

**VIA ECFS**

March 24, 2017

Marlene H. Dortch, Secretary

Office of the Secretary

Federal Communications Commission

445 12th Street, S.W.

TW-A325

Washington D.C. 20554

**Re: Transition from TTY to Real-Time Text Technology [CG Docket No. 16-145]; Petition for Rulemaking to Update Commission’s Rules for Access to Support the transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology [GN Docket No. 15-178]**

Dear Ms. Dortch:

Enclosed for filing in the above referenced Further Notice of Proposed Rulemaking are reply comments of the Rehabilitation Engineering Research Center for Wireless Inclusive Technologies (Wireless RERC).

Should you have any questions concerning this filing, please do not hesitate to contact me via email at [helena.mitchell@cacp.gatech.edu](mailto:helena.mitchell@cacp.gatech.edu).

Respectfully submitted,



Helena Mitchell

Principal Investigator, Wireless RERC

Center for Advanced Communications Policy

Georgia Institute of Technology

Enclosure

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| **Before the**  **Federal Communications Commission**  **Washington, D.C., 20554** |  |
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In the matter of )

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Transition from TTY to Real-Time Text ) CG Docket No. 16-145

Technology )

)

P**etition for Rulemaking to Update** ) GN Docket No. 15-178

Commission’s Rules for Access to Support )

The Transition from TTY to Real-Time Text )

Technology, and Petition for Waiver of Rules )

Requiring Support of TTY Technology )

COMMENTS OF

REHABILITATION ENGINEERING RESEARCH CENTER FOR

WIRELESS INCLUSIVE TECHNOLOGIES (WIRELESS RERC)

**INTRODUCTION**

The Georgia Institute of Technology’s Center for Advanced Communications Policy (CACP) in collaboration with the Rehabilitation Engineering Research Center for Wireless Inclusive Technologies[[1]](#footnote-1) (Wireless RERC**)** hereby submits reply comments to the above-referenced Further Notice of Proposed Rulemaking, released on December 15, 2017. CACP is the home the Wireless RERC, funded since 2001 by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), a Center within the Administration for Community Living (ACL), U.S. Department of Health and Human Services (HHS). The Wireless RERC mission is to *integrate established wireless technologies with emerging wirelessly connected devices and services for a transformative future where individuals with disabilities achieve independence, improved quality of life, and enhanced community participation.* While our focus is ensuring access to advanced communications, it is important to note that the adoption of new technologies is a choice that not all people can or will make, depending on, among other things, financial factors, as well as the availability of wireless and broadband services in their area.[[2]](#footnote-2) That being said, while we are proponents of transitioning from Teletypewriter (TTY) to Real-Time Text (RTT) technology, the manner and speed in which it is done needs to take into account those most at risk of losing all text communications access if TTY becomes unavailable. Especially so, for placing emergency calls. “Until [Public Safety Answering Points] PSAPs have the resources they need to fully transition to IP-based capabilities, and a clear path to sustain these resources, a sunset date would harm public safety by leaving PSAPs and the public they serve without the option to communicate by TTY or RTT.[[3]](#footnote-3)”

Regulations are created to protect the public interest by outlining rules that aim to not only encourage innovation but also to protect the consumer. Equally important is the creation of enforceable regulations that assure the accessibility of communications systems during emergencies. Although advances in mobile and IP-based communications, coupled with mass user adoption of text messaging have necessitated this pending RTT transition, it is essential that *all* people can benefit. FCC Chairman Pai recently stated, “We want our policies to help bring the benefits of the digital age to all Americans.[[4]](#footnote-4)” Former Chairman Genachowski also said, “While technological advancements can change markets, they don’t change the FCC’s mission…Consumer protection is vital because even with strong investments and innovation promoting policies, competition won’t reach everywhere…That’s why, for example, we have rules to ensure access to communications technology for Americans with disabilities…[[5]](#footnote-5)”

To that end, the Wireless RERC submits these reply comments in support of a transition process that leaves no one behind or more vulnerable during an emergency. CACP and the Wireless RERC have been actively involved with research and regulatory issues concerning accessible emergency communications. The researchers that guide the progress and outcomes of our efforts have the combined expertise in disability research and development and include research scientists, emergency management specialists, designers, and engineers.  The reply comments respectfully submitted below are based on subject matter expertise developed over the past 15 years. Findings from our consumer surveys and focus groups, policy research, and development efforts have helped to inform the recommendations made herein.

**Reply to comments filed by Rehabilitation Engineering Research Center on Technology for the Deaf and Hard of Hearing (DHH-RERC), Rehabilitation Engineering Research Center on Universal Interface and IT Access (UIITA-RERC), and Omnitor (collectively, “RERCs and Omnitor”), and Telecommunications for the Deaf and Hard of Hearing, Inc., National Association of the Deaf, and Hearing Loss Association of America (collectively, “Consumer Groups”) and The National Association of State 911 Administrators (NASNA).**

Paragraph 77 – Proposed 2021 Sunset Date: The Consumer Groups assert that “The TTY interoperability requirement should not sunset as long as there are areas where the only way to carry out a text-based emergency call is by TTY.[[6]](#footnote-6)” NASNA stated that the proposed 2021 sunset date “is not likely to be enough time.[[7]](#footnote-7)” Both the Consumer Groups and NASNA suggest waiting to sunset TTY until after the Public Switched Telephone Network (PSTN) has been transitioned to IP-based wireless and wireline networks. The Wireless RERC/CACP strongly supports their statements. While most people with hearing and speech disabilities have a preference for text or video-based communications, there are still some that rely on TTY to place both emergency and non-emergency calls. In a 2013 survey, respondents that were deaf indicated that the most common technologies used for contacting emergency services were video relay service (30%) and TTY over landline (22%).[[8]](#footnote-8) Even if the percentages have declined in recent years, they likely still represent a portion of the population. Hence, while the FCC should consider an eventual sunset of TTY interoperability requirements, that should not occur until RTT capabilities have been fully implemented by PSAPs, carriers, and in a variety of devices. As an example of PSAP adoption of new technology, consider the rate of text-to-911 deployments. As of January 11, 2016 (18 months after the FCC adopted Text-to-911 rules), 485 PSAPs, representing 233 jurisdictions had registered their text-to-911 readiness with the FCC. In the United States, there are 3135 counties and less than 10% are capable of receiving text-to-911. If RTT readiness follows a similar pattern, all jurisdictions may not have RTT capabilities before the proposed sunset date.

Further, users also have to adopt RTT. This may not be perceived as a viable option for some people with disabilities. Coordinating the sunset date with State Equipment Distributions Programs, and State Assistive Technology Act Programs that can replace TTY equipment with IP-based landline and mobile devices capable of sending RTT would facilitate the transition for legacy TTY users and people lacking the means to upgrade devices without subsidy. In addition, carriers that participate in the Lifeline program should ensure that phone options are RTT-capable. Monitoring the number of RTT-capable devices distributed through these programs could serve as one source of data concerning RTT-capable device diffusion among people with hearing and speech disabilities, and with regard to Lifeline, individuals with a low-income.

Paragraph 76 Data to Gauge Deployment Rates: Consumer Groups suggested that “valuable information for reporting would be information concerning RTT support in the network, and a comparison of the number of provided handset models with and without RTT support.” The Wireless RERC/CACP agrees and adds that RTT-capable phones should be optimized for accessibility. Using the deployment and diffusion of WEA-capable devices as an equivalent for what we may encounter as RTT is rolled out, the Wireless RERC is concerned that people who rely on text-based communications may have a limited number of devices from which to choose. In our accessibility review of WEA-capable handsets, we identified 215 WEA-capable phones for evaluation and assessed up to 27 points of data for each device in the sample.[[9]](#footnote-9) In addition to noting the model, operating system (OS), providers, dimensions and display size, 15 features that impact accessibility and/or were designed to provide access to people with vision, hearing, cognitive and mobility disabilities were tabulated, such as HAC rating, ability to adjust font, contrast adjustment, vibration adjustment, and two-way video. We found that only 3.7% (n=8) of devices evaluated had full, out-of-the-box accessibility (i.e. accessibility features built into the device’s operating system). The benefit of full, out-of-the-box accessibility is that it simplifies phone selection for people with varying capabilities. This may be especially important for those who may use several accessibility features to gain access to the device. For example, individuals who experience dual sensory loss and have complications with hearing and vision may rely on TTY, haptic feedback, and text-to-speech technologies. For no one to be left behind, it is imperative that the transition includes avenues and technology that will work to include individuals who do not have the option of receiving information via one method. With regard to RTT-capable devices, device-accessibility is key to accelerating diffusion among people with disabilities. Collecting data on network support, RTT-capable devices on the market, their accessibility levels, and end-user ownership rates would shed light on both industry deployment rates and user adoption rates. With regard to the latter, the Wireless RERC’s Survey of User Needs (SUN) will begin collecting data on the use of RTT this year to support efforts to understand the awareness, availability, accessibility, and adoption of RTT solutions.

Public Education: As mentioned above, an RTT transition without widespread user adoption of RTT technology could increase vulnerability during emergencies by diminishing access to 911. We support targeted outreach, as well as ensuring that outreach materials and methods are appropriate and accessible to the target populations. PSA’s or other community outreach could allow for more in-depth information to be disseminated to disability specific groups.

In closing, the Wireless RERC supports a moderated transition to RTT that accounts for user access, availability, and adoption, users being both consumers and PSAPs. The Commission’s efforts to keep pace with the changing technology while improving communications access for individuals with disabilities is laudable. The recommendations made herein are intended to encourage this undertaking and ensure parity of access to both general and emergency communications.

Respectfully submitted,



Salimah LaForce,

Helena Mitchell, Ph.D.,

Frank Lucia,

Synge Tyson, and

Ed Price

Georgia Institute of Technology

500 10th Street, 3rd Fl. NW

Atlanta, GA 30332-0620

Phone: (404) 385-4640

Dated this 24th day of March 2017

1. The Rehabilitation Engineering Research Center for Wireless Inclusive Technologies (Wireless RERC) is sponsored by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RE5025-01).  NIDILRR is within the Administration for Community Living (ACL), Department of Health and Human Services (HHS).  The contents of this filing do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government. [↑](#footnote-ref-1)
2. FCC. (2017). *Strategies and Recommendations for Promoting Digital Inclusion*. Consumer and Governmental Affairs Bureau: Washington, D.C., January 11, 2017. [↑](#footnote-ref-2)
3. APCO. (2017). Comments filed in response to FNPRM *In the Matter of Transition from TTY to Real-Time Text Technology* [CG Docket No. 16-145]. Available at [APCO RTT-TTY FNPRM Feb2017.pdf](https://ecfsapi.fcc.gov/file/10222966602129/APCO%20Comments%20RTT-TTY%20FNPRM%20Feb2017.pdf) [↑](#footnote-ref-3)
4. Pai, A. (2017). *Remarks of FCC Chairman Ajit Pai at Carnegie Mellon University’s Software Engineering Institute.* Pittsburgh, Pennsylvania, March 15, 2017. [↑](#footnote-ref-4)
5. Genachowski, J. (2013). *Prepared Remarks of FCC Chairman Julius Genachwoski: Technology Transitions Policy Task Force Workshop*. Federal Communications Commission, Washington, D.C., March 18, 2013. [↑](#footnote-ref-5)
6. Consumer Groups. (2017). Comments filed in response to FNPRM *In the Matter of Transition from TTY to Real-Time Text Technology* [CG Docket No. 16-145]. Available at <https://ecfsapi.fcc.gov/file/10223298222913/17-02-22%20RERCs-Omnitor-Consumer%20Groups%20RTT%20FNPRM%20Comments.pdf> [↑](#footnote-ref-6)
7. NASNA. (2017). Comments filed in response to FNPRM *In the Matter of Transition from TTY to Real-Time Text Technology* [CG Docket No. 16-145]. Available at <https://ecfsapi.fcc.gov/file/1022202259046/Comments%20of%20NASNA%20-%20TTY%20to%20RTT%20Transition%2002-22-2017.pdf> [↑](#footnote-ref-7)
8. Wireless RERC (2013). *Research Brief: Technology Use by People with Hearing and Speech Loss for Communicating with Emergency Response Services*. Available at <http://wirelessrerc.gatech.edu/content/publications/research-brief-technology-use-people-hearing-and-speech-loss-communicating> [↑](#footnote-ref-8)
9. CACP Collaborative. (2014). [WEA-Capable Accessibility Review.] Unpublished raw data. Collected under contract with the Integrated Public Alert & Warning System (IPAWS) Project Management Office (PMO), contract # HSFE5-13-R-0031. [↑](#footnote-ref-9)