael. Moreover, this may create synergies that will improve emergency response in the future.

This strategic approach should be forward looking, flexible and cooperative, and should facilitate a two-way dialog. Industry should work cooperatively with government. Likewise, the Commission should work with other federal and state agencies equally to complement their policy objectives. The purpose of this dialog would be education and information sharing and to remove barriers that may either discourage or prevent the accomplishment of important national policy objectives related to communications, energy, water and homeland security. EEI and UTC believe that it would be appropriate and achievable for the Commission to enter a Memorandum of

Understanding ("MOU") with other federal agencies to formally establish ongoing meetings with each other and to engage with industry stakeholders during these meetings. These types of MOUs are commonplace among energy sector agencies. Moreover, this cross-sector intergovernmental effort would improve coordination and efficiency in both policy and in practical activities, such as hurricane response.

VII. Conclusion

EEI and UTC respectfully request that the Commission consider these comments to improve infrastructure security and resiliency and to promote safe, effective hurricane response and service restoration.

Respectfully submitted,
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