Georgia Tech | Center for Advanced Communications Policy

500 10th Street, NW
Atlanta, Georgia 30332

<u>**VIA ECFS**</u>

January 13, 2022

Marlene H. Dortch, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W.
TW-A325
Washington D.C. 20554

Re: Notice of Proposed Rulemaking In the Matter of Resilient Networks [21-346]; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications [15-80]; and New Part 4 of the Commission's Rules Concerning Disruptions to Communications [04-35].

Dear Ms. Dortch:

Enclosed for filing in the above-referenced Notice of Proposed Rulemaking are reply comments of Georgia Tech's Center for Advanced Communications Policy (CACP).

Should you have any questions concerning this filing, please do not hesitate to contact me via email at salimah@cacp.gatech.edu.

Respectfully submitted,

Salimah LaForce, M.S.
Research Scientist II
Senior Policy Analyst
Center for Advanced Communications Policy
Georgia Institute of Technology

Enclosure

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

REPLY COMMENTS OF
GEORGIA INSTITUTE OF TECHNOLOGY (GEORGIA TECH), CENTER FOR
ADVANCED COMMUNICATIONS POLICY (CACP)

The Georgia Institute of Technology's Center for Advanced Communications Policy (CACP) hereby submits reply comments to the above-referenced Notice of Proposed Rulemaking seeking comment on improving the resiliency of communications networks during emergencies. CACP is recognized at the state and national level as a neutral authority that monitors and assesses technical developments, identifies future options, and provides insights into related legislative and regulatory issues. CACP engages in several broad approaches to explore the impact of technology on society. A key overarching objective of CACP is to understand the social impact of digital technologies, domestically and internationally, by conducting objective, evidence-based research, analysis, and development. Center activities provide the foundation for assessing and analyzing issues that inform our contribution to federal rulemaking, input into public sector policy-making processes, and generation of technical guidance for business and industry.

Research activities range from foundational social science research, providing evidence-based input for policy formation and regulatory filings, to applied policy research analysis and innovation studies to inform the development, implementation, and adoption of a wide range of information and communication technologies. Lab-based studies focus on the intersection of

technology and the user: accessibility and usability studies, user testing, and human factors analysis, all of which help industry better understand the needs of a wide range of users, especially the aging and people with disabilities.

Regarding the latter, over the past 20 years, subject matter experts at CACP have been involved with research and regulatory issues concerning accessible technologies and services, conducting research and development in the domain of communications access, equity, and inclusion. The comments respectfully submitted below are based on subject matter expertise developed over the past 20 plus years.

Reply to comments made by Consumer Groups

CACP is in general support of many comments made by the Consumer Groups in this proceeding, and we submit additional evidence in support of specific comments related to emergency alert access, the consumer readiness checklist, and power outages.

Emergency Alert Access. Individual emergency readiness and preparedness are related to numerous factors such as socioeconomic background, disability status, and connectivity to emergency management service announcements from various agencies such as the National Weather Service (NWS), state Emergency Departments, and the Integrated Public Alert & Warning System (IPAWS). Effective emergency readiness is tied to awareness of the disaster and having information to respond appropriately to take protective actions. The Consumer Groups assert that "Cellular phones and broadcasted television continue to be the principal means by which deaf and hard of hearing individuals receive emergency alerts.[1]" A survey conducted after the national test of the Wireless Emergency Alert (WEA) system in August of 2021 found that 45% of respondents with disabilities indicated that they were wireless-only households, 95% of all survey respondents owned a working smartphone or basic cell phone, and of these respondents, 52% indicated that their mobile wireless device was the primary

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[1] Consumer Groups (2021). Comments submitted in response to the Notice Of Proposed Rulemaking In the Matter of Resilient Networks [21-346]; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications [15-80]; and New Part 4 of the Commission's Rules Concerning Disruptions to Communications [04-35], p. 3. Federal Communications Commission: Washington, D.C.

mechanism by which they received emergency alerts.[2] These data illustrate the primacy of mobile devices in the emergency notifications space. Therefore we agree with the Consumer Groups recommendation that the "Commission must ensure that emergency alerts reach all phones regardless of if phones have an active plan.[3]" As pointed out, there is precedent for such a capability with 9-1-1 access via a mobile wireless phone not being dependent upon having an active plan.

Also, the Consumer Groups state that the "Commission should consider expanding the options for distribution of emergency alerts.[4]" The Integrated Public Alert and Warning System (IPAWS) was created to reach the public during times of emergency using as many "communications pathways as practicable."[5] FM radio via mobile is a possible and pragmatic pathway that is not widely utilized. A cell phone with FM radio capability provides an alternative method for receiving emergency information if cell service is unavailable. It may be especially useful to people with vision disabilities living in wireless-only households to receive audible emergency information. Also, while the 2021 WEA survey results indicated that the top three ways respondents received emergency alerts were mobile devices, television, computer/laptop, the least likely ICT-related methods were social media and smart speakers, illustrating considerable room for expansion of emergency alerting modalities.

Consumer Readiness Checklist. We agree with the Consumer Groups assertion that "The Commission must ensure that the Consumer Readiness Checklist is accessible to all. Captions should be provided on all video messages (broadcast, social media, websites, etc.)—plus, all videos should also include a sign language interpreter and the website should

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[2] LaForce, S., & Bright, D. (2021). *Nationwide test of the Wireless Emergency Alerts system Survey Data*. Data file. Wireless RERC.

[3] Consumer Groups. (2021). Comments submitted in response to the Notice Of Proposed Rulemaking In the Matter of Resilient Networks [21-346]; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications [15-80]; and New Part 4 of the Commission's Rules Concerning Disruptions to Communications [04-35], p. 4. Federal Communications Commission: Washington, D.C.

[4] Ibid, p. 4.

[5] FEMA. (2010). Strategic plan for the integrated public alert and warning system (IPAWS) program. Retrieved from https://www.fema.gov/pdf/emergency/ipaws/ipaws_strategic_plan.pdf

incorporate more accessible design features.[6]" Recent results from the Federal Emergency Management Agency's (FEMA) 2020 National Household Survey (NHS) show a cultural shift in the United States that embraces and invests in disaster preparation activities. The report also indicated that 98% of surveyed participants recognized that at least one form of disaster could alter their current environment.[7] Sixty-eight percent of the 5,000 surveyed participants engaged in three or more of the six outlined preparedness actions, such as attending a local training, making an emergency plan, or gathering supplies to last three or more days. These results are encouraging. However, they raise questions about how these data may vary depending on demographic characteristics.

Existing literature firmly establishes that differential access to emergency management information influences the responsiveness of people with disabilities and their ability to take appropriate protective action.[8,9] Another study explored the relationship between emergency alerts and American Sign Language (ASL). They assert that there is a great need for ASL-interpreted emergency information to ensure that people who are Deaf have clear and effective communications to better ensure their preparedness and readiness for action.[10] For hundreds of thousands of people in the United States, ASL is their primary form of communication. Representing a diverse group of individuals, the hearing disabilities community includes people born Deaf, late-deafened, were born into families with Deaf members, and individuals who are

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[6] Consumer Groups. (2021). Comments submitted in response to the Notice Of Proposed Rulemaking In the Matter of Resilient Networks [21-346]; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications [15-80]; and New Part 4 of the Commission's Rules Concerning Disruptions to Communications [04-35], p. 5. Federal Communications Commission: Washington, D.C.

[7] Federal Emergency Management Agency (FEMA) (2020). 2020 NHS Data Digest: Summary Results. https://community.fema.gov/story/2020-NHS-Data-Digest-Summary-Results

[8] LaForce, S., Bennett, DM., Linden, M., Touzet, C., and Mitchell, H. (2016). "Optimizing Accessibility of Wireless Emergency Alerts: 2015 Survey Findings." Public Administration Faculty Publications. 78. https://digitalcommons.unomaha.edu/pubadfacpub/78

[9] Davis, E., & Phillips, B. (2009). Effective Emergency Management: Making Improvements for Communities and People with Disabilities. *National Council on Disability*.

[10] Bennett, D., LaForce, S., Touzet, C., & Chiodo, K. (2018). American Sign Language & Emergency Alerts: The Relationship between Language, Disability, and Accessible Emergency Messaging. *International Journal of Mass Emergencies & Disasters*, *36*(1).

hard-of-hearing. For many people with congenital or early-onset prelingual deafness, English is a second language that may not provide them with access to "clear and effective" communication as required by the Americans with Disabilities Act (ADA). In the context of life-saving emergency alerts, there is a need to ensure that all individuals, including those who use ASL, are being provided access to the information necessary to make informed decisions. For emergency information to be accessible to the whole community, including people who are Deaf, deaf (late-deafened), and hard-of-hearing, ASL interpretation and captioning should be used together.

Power Outages. According to the Consumer Groups, "The Commission should explore the feasibility of requiring communications networks to send out a "final alert" message when the network is experiencing stress and is at risk of shutting down. This message would be sent out if there are too many calls or text messages and the emergency services are unable to handle the influx, or if the system senses the network is at risk of failing due to a disaster occurring. These types of messages can notify customers of other options for contacting emergency services or seeking shelter.[11]" We agree. Such a notification would allow people to take preemptive action to conserve their batteries and inform plans to evacuate to an area with power, if feasible. In focus groups with people with hearing and vision disabilities that investigated mobile phone battery life during and in the wake of a disaster, we asked, **How worried were you about your phone losing battery charge? Why is that a concern?** Participants made the following statements:

- *Why is it a concern? Do you realize that the phone is my appendage, I have to have it on me.*

- *My whole life is on my phone. If I don't have it, I am lost.*

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[11] Consumer Groups. (2021). Consumer Groups. (2021). Comments submitted in response to the Notice Of Proposed Rulemaking In the Matter of Resilient Networks [21-346]; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications [15-80]; and New Part 4 of the Commission's Rules Concerning Disruptions to Communications [04-35], p. 8. Federal Communications Commission: Washington, D.C.

- *If the mobile phone network goes down, that's when I have trouble. My pixel phone lasts for about 2 days under normal charge.*

- *Yes, outage in our area for 4-5 days and that is when I had the iPhone 6. I had the halo charge, and it stayed for 1.5 days, but I had to leave home to charge my phone. Without that halo, I would not have been able to function very well.*

- *Whenever there is threat of a storm, I make sure my phone and tablet are charged. I was worried most about not being able to reach out to family in case I need them to come and get me because I don't drive, they may need to come and get me.*

Just as disaster events uniquely impact wireless networks, network and power outages have unique impacts on people with disabilities. This diverse demographic includes people with cognitive, physical, sensory, and psychiatric disabilities. Additionally, many older adults acquire disabilities as they age and must also be considered in regard to emergency services.[12] A commonly overlooked segment of the population by emergency managers includes people with disabilities and older adults. The assumption that they can safely and effectively evacuate independently creates a dangerous situation for people who cannot do so (a) without assistance or (b) without operating communications networks.[13] In fact, people with disabilities experience a higher chance of mortality during emergencies.[14] To prepare communities to respond appropriately and educate on how to stay abreast of outage information, state and local governments, in coordination with wireless providers that serve the area, could develop accessible and inclusive outreach materials and disseminate the same across multiple media pathways in the form of PSAs on television and radio, as well as, social media.

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[12] Dyer, C. B., Regev, M., Burnett, J., Festa, N., & Cloyd, B. (2008). SWiFT: A rapid triage tool for vulnerable older adults in disaster situations. *Disaster medicine and public health preparedness, 2*(S1), S45-S50.

[13] Fox, M. H., White, G. W., Rooney, C., & Rowland, J. L. (2007). Disaster Preparedness and Response for Persons With Mobility Impairments Results From the University of Kansas Nobody Left Behind Study. *Journal of Disability Policy Studies, 17*(4), 196-205.

[14] Chou, Y.-J., Huang, N., Lee, C.-H., Tsai, S.-L., Chen, L.-S., & Chang, H.-J. (2004). Who is at risk of death in an earthquake? *American Journal of Epidemiology, 160*(7), 688-695.

In closing, wireless communications and energy infrastructure and the devices they support are integral to recovery and response efforts. As such, we commend the voluntary actions and investments of the wireless industry harden networks to withstand disaster events and the Commission for continued efforts to improve the resiliency of these critical resources and accessibility of service-dependent technologies. However, we agree that more should be done to ensure the inclusion of people with disabilities as outlined in this and the Consumer Groups comments.

Respectfully submitted,

S. LaForce

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Dated this 13th day of January 2022