VIA ECFS

April 9, 2013

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

Re: **Facilitating the Deployment of Text-to-911 and Other Next generation 911 Applications [PS Docket No. 11-153]; Framework for Next Generation 911 Deployment [PS Docket No. 10-255]**

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 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.

Respectfully submitted,

Helena Mitchell
Principal Investigator, Wireless RERC
Center for Advanced Communications Policy
Georgia Institute of Technology

Enclosure

In the Matter of	)	
	)	
Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications	)	PS Docket No. 11-153
	)	
Framework for Next Generation 911 Deployment	)	PS Docket No. 10-255
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REPLY COMMENTS

INTRODUCTION

The Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC) hereby submits reply comments in the above-referenced Further Notice of Proposed Rulemaking, released on December 13, 2012. The Wireless RERC[1] mission is to research, evaluate and develop innovative wireless technologies and products that meet the needs, enhance independence and improve the quality of life and community participation of people with disabilities. As such, we are pleased that the FCC is taking steps to codify disability access to advanced emergency services.

Regulations are created to protect the public interest by outlining rules that aim to ensure a fair market, encourage innovation and protect the consumer. Equally important is the creation of policies and enforceable regulations that assure the accessibility of communications systems during emergencies. Although market forces have necessitated the inclusion of mobile text into the emergency communications ecosystem, it is essential that mandates be put into place to ensure that all consumers can benefit. Chairman Genachowski put it plainly when he stated, "While technological advancements can

[1] The Rehabilitation Engineering Research Center for Wireless Technologies (Wireless RERC) is sponsored by the National Institute on Disability and Rehabilitation Research (NIDRR) of the U.S. Department of Education under grant number H133E110002. The opinions contained in this filing are those of the authors and do not necessarily reflect those of the U.S. Department of Education or NIDRR.

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. And because even healthy markets with robust competition can leave consumers subject to abuse. That's why, for example, we have rules to ensure access to communications technology for Americans with disabilities…[2]"

To that end, while the Wireless RERC lauds the voluntary Carrier-NENA-APCO agreement, we remain a proponent of obligatory rules concerning the deployment of text-to-911. As part of our mission, the Wireless RERC reaches out to the community of people with disabilities to garner their interest and gather their input regarding their specific accessibility needs. This is an ongoing effort conducted through the Web-based Wireless RERC Survey of User Needs (SUN),[3] which is updated regularly. In addition, the Wireless RERC conducts periodic surveys on topics of a timely nature. We recently completed an *Emergency Communications and People with Disabilities Survey* that, among other things, addressed technologies for contacting emergency services. The comments respectfully submitted herein are based on subject matter expertise developed over the 12 years of the Wireless RERC's existence and informed by findings from our recent research efforts.

III. B COMPREHENSIVE TEXT-TO-911 PROPOSALS

6. Carrier and Third Party Non-SMS Based text-to-911

Reply to comments filed by Sprint Nextel Corporation (Sprint)

"Sprint supports the Commission's proposal to extend any text-to-911 obligations

[2] 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.

[3] Wireless RERC Survey of User Needs, Available at http://www.wirelessrerc.org/content/projects/sun-overview

that are adopted to providers of interconnected text applications.[4]" The Wireless RERC is in concurrence with Sprint. In some cases, the end-user will not be aware of whether they are using traditional SMS based text messaging or some other type of Internet Protocol (IP) text messaging system. For example, iPhones users are toggled between native SMS messages sent over the provider network and iMessages sent via Apple's network, dependent upon whether they are texting a fellow iPhone user or not.[5] The toggling is transparent to the user and perceived as simply a text message. When the popular press discusses text-to-911, they rarely refer to SMS technology; hence the populace is led to believe that any text capable device will be able to send a text message to 911. To rise to the occasion of this popular perception, the Wireless RERC recommends that pre-installed messaging applications on mobile phones be included in any text-to-911 mandates. Doing so will not only broaden the base of participation by different types of providers, but it will pave the way for transitioning to an all-IP environment. Lessons can be learned from the experiences of the integrated text messaging and over-the-top (OTT) text providers that can be useful to determining policies and protocols for Next Generation 911. Furthermore, it will allow all providers to develop new mobile messaging services without innovating away from services that are covered by the forthcoming regulations.

7. Timetable for Text-to-911 Deployment

On February 8, 2013, the Wireless RERC submitted reply comments agreeing with comments filed by Telecommunications for the Deaf and Hard of Hearing, et al. (Consumer Groups and TAP) regarding extending the text-to-911 obligation to *all* mobile service providers. While we maintain that the FCC should promulgate rules mandating text-to-911 participation by all commercial providers, as well as providers of integrated and OTT text messaging services, we recognize that some smaller and rural mobile service providers may require additional time to comply. According to the Rural Telecommunications Group,

[4] Comments of Sprints in Docket No.s 11-153 and 10-255, p.8.

[5] Comments of AT&T in Docket No.s 11-153 and 10-255, p. 8.

Inc., the May 15, 2014 deadline would be "…overly burdensome, particularly for small carriers…," and they recommend that no action be required until a public safety answering point (PSAP) requests text-to-911 services.[6] While the Wireless RERC agrees that small and rural carriers should be allowed additional time, the deployment benchmark should *not* be tied to PSAP readiness. The Wireless RERC agrees with NENA's recommendation "that the Commission adopt May 15, 2015 as the deadline for small and rural carriers to meet the text-to-911 obligations.[7]"

For integrated and OTT text message providers, the Wireless RERC recommends they have a deployment benchmark of 18 months after final rules are published in the Federal Register. It would be more of a challenge for providers that have not taken part in determining the parameters of the Carrier-APCO-NENA voluntary agreement (Agreement) to adhere to the same deployment timeline because 1) the specific concerns of rural and small carriers were not elemental to the deliberations, and 2) since the FCC's announcement of their adoption of the Agreement, nearly four months has passed, giving the providers *in* the Agreement a head start. Additionally, with regard to integrated and OTT text message providers, "unlike carriers who may have been working at this issue for a notable portion of time, this issue is relatively new to interconnected text providers.[8]"

8.911 Short Code

According to the FNPRM some text capable devices cannot utilize the three digit 911 short code, and no one really knows to what extent these devices are being used by the populace. "In order to address this concern, Sprint recommends that a four-digit short code be designated for use by devices that cannot support a three-digit code."[9] The record has established that utilizing 911 as the short code is optimal because it will not require

[6] Comments of the Rural Telecommunications Group, Inc. in Docket No.s 11-153 and 10-255, p. 2.

[7] Comments of the National Emergency Number Association in Docket No.s 11-153 and 10-255, p. 7.

[8] Comments of the Telecommunications Industry Association, Inc. in Docket No.s 11-153 and 10-255, p. 11.

[9] Comments of Sprint in Docket No.s 11-153 and 10-255, p. 12.

the user to remember a new emergency number when they are involved in a potentially high stress event that requires them to contact emergency services. Therefore, the Wireless RERC agrees with NENA's assertions that devices that cannot send a three digit short code be phased out of the market.[10] The Wireless RERC also is in agreement with AT&T's recommendation that the FCC officially require that 911 be used as the short-code.[11]

9. TTY Compatibility Requirements for Wireless Services and Handsets

As discussed in the introduction to these reply comments, the Wireless RERC recently conducted a *Survey on Emergency Communications and People with Disabilities* which, in part, collected data on actual and preferred methods for contacting emergency response services by people living with hearing and/or speech loss.[12] Respondents were asked a series of questions about the technology they have used to contact emergency response services and their technological preferences for doing so. The findings of this research lead us to concur with NENA's recommendations to "establish an initial five-year timeframe for reevaluating [FCC] rules relating to support for TTY in carrier networks and PSAP systems, with an eye toward sunsetting those requirements as soon as ubiquitous text service is available.[13]" The five year timeframe would allow for empirical evidence to be gathered on the usability of text-to-911 for people with hearing and speech loss and would be instrumental in determining the potential impacts of sunsetting mobile TTY requirements. The commenters discuss sunsetting mobile TTY within the context of text-to-911 but do not include a discussion of non-emergency use of mobile TTY.

[10] Comments of the National Emergency Number Association in Docket No.s 11-153 and 10-255, pp. 11-12.

[11] Comments of AT&T in Docket No.s 11-153 and 10-255, p. 19.

[12] 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

[13] Comments of the National Emergency Number Association in Docket No.s 11-153 and 10-255, p. 20.

For respondents who are hard of hearing and/or have difficulty speaking, the most common method for contacting emergency response services is voice call, whether over landline (38%) or cellphone (33%). For these respondents voice calling is among the most preferred technologies for communicating with emergency services. Notably, text messaging via cellular phones was almost equally preferred (44% and 39%, respectively) to voice calling for people who are hard of hearing or have difficulty speaking. Other text-based messaging, such as email and instant messaging, and video relay services were also popular preferences for these two groups of respondents.

For deaf respondents, the most common technologies *used* for contacting emergency services were video relay service (30%) and TTY over landline (22%). The group's most commonly *preferred* technologies were video relay services and text messaging over cellphone (72% and 64%, respectively). The survey data clearly demonstrate that there is a much stronger interest among people with hearing and speech loss in video relay services and text-based systems for communicating with emergency response services. For all three groups of respondents – deaf, hard of hearing, and those with difficulty speaking – preferences for video relay and text-based messaging is much greater than their current or recent use. For TTY use for communicating with emergency services, the situation is reversed, though not so starkly. Current use of TTY over landlines is consistently greater than the actual preferences for using this technology. For deaf respondents, the greatest disparity is found between the percentage of those who have used TTY over landline (22%) and the percentage of those who actually prefer to communicate via this technology (11%).

It should be noted, however, that these percentages still represent a substantial portion of the population, especially the percentage of deaf respondents who have used TTY to communicate with emergency services. Consequently, engineers and policy makers need to be cautious when considering the set of technologies being promoted and supported for the use of contacting emergency services. This caution is further emphasized by the results of this study, proving that, while TTY over cellphones has been used by very low percentage of respondents, preferences for this technology are greater (5% for respondents who are deaf or have difficulty speaking; 3% for hard of hearing respondents).

The implementation of text-to-911 may not supplant the need for mobile TTY. While the research conducted has shown that one of the preferred methods for contacting emergency services is mobile text, the survey tool did not query the respondents on their use of mobile TTY in general (i.e., for non-emergency communications). "The real-time, character-by-character nature of TTY is preferred over message-based text services by many in the deaf and hard of hearing community for its more conversational flow."[14] Hence, while the FCC should consider sun-setting TTY requirements for wireless handsets, that shouldn't occur until a comparable substitute, such as real time text (RTT), is implemented in a variety of devices; and State Equipment Distributions Programs, and State Assistive Technology Act Programs begin replacing TTY equipment with mobile devices capable of sending RTT. This will ensure that legacy TTY users and people lacking the means to upgrade devices without subsidy are not left out of the technological transition.

CONCLUSION

In closing, the Wireless RERC wishes to emphasize the importance of advancing parity of access to emergency services. Compulsory implementation of text-to-911 will certainly advance equal access. However, we caution against eliminating legacy technologies without fully understanding the impact on, not only emergency services, but the everyday communication needs of people with hearing and speech loss.

Respectfully submitted,

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Dated this 9th day of April 2013

[14] Comments of the National Emergency Number Association in Docket No.s 11-153 and 10-255, p. 19.