Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Resilient Networks	)	PS Docket No. 21-346
	)	
Amendments to Part 4 of the	)	PS Docket No. 15-80
Commission's Rules Concerning	)	
Disruptions to Communications	)	
	)	
New Part 4 of the Commission's Rules	)	PS Docket No. 04-35
Concerning Disruptions to	)	
Communications	)	

COMMENTS OF AT&T

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I. INTRODUCTION AND SUMMARY

Climate change-fueled natural disasters are increasing in their frequency and severity. For its part, through its Connected Climate Initiative, AT&T[1] set an industry-leading target to help businesses collectively reduce a gigaton of greenhouse gas emissions—1 billion metric tons—by 2035, an effort that will contribute to a better, more sustainable world. AT&T will work with businesses including Microsoft, Equinix, and Duke Energy, along with research universities, and a range of other organizations to deliver broadband-enabled climate solutions on a global scale. This collaboration builds on AT&T's standing commitment to aggressively reduce its own emissions, while facilitating the transition to a net-zero economy.[2]

While this initiative, and others like it, will reduce greenhouse gas emissions and, concomitantly, the risk of extreme weather events, those reductions will not occur overnight. And, even with these efforts, the country will continue to experience devastating storms, like Hurricane Ida and the recent tornadoes that cut through parts of Kentucky, Illinois, Arkansas, Tennessee, Missouri, and Mississippi. AT&T recognizes that millions of consumers rely on AT&T for vital connectivity, and therefore it must provide a reliable network that will continue to function regardless of energy disruptions. But power outages are not the only risks we face. Our network includes more than 1.3 million route miles of fiber globally and carries about 335 petabytes of data traffic on an average business day. Any disruption to our fiber routes or other network infrastructure, including cell sites, because of extreme weather events such as hurricanes in the Southeast, fires in the West or other natural disasters wherever they strike may affect

[1] As used herein, "AT&T" refers collectively to the wireline and wireless operating affiliates of AT&T Services, Inc.

[2] For additional details, *see* https://about.att.com/story/2021/gigaton_global_emissions_2035.html.

network reliability. AT&T has adopted a multi-pronged approach to mitigate or prevent future service disruptions due to the effects of such natural disasters.

To begin with, AT&T continually invests in and enhances its network to drive service improvements for the customers and devices connected to our network. Over the past 5 years (2016–2020), AT&T invested more than $110 billion in our wireless and wireline networks—more than any other public company invested in the U.S. during this same period. We design our network to be resilient so that we are prepared to provide essential communications and data connectivity for our customers and communities, before and after disasters strike.

We conduct regular analyses to help ensure our cell sites can withstand natural disasters and other environmental factors.[3] Based on analyses by professional engineers, upgrades or modifications are completed to maintain safe, reliable tower capacity and to meet or exceed all applicable building codes. We also deploy high-capacity battery backup or permanent generators at our cell sites, enabling them to remain in service in the event of a power loss. To prepare our network for natural disasters, we regularly test the batteries located at every site and take steps to ensure any fixed generators are fueled on a regular basis.

Our Climate Change Analysis Tool (CCAT) also helps us visualize climate change risk to our infrastructure and make smarter, climate-informed decisions. We continue to expand CCAT and, upon completion, it will include projections for flooding, hurricanes, droughts and wildfires throughout the entire contiguous U.S. Instead of relying only on 10-day weather forecasts and historical events, we can now model climate-related phenomena like projected sea-level rise and its potential impact on cables, cell sites or data centers in flood-prone areas—up to 30 years into

[3] AT&T's network team builds all cell sites—including those in disaster-prone areas—to meet or exceed state structural standards and adhere to the ANSI/TIA-2222-G standard for communications tower design.

the future. For example, CCAT can show the maximum projected coastal or inland flooding to within 200 meters. This not only enables us to make smarter decisions about where to build but allows us to implement adaptation methods for new equipment in the event we must build where there will be future flooding.

Through FirstNet, public safety agencies have access to a nationwide, dedicated fleet of 100+ land-based and airborne portable cell sites, including 3 Flying COWs™—which are cell sites on drones—and the FirstNet One aerostat "blimp." During 2020 alone, the FirstNet Response Operations Program responded to more than 750 deployable requests for planned and emergency events and more than 600 requests in the first ten months of 2021.

Additionally, AT&T has invested more than $650 million in our Network Disaster Recovery (NDR) program. Its sole purpose is to rapidly restore communications to areas affected by disasters. We are committed to on-the-ground testing and have conducted nearly 80 full-scale NDR recovery exercises in the field, which test the preparedness of our equipment and abilities. These drills help local and regional first responders understand the role and abilities of our NDR organization, and they maintain the readiness of our teams and equipment to respond on a moment's notice to recover a failed network office or network element when disasters strike. AT&T is continually enhancing its NDR program, including the drills it runs, based on lessons learned from previous drills and new information from real world disasters.

With sustained winds of 150 mph, it was inevitable that Hurricane Ida would stress and/or disrupt power and all communications networks operating in the affected areas, including AT&T's. But AT&T's substantial pre-landfall planning and post-landfall restoration efforts made a difference and enabled AT&T to restore most service in just over one day. In the days leading up to landfall, AT&T's crews pre-positioned equipment to be ready for quick and

effective responses to Hurricane Ida's impacts. The pre-positioned equipment included: mobile cell sites like Cell on Wheels (COWs) and Cell on Light Trucks (COLTs); mobile command centers; emergency communications vehicles (ECVs); Flying COWs; high water vehicles; amphibious all-terrain vehicles; drones; a blimp to provide additional connectivity; hazmat equipment and supplies; and technology and support semi-trailers to provide infrastructure support and mobile ventilation and air conditioning. AT&T also established a self-sufficient base camp for AT&T recovery personnel coming in from other states to help. This base included sleeping quarters, bathrooms, kitchen and laundry facilities, an on-site nurse, and meals. As many in this storm experienced, when the power went out, gas stations had no power for the pumps or ran out of fuel. To account for this, AT&T brought fuel into the affected area and set up a network of refueling depots. This was a massive undertaking, using more than 500,000 gallons of fuel for our fleet of repair and response vehicles and to ensure continued generator operation during the prolonged commercial power outages after Hurricane Ida.

AT&T is proud of its dedicated employees, thousands of whom live in the areas ravaged by Hurricane Ida and who nonetheless worked around the clock to restore service to our customers. We are also proud of the robust nationwide network we have built and reinforced over the past several years. Still, after each disaster, AT&T reviews what worked well and areas to enhance and Hurricane Ida was no exception. For example, AT&T recently announced plans to spend tens of millions of dollars to further harden its network in Louisiana against the impact of hurricanes and tropical storms by burying fiber-optic infrastructure previously deployed on poles across some of the areas hardest hit by Hurricane Ida. AT&T has fast-tracked this project

for completion in the first half of 2022, with a majority of the work targeted for completion this year.[4]

Based on our recent experience, we suggest several roaming under disaster-related enhancements that should be made to the industry's Wireless Network Resiliency Cooperative Framework (Framework), which we discuss below. These enhancements include adding two Service Level Objectives (SLOs): performing a network health assessment within 4 hours post-disaster and activating roaming within 3 hours after completion of the health check. Where feasible, Framework participants should share specific information before and during natural disasters or events to expedite and facilitate roaming in the affected areas, and, outside of specific disasters, engage in annual mock exercises and establish compatible tools to allow for the quick and secure exchange of confidential information. Additionally, to enhance the Commission's situational awareness of roaming under disasters, AT&T also suggests that, after major disasters, Framework participants voluntarily report to the Commission on a confidential basis whether the provider roamed under disaster, with which carriers, for what period of time, and, if relevant, how long it took the carrier to perform its network health assessment and activate roaming.

AT&T thanks the Commission for initiating its post-Hurricane Ida Notice of Proposed Rulemaking on network resiliency.[5] It is important for the Commission and other stakeholders to discuss what can be done to strengthen communications networks during emergencies because

[4] *See* https://about.att.com/story/2021/louisiana_network_hurricane_ida.html.

[5] *Resilient Networks, Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, 04-35, Notice of Proposed Rulemaking, FCC 21-99 (rel. Oct. 1, 2021) (*NPRM*).

ferocious storms like Hurricane Ida are projected to occur more frequently due to climate change. In addition to the Framework suggestions noted above, AT&T also supports the Commission's proposal to amend its Part 4 rules to waive Network Outage Reporting System (NORS) reporting for Disaster Information Reporting System (DIRS) participants in the counties where DIRS has been activated for the duration of the DIRS activation. Doing so may incent more providers to participate in DIRS. To address the Commission's concern about possible gaps in knowledge about some DIRS participants that have not fully recovered when the Commission deactivates DIRS, such DIRS participants could simply continue filing updates in DIRS until their networks have recovered.

For reasons we detail below, there are other Commission proposals that are unnecessary—*e.g.*, mandating Framework participation, requiring broadband-only NORS filings—and still others that, if adopted, would be counterproductive and possibly harmful. Such proposals include compelling wireless carriers to roam under disasters "automatically," without regard to the results of a carrier's network health assessment, and to pre-position equipment. It is essential that a wireless carrier retain the flexibility to determine, at any given time, whether its network can support roaming and whether and where it should pre-position equipment in advance of a storm (as well as what type of equipment). Finally, we explain why ubiquitous backup power deployment is not achievable due to circumstances outside the control of any carrier and why further backup power requirements are thus unnecessary.

II. DISCUSSION

A. The Flexibility Inherent in the Current Framework Is an Attribute That Has Served the Industry and Consumers Well.

The Commission requests comment on a variety of measures to address perceived shortcomings in the Framework.[6] As we discuss below, many of these measures are unnecessary because Framework participants apply the Framework's provisions in a flexible manner, including by extending its benefits and assistance to non-signatories, as an example. AT&T is an original signatory of the Framework, under which participants agree to: implement reasonable roaming under disasters arrangements when technically feasible; foster mutual aid during emergencies; enhance municipal preparedness and restoration; increase consumer readiness and preparation; and improve public awareness and stakeholder communications on service and restoration status.[7] T-Mobile and Verizon also are signatories, as are U.S. Cellular, GCI, Southern Linc, and CTIA.

Put simply, the Framework established the structure by which providers in one of the most competitive industries in the country agree to share resources so that their competitors' customers may maintain communications after a disaster.[8] Since signing the Framework in 2016, AT&T often has engaged in roaming under disasters. The Commission seems to suggest a

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[6] *NPRM* at ¶ 13.

[7] *See* Letter from AT&T, CTIA, Sprint, T-Mobile, U.S. Cellular, and Verizon to Marlene Dortch, FCC, PS Docket Nos. 13-239, 11-60, at 1-2 (filed on April 27, 2016) (Framework Letter).

[8] As we explain later, mandatory roaming under disaster may even hinder access to emergency services under certain circumstances. However, to be clear, roaming agreement or not, AT&T Mobility supports "emergency sessions," in which it routes any 911 call that reaches AT&T's network, regardless of the 911 caller's carrier. Indeed, in the week following Ida's landfall, AT&T routed thousands of 911 calls from subscribers of other providers in the DIRS-covered parishes and counties irrespective of whether there were any roaming agreements in place. Additionally, most handsets are able to receive Wireless Emergency Alerts from another carrier's network when the customer's home network is not available.

deficiency in the Framework because after one disaster, Hurricane Michael, "*some* wireless providers did not take advantage of the types of disaster-related roaming agreements envisioned in the Framework."[9] If a Framework signatory elects not to request post-disaster roaming, that does not mean the Framework itself failed. Instead, it only means the carrier assessed of the health of its network and determined that it did not require roaming. AT&T *did* roam after Hurricane Michael and we opened up our network for other carriers, but we cannot and should not second-guess a competitor's decision not to roam. And that certainly should not be a basis to mandate automatic roaming after disasters.[10]

Existing triggers to Framework activation pose no impediment to roaming under disasters. The Framework's roaming and mutual aid provisions are triggered when the National Response Coordination Center activates Emergency Support Function # 2 (ESF-2) and when the Commission activates its DIRS.[11] The Commission seeks comment on whether it should require Framework participants to use different triggers.[12] AT&T does not believe any modification to the current Framework triggers is necessary because, based on AT&T's experience, they have not imposed any impediment to roaming under disasters or other mutual aid. As a "framework," the signatories understand that this structure provides them with the flexibility to invoke its provisions when needed, regardless of whether the triggers have been tripped. Just last weekend, AT&T and two other Framework signatories participated in roaming under disaster in areas in Kentucky that were decimated by tornadoes. This roaming occurred shortly after the event and

[9] *NPRM* at ¶ 18 (further citations omitted and emphasis in original).

[10] *Id.* (seeking comment on conditions under which "roaming should be available automatically").

[11] Framework Letter at 2-3.

[12] *NPRM* at ¶ 15.

days before the Commission activated DIRS. There are many such events. For example, while the Commission notes that the California wildfires did not trigger the Framework because FEMA did not activate ESF-2,[13] AT&T and another nationwide provider nonetheless successfully utilized the Framework's roaming under disaster provisions during those wildfires in 2018, and AT&T did so more recently in 2021 with another signatory. Beyond wildfires, AT&T has allowed other wireless carriers to roam temporarily on its network and vice versa (or mutually) after a tornado, ice storm, derecho, and nor'easter, none of which triggered the Framework's activation. In addition to these weather-related events, AT&T and other signatories also have temporarily roamed after a bomb explosion, a fiber cut, and a power company electrical fire. It is clear from these numerous examples that the Framework has functioned well and the current triggers do not impede roaming under disaster.

Mandatory Framework participation is unnecessary. The Commission also requests comment on whether it should require all wireless carriers to participate in the Framework.[14] This appears to be a solution in search of a problem. AT&T welcomes new Framework signatories, but the current Framework participants have not withheld roaming from non-signatories after disasters simply because the requesting provider has not signed onto the Framework. For example, AT&T Mobility and a non-Framework signatory roamed on each other's networks for months in Puerto Rico following Hurricane Maria. To the best of our knowledge, AT&T Mobility has never denied a roaming request if it had capacity because the requesting wireless carrier was not a signatory to the Framework, and we have no knowledge that other signatories have denied such roaming requests on that basis. Additionally, AT&T is

[13] *Id*.

[14] *Id.* at ¶ 16.

supportive of non-wireless carriers adhering to the non-wireless-specific aspects of the Framework (*e.g.,* enhancing municipal preparedness, improving PSAP awareness, increasing consumer readiness).[15] Consumers and the public safety community can only benefit by having more communications providers disseminate consumer readiness checklists and ensure their PSAP contact information is up-to-date, as examples.[16]

Codifying the Framework will be counterproductive. Codifying the Framework in the Commission's rules[17] is unnecessary and could be counterproductive for several reasons. First, memorializing the Framework's details in the rules could delay updates to reflect key learnings after a particular event. Since the Framework was first established in 2016, its signatories have worked together informally to enhance roaming under disaster. For example, AT&T and another nationwide carrier have worked collaboratively to establish detailed processes and procedures to facilitate and expedite roaming requests after disasters. Memorializing these details in the Code of Federal Regulations could deter participants from continuing to modify and improve such processes out of concern that the Commission would construe their modifications as noncompliance.

Second, and more critically, it is essential that a wireless carrier retains flexibility to determine, at any given time, whether its network can support roaming. As the Commission understands, no two disasters are the same so applying, for example, a one-size-fits-all network

[15] *Id.* (seeking comment on whether the Commission should encourage non-wireless providers to participate voluntarily in the Framework).

[16] *See* Framework Letter at 3.

[17] *NPRM* at ¶ 26.

capacity threshold would be inappropriate.[18] Indeed, for this very reason, AT&T Mobility empowers its employees to make network health assessments and roaming request determinations at the market level since those employees have the best on-the-ground information after disasters. Conditions after a disaster or other major emergency are dynamic, and wireless carriers must retain flexibility to manage access to their networks, if necessary. If roaming severely overloads the network, no traffic may get through, including calls to 911.

If the Commission were to impose some type of "automatic" roaming requirement without allowing a carrier to perform a network health assessment or without regard to the outcome of that assessment, the result could be quite different from what the Commission intended. Compelling a wireless carrier to allow unrestricted access to its network to the customers of other wireless carriers, regardless of the circumstances, may have the effect of denying service—including 911 service—to everyone. In the aftermath of a disaster or other significant emergency, the network of the receiving wireless carrier likely will have been damaged or impaired. At the same time, traffic from the receiving carrier's own customers might cause a strain on its network. This condition would be exacerbated if the receiving carrier is required to accept traffic from other carriers' customers. The effect of such increased traffic or overload on the receiving carrier's network could range from delayed access to a social media website, for example, to blocked calls or, worse, a complete cell site outage.

Far from improving public safety access, "automatic" roaming may have quite the opposite effect. As noted above, when a wireless customer's home network is not available, her handset already searches for a compatible network to place her call to 911. This occurs even

[18] *See id.* at ¶ 18 (seeking comment on what criteria to use to determine whether roaming is technically feasible).

without roaming agreements in place and that other carrier is obliged to carry that 911 call with location information. If a disaster has left only one network operational in a given area and that carrier has not opened its network to roaming, 911 calls from non-operational carriers in the area would be more likely to complete if they are the only calls competing for network resources with traffic from the operational carrier's customers. However, if that sole operational carrier is forced to open its network to all customers of all carriers, those same 911 calls are now competing with *all* network traffic from all non-operational carriers in the area at a time when traffic is likely to be especially high. In this scenario, it is clear that automatically opening impaired networks to roaming reduces the likelihood (perhaps significantly so) that 911 traffic will get through.

Certain roaming-related Framework updates make sense. For similar reasons, AT&T also has significant concerns with proposals that would require it to complete its post-storm network health assessment and roaming activation within a specific period of time.[19] While AT&T may be able to perform a network health assessment and activate roaming within a short period of time after one disaster (*e.g.,* a wildfire in a particular area), it may require substantially more time to perform that work after a different sort of disaster (*e.g.,* Hurricane Ida). Again, no two disasters are the same. That said, AT&T supports updating the Framework to add two SLOs: signatories agree to perform a network health assessment within 4 hours post-disaster and to activate roaming within 3 hours of completing the health assessment.[20] Wireless carriers

[19] *Id*.

[20] We suggest a longer interval to perform the post-disaster network health assessment because in some instances a physical inspection may be necessary, particularly for smaller carriers that lack the resources of larger carriers, and because access to these areas may be restricted by local law enforcement or emergency management officials for safety reasons.

would use commercially reasonable efforts to meet these targets, because, depending on the disaster, carriers may require more or less time to perform these actions. Consequently, Commission enforcement of these SLOs would not be appropriate.

AT&T recognizes that some may have perceived confusion among wireless carriers post-Hurricane Ida about where roaming was available and, among other things, the status of roaming.[21] But, that was not AT&T's experience. AT&T allowed other wireless carriers to roam on its network after Hurricane Ida and, in fact, AT&T engaged in close, pre-disaster coordination with another nationwide carrier that enabled AT&T to activate limited roaming for that other carrier's customers before Hurricane Ida made landfall. This close coordination also expedited mutual roaming more broadly in the hours following Hurricane Ida's landfall.

AT&T supports efforts to build on this work and to incorporate these best practices in the Framework with the caveat that, depending on the nature of the disaster or event, it may be infeasible for the signatories to engage in some of these best practices. Thus, AT&T believes that, *where feasible*: (1) signatories should agree to engage in pre-planning coordination in areas forecasted to be affected, including sharing coverage maps, lists of tracking area codes (TACs) and location area codes (LACs), and forecasted usage projections for those areas; (2) during the disaster/event, signatories should agree to share network monitoring and usage analysis; and (3) after a major disaster/event, signatories should agree to discuss lessons learned. AT&T also believes that, outside of specific disasters, CTIA should convene an annual review of the management of roaming under disaster documentation between signatories, annual mock exercises, monthly exchange of TAC/LAC listings and maps, and an effort to establish

[21] *NPRM* at ¶ 18.

compatible tools (*i.e.,* Microsoft Teams, e-bond, etc.) among signatories to allow for the quick and secure exchange of confidential information and to track timing of requests and responses. AT&T also supports *voluntary* confidential reporting to the Commission after major disasters about roaming activities (*e.g.,* did the carrier roam; with which carriers; for what period of time; and, if relevant, how long did it take the carrier to perform the health assessment and activate roaming).

Framework signatories must retain control over whether and where to pre-position backup equipment. The Commission seeks comment on whether the Framework should be modified to "include provisions regarding the placement of back-up systems, such as Cells on Light Trucks, so that they are ready to deploy for vulnerable infrastructure to improve service restoration time[.]"[22] Adhering to industry best practices related to pre-positioning backup equipment in advance of major weather events, for example, makes sense; however, AT&T strongly opposes the Commission adopting any rule that directs providers, for example, to deploy certain equipment within some number of miles from where a forecasted Category 5 hurricane is expected to make landfall. As noted above, AT&T has spent more than half a billion dollars on its NDR program, purchasing a substantial amount of network response and recovery assets. We recognize that most other carriers are not in a position to amass anything close to the backup fleet that AT&T has and thus believe it would be unrealistic to apply a one-size-fits-all requirement on pre-positioning backup equipment.

More importantly, it is essential that carriers maintain discretion over the type of equipment to pre-position and where to stage it. Decisions related to pre-positioning equipment

[22] *Id.* at ¶ 24.

have to be event-specific. Not only do those decisions depend on the nature of the event, which can change hour-by-hour, the terrain of the affected area (*e.g.*, floodplain, mountains), and, among other things, the population density of the area, carriers also must address practical issues like negotiating with landowners in order to pre-position equipment. With so many variables outside carriers' control, it is simply impossible to craft a rule around pre-positioning backup equipment and it would be a mistake for the Commission to try. To provide staff with some situational awareness, AT&T has voluntarily and confidentially reported on the scope of its backup deployments for certain hurricanes and it is willing to continue doing so.

The Framework's existing mutual aid provisions have functioned well. The Framework commits signatories to share physical assets where feasible.[23] In its *NPRM*, the Commission notes that 38 percent of cell sites in the areas ravaged by Hurricane Ida remained out of service for two days after the storm and questions whether the Framework's mutual aid commitment has been effective.[24] AT&T has engaged in mutual aid, even outside the context of the Framework, which, to date, has been limited to wireless carriers. AT&T has made available resources such as generators and a technology trailer to non-signatories *and* non-wireless carriers. To the best of AT&T's knowledge, it has only denied one request for post-disaster aid, which it received indirectly. After Hurricane Ida, a small wireline broadband provider in Louisiana contacted a wireline trade association to inquire whether any of its members were able to share network personnel—not physical assets—to assist in the company's restoration efforts. AT&T was not in

[23] Framework Letter at 3.

[24] *NPRM* at ¶ 19.

a position to lend this provider its employees because its personnel were working nearly around the clock restoring AT&T's own network.

As vital as it is for carriers to retain control over whether and where to pre-position backup equipment (and what equipment to pre-position), so too is it essential for carriers to retain discretion over whether to grant mutual aid requests. For example, generators require maintenance after a certain amount of run time. It is reasonable for carriers to keep a certain number of spare generators in their inventory to call up when they perform maintenance on their other generators. Depending on the number of spares a carrier has and the projected duration of a commercial power outage, it may determine that it could not lend a spare generator to another carrier. In this situation, it would be incorrect to view the carrier with the spare as unreasonably withholding mutual aid. While AT&T has lent generators to other providers, it is conceivable that it too may encounter a situation in which it would have to decline such a request, especially when commercial power outages are expected to last multiple weeks or even months. The existing mutual aid provision in the Framework has functioned well by considering the feasibility of providing the requested aid and giving signatories the necessary flexibility to evaluate each request on a disaster-by-disaster basis.

B. The Commission's Recently Adopted Information Sharing Rules Will Provide Sufficient Situational Awareness to the Public Safety Community and Additional NORS and DIRS Carrier Requirements Are Unnecessary at This Time.

Earlier this year, the Commission adopted rules to provide federal, state, D.C., U.S. territories, and Tribal agencies with direct, read-only access to the Commission's NORS and

DIRS databases.[25] The Commission anticipates that these rules will go into effect next year, thereby promoting situational awareness during disasters among participating states and other governmental authorities. States have long sought this direct access and AT&T supported the Commission's order, which established numerous safeguards to prevent public disclosure of filers' confidential information. At a minimum, the Commission should defer consideration of several of its NORS and DIRS proposals until after its new information sharing rules go into effect and it has had the opportunity to evaluate the rules' effectiveness and consequences. Notwithstanding this recommendation, we provide our initial thoughts on several of these proposals.

Participation in DIRS is currently voluntary and while AT&T has participated in DIRS for years, the Commission notes that smaller providers often do not and requests comment on whether it should make participation mandatory.[26] AT&T has the resources to participate but before the Commission mandates participation it should be more transparent about the triggers it uses to activate and deactivate DIRS. Without this information, it is difficult to develop an accurate record on the costs and benefits of the Commission's proposal. Additionally, once activated, there is an expectation by the Commission that providers will submit their reports early the following day—generally, by 10 a.m. local time—regardless of how late the Commission activated DIRS on the preceding day. Smaller carriers may not have the resources

[25] *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Report and Order, FCC 21-34 (2021).

[26] *NPRM* at ¶ 27. The Commission notes that carriers participating in its Uniendo a Puerto Rico and Connect USVI funds are required to participate in DIRS. *Id.* at n.49. These carriers are directed to use their funding to storm-harden their networks. If the Commission were to award universal service support to carriers to storm-harden networks elsewhere, as it did in Puerto Rico and the U.S. Virgin Islands, then it would be reasonable to condition that support on DIRS participation.

to meet what could be an aggressively short deadline and, depending on the event, even larger carriers might struggle to meet that deadline.[27] For this reason, if the Commission makes DIRS participation mandatory, it should clarify that any submission deadline it may establish for a particular event must be a "best efforts" deadline and it should not penalize carriers that are unable to meet it.

In the Commission's public notices announcing that it is activating DIRS, it reminds carriers participating in DIRS that it will suspend NORS filing requirements for the duration of the DIRS activation in the affected counties.[28] The Commission requests comment on codifying this practice in its rules to give providers more clarity on their obligations and streamline and formalize existing practices.[29] It also requests comment on addressing a possible gap in the Commission's situational awareness about DIRS participants that have not fully recovered when the Commission deactivates DIRS.[30]

AT&T supports the Commission's proposal to amend its Part 4 rules to waive NORS reporting for DIRS participants in the counties where DIRS has been activated for the duration of the DIRS activation. We agree with the Commission that this modification will provide clarity to service providers and may incent more providers to participate in DIRS. As for the Commission's concern about possible gaps in its knowledge about some DIRS participants that

[27] Earlier this week, the Commission issued a public notice announcing the activation of DIRS in 17 counties in Kentucky affected by last weekend's tornadoes. The Commission released this notice after the close of business hours but the Commission still requested reports by 10 a.m. the next day. *See Public Safety and Homeland Security Bureau Announces the Activation of the Disaster Information Reporting System for Kentucky Tornadoes*, DA 21-1567, Public Notice (rel. Dec. 14, 2021).

[28] *NPRM* at ¶ 31.

[29] *Id*.

[30] *Id.* at ¶ 32 (suggesting that such providers commence NORS reporting).

have not fully recovered when the Commission deactivates DIRS, rather than requiring these carriers to commence NORS reporting, AT&T suggests that the Commission notify those DIRS participants to continue DIRS reporting until their networks have recovered. As a practical matter, the Commission does not close its DIRS portal so a filer could continue supplying updates to the Commission, which would be made available to state and other government officials under the new information sharing rules discussed above. Directing such carriers to begin NORS reporting could be time consuming and confusing. Among other things, it is unclear what the trigger would be to file in NORS since the incident may have started several days or weeks prior. Moreover, the root cause is likely going to be damage from the event so it is not clear what new information the Commission will glean from such a NORS report.

Finally, the Commission states that it has limited situational awareness about outages involving broadband service and it seeks comment on the benefits and costs of requiring such reporting.[31] As an initial matter, the Commission already obtains information regarding the general health of providers' networks via existing NORS reporting. Based on how their networks are designed or their services are offered, wireless carriers' and interconnected VoIP providers' NORS reports capture effects on both voice and data services. Requiring these providers to separately report broadband outages is thus unnecessary and the Commission has not articulated why existing reports are inadequate. As the Commission considers this proposal, we suggest it remain mindful of its obligations under 5 C.F.R. § 1320.5(d)(1)(ii), which requires it to demonstrate to the Office of Management and Budget that it has taken every reasonable step to ensure that a proposed information collection "is not duplicative of information otherwise

[31] *Id.* at ¶¶ 28, 30.

accessible to the agency." For many providers, including AT&T, this proposal would create unnecessary costs and increase reporting complexity without any incremental benefit. Instead, we recommend that the Commission's outage reports retain their focus on capturing the impacts on consumers' access to emergency services.

C. AT&T Has Extensively Deployed Backup Power throughout Its Network Where Feasible but until the Power Grid Is Hardened, Communications Network Outages Will Continue to Experience Some Outages after Disasters.

AT&T is spending hundreds of millions of dollars extensively deploying backup power throughout its wireless and wireline networks.[32] Carriers like AT&T do their level best to prevent or minimize outages due to commercial power loss. Most recently, AT&T conducted a widescale refueling and support campaign for an extensive deployment of over 1,000 generators in the areas hard hit by Hurricane Ida. However, there are factors outside any carrier's control that make ubiquitous backup power deployments infeasible, and as long as the power industry is susceptible to widespread and prolonged outages during disasters, communications network outages are inevitable.[33]

AT&T's wireless and wireline networks are designed and constructed to rely on commercial power for their operations. To mitigate the interruption of service in the event of a

[32] To the extent commenters identify cost as a barrier to backup power deployments, the Commission could consider clarifying that universal service support recipients may use support on backup power just as it did for Uniendo a Puerto Rico and Connect USVI recipients.

[33] The costs to harden the power grid are substantial and may require government support, an issue which is outside the scope of this *NPRM* and outside the purview of the Commission's jurisdiction. Nonetheless, we raise it because communications networks and commercial power are intertwined, and until there is the political will to address the state of the grid the Commission must recognize that communications network outages will continue. *See, e.g.*, D. MacMillan and W. Englund, *Longer, more frequent outages afflict the U.S. power grid as states fail to prepare for climate change*, Washington Post, Oct. 24, 2021, Extreme weather is causing longer power outages. States and utilities can't agree on solutions - The Washington Post.

commercial power outage, AT&T has established an extensive backup power supply system. This backup power is provided at multiple points in the network.

For AT&T's wireless network, this power is primarily located at AT&T's Mobile Telephone Switching Offices and its macro cell sites. The Mobile Telephone Switching Offices are equipped with generators providing at least 72 hours of backup power, and batteries providing at least 4 hours of backup power. Generators, of course, may be refueled to provide additional hours of backup power.[34] AT&T's macro cell sites have battery, generator, and/or hydrogen fuel cell backup power. Although the length of battery backup depends on the usage, traffic, and size of the site, battery backup at AT&T's macro cell sites is generally a minimum of 4 hours if the site has no fixed generator, and a minimum of 2 hours if the site has a fixed generator. Cell sites with fixed generators or hydrogen fuel cells have between 48 to 120 hours of backup power. AT&T continues to evaluate opportunities to deploy even more fixed generators to existing macro cell sites in the coming years.

On the wireline network side, AT&T's central offices are typically designed to provide a minimum of 4 hours of battery backup for sites equipped with a permanent generator and 8 hours for sites without a permanent generator. The fuel tanks for permanent generators typically hold enough fuel to provide 72 hours of continuous run time. Like AT&T's Mobile Telephone Switching Offices, central office fuel tanks may be refueled to extend generator run times beyond 72 hours. Additionally, where AT&T acts as a covered 911 service provider, its central offices meet or exceed the Commission's backup power requirements set forth in section 9.19 of its rules. Based on AT&T's experience, service disruptions due to loss of backup power at

[34] After Hurricane Maria, AT&T had to run its generators for months as the power company rebuilt the Puerto Rico power grid.

central offices is uncommon and the Commission's existing backup power requirements are sufficient.[35]

There are numerous industry best practices to which AT&T adheres that mitigate the risk that an event that disrupts primary power also would disrupt service. These practices include extensive refueling efforts, pre-arrangement/coordination with refueling contractors, staging of generators and vehicles, removal of generators and vehicles from low-lying areas, supply chain management ensuring availability of sufficient fuel, development of a fuel emergency plan, and post-event, business-as-usual refueling of generators to capacity.[36] As just one example, in advance of Hurricane Ida AT&T arranged for over one million gallons of fuel to be available to it in anticipation of extensive and prolonged power outages and to support AT&T's fleet during its significant restoration efforts.

Notwithstanding AT&T's extensive backup power efforts, not all communications facilities can house a permanent generator. Space considerations present substantial challenges as do lease agreements with landowners and local zoning and permitting limitations (including those related to noise and air pollution). Carriers also have to work within municipal fire codes that may limit the size of fuel tanks for generators because the fuel tanks themselves present a threat of fire and architectural restrictions on placing generators on roofs because of weight, vibration, and noise considerations, as well as the need to have clear paths for exhaust. Even in areas where we have permanent generators, if the area is inaccessible to fuel trucks after a storm AT&T will be unable to refuel those generators, which eventually will cease operating.

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[35] *NPRM* at ¶ 42.

[36] *See, e.g.*, CSRIC Best Practice Nos. 11-9-0660, 11-9-5207, and 12-9-5204.

The Commission requests comment on communications service provider coordination with power companies.[37] From AT&T's perspective, this coordination has worked well. For example, in California, AT&T has an agreed upon process by which power companies notify AT&T in advance of power shutoffs. As part of that process, the parties established clear escalation paths and ensure that each provides the other updated contact information. AT&T also has a power liaison coordinated out of its Emergency Operations Centers through which AT&T communicates directly with power companies about high priority facilities and obtains updated information about extended power downtimes. AT&T is aware that some providers have been affected by fiber cuts in Louisiana weeks after Hurricane Ida made landfall and that some have suggested that power companies may be at fault. However, based on AT&T's experience, it is just as likely that these cuts were caused by third parties hired and supervised by local governments to perform debris removal. We recommend that the Commission encourage states to do a better job overseeing their contractors performing debris removal and suggest that states consider expanding call before you dig (811) service to include aerial facilities.

III. CONCLUSION

AT&T thanks the Commission for the opportunity to discuss the substantial resources AT&T has invested to make its wireless and wireline networks resilient and robust enough to withstand even the most catastrophic disasters to the greatest extent possible, or at a minimum to recover quickly from any outages or failures. Because climate change-fueled severe weather events like Hurricane Ida and last weekend's tornadoes will only increase, AT&T looks forward to working with industry and the Commission on our proposals described in these comments,

[37] *NPRM* at ¶ 37.

which we believe will further enhance roaming under disasters. As for the numerous proposals in the *NPRM* that, if adopted, would be counterproductive or, worse, harmful to carriers and consumers for the reasons provided above, AT&T respectfully requests the Commission decline to adopt them.

Respectfully Submitted,

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