Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Framework for Next Generation 911 Deployment	PS Docket No. 10-255

REPLY COMMENTS OF T-MOBILE USA, INC.

T-Mobile USA, Inc. ("T-Mobile") recognizes the importance of moving to next generation 911 ("NG911") networks and services. For that reason, T-Mobile has invested substantial time in participating in industry and public safety working groups regarding NG 911. T-Mobile looks forward to continuing to do so, and to working with the Commission as it addresses and promotes NG 911 deployment.

These reply comments address only the issue of using SMS-to-911 as an interim measure. The popularity of SMS as a communications medium makes it desirable to enable consumers to send SMS messages to 911, were it technically and operationally feasible to do so reliably and were PSAPs able to use such a capability. But, as is clear from the record, SMS is fundamentally unsuited for emergency communications. Not only are there basic technological issues, but implementing SMS-to-911 also raises issues with network security, abuse prevention, and the potential of SMS to completely overwhelm the 911 response system.

The record makes clear that implementing SMS-to-911 is more than just a technological issue: it would require putting in place an entirely new system that involves wireless carriers, technology companies, and PSAPs, all of whom would be required to work together and each of whose efforts would be dependent upon the others to create a workable system. Expending time

and money retrofitting this 1980s-era technology for 911 when the wireless industry is already rolling out next-generation networks and services would be wasteful and counterproductive. Moreover, as the record also reflects, further building public expectations that SMS can be used to reach 911, when that is not an implemented or reliable solution, can actually harm public safety and, with respect to disabled users, divert those users away from the IP Relay, VRS, and other TRS-to-911 solutions the Commission has worked to put in place.

I. SMS IS FUNDAMENTALLY UNSUITED TO 911 USE.

Every commenter addressing SMS-to-911 – other than a few technology vendors – recognizes the current limitations of SMS for emergency use. As NENA states, "Today, SMS lacks many of the characteristics needed to support quality emergency communications."[1] NENA therefore "does not advocate the use of SMS as a means to access 9-1-1 systems."[2] APCO similarly notes, "There are legitimate concerns with using *non*-RTT based text communication for 911"[3] and "there are a number of Quality of Service concerns with the use of SMS to 911."[4]

Nearly all commenters addressing SMS acknowledge its shortcomings and their effect on the potential use of SMS for 911. As ATIS sets forth, "current SMS standards do not support the most critical elements of an emergency communications network – automatic routing to the designated public safety answering point ('PSAP'), the automatic provision of a sender's

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1 Comments of the National Emergency Number Association ("NENA") at 14.

2 *Id*.

3 Comments of APCO at 2 (emphasis in original).

4 *Id.* at 4. *See also, e.g.,* Comments of the St. Louis County Emergency Communications Commission at 4.

location information to the PSAP, reliability or priority."[5] Though the enormous popularity of SMS and the fact that it can be used on any wireless network make it attractive for 911 use, it lacks important core functionalities that would make it a viable emergency communications service: SMS messages provide one way, asynchronous communications without guaranteed delivery,[6] lack an authentication method, have no high accuracy location capabilities,[7] and present significant network security and fraud prevention problems for PSAPs.[8] These intrinsic shortcomings, along with the lack of PSAP processes and capacity, make SMS all but useless for 911.Spending time and money now to patch together an SMS-to-911 solution would draw resources away from more critical NG911 initiatives, including moving forward to implement the needed IP-based architecture. The best path forward is not to divert time and money from NG911 deployment by attempting to implement an unworkable interim SMS-to-911 solution.[9] Instead, all stakeholders should be working on NG911 implementation while also educating consumers about the best ways to reach emergency services.

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5 Comments of the Alliance of Telecommunications Industry Solutions ("ATIS") at 5. T-Mobile has done some work with respect to potential methods to route SMS "911" messages automatically to the appropriate PSAP and to potentially provide cell-sector location (but not Phase 2 handset location). However, that theoretical developmental work does not address the myriad of other technical and systems operation and implementation problems that must be addressed by both carriers and PSAPs in order to have a workable SMS-to-911 system.

6 *Id.* at 6-7.

7 *Id.* at 6.

8 Comments of T-Mobile at 10-11; 4G Americas, *Texting to 9-1-1: Examining the Design and Limitations of SMS* (October 2010) at 41-46, available at http://www.4gamericas.org/documents/SMS to 911 White Paper Final October 2010.pdf ("*4G Americas White Paper*").

9 *See* Comments of ATIS at 7 ("Providing for emergency service capabilities in SMS would require substantial reengineering of network systems—which could take as long as creating a new standard for non-voice emergency communications—and would require the design of such revised SMS functionality into new mobile devices.").

Interim SMS-to-911 solutions – even if they could be implemented – would require not only a substantial investment in infrastructure[10] but also in consumer education.[11] For instance, NENA warns, "as NG9-1-1 begins to roll out, consumers could erroneously assume that SMS texting can be received, processed, and responded to by E9-1-1 and NG9-1-1 systems. Left unchecked, this confusion could lead consumers to waste time texting 9-1-1 or leave unused other means of communications at their disposal, wasting precious seconds in an emergency."[12] Interim SMS-to-911 increases this potential for life-threatening consumer confusion because it is highly unlikely that all, or even substantially all, PSAPs will implement the capabilities to receive interim SMS-to-911 simultaneously. It was this concern that led King County, Washington, to issue a public announcement that it could not receive SMS to 911, and for the public to dial 911 in an emergency.[13] Were the Commission to push forward with an interim SMS-to-911 solution that was not capable of rapid and broad implementation by a substantial majority of PSAPs, it would exacerbate these consumer education concerns and could divert consumers from making 911 calls via means that will work – including, for people with hearing

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10 *See* Comments of L.R. Kimball at 3-6.

11 *See* Comments of the Public Safety Communications Office of the California Technology Agency ("PSCO") at 9.

12 Comments of NENA at 15.

13 *See 4G Americas White Paper* at 57 ("For example, in 2009, there was significant press related to the launch of an SMS to 9-1-1 service in Blackhawk County, Iowa. This announcement made national news, and as a result, many citizens assumed that SMS to 9-1-1 was available 'everywhere'. Due to the high level of misconceptions this announcement caused, King County[,] Washington had to issue a public statement that SMS to 9-1-1 was not supported in King County and that the citizens should dial 9-1-1 to access voice based emergency services."); see *also* King County, Washington, 9-1-1 and Wireless Phones, *available at* http://www.kingcounty.gov/safety/E911/Wireless.aspx ("Texting to 9-1-1 will not work").

and speech disabilities, TRS services such as IP Relay and VRS for which the Commission has mandated 911 access and registered location.[14]

Despite these serious concerns with SMS-to-911, some commenters call for immediate implementation of SMS based solely on its popularity. For instance, RERC-TA acknowledges that SMS has speed and reliability limitations but argues that SMS be made available for 911 because it is so widely used.[15] However, the popularity of a service, while not unimportant, cannot be the touchstone for adoption of emergency services. "[I]ts limitations in speed and reliability," as noted by RERC-TA, are precisely what make SMS so unsuited for emergency communication because speed and reliability are the most critical factors when contacting emergency services. In any event, the Administrative Procedure Act precludes mandating the impossible (*e.g.,* reliable SMS-to-911) even if it would be popular.[16]

Other commenters mistakenly claim that the shortcomings of SMS are easily overcome. For instance, L.R. Kimball suggests that the creation of an SMS-to-911 solution is as simple as creating a dedicated signaling control point of connection for SMS messages sent to 911.[17] Though L.R. Kimball claims its proposal solves most of the technical problems with SMS-to-911 related to its asynchronous, session-based nature, it does not address the systemic issues of SMS-to-911 implementation outside of simple message transmission, or even message transmission issues such as the lack of an assurance or confirmation to the sender that the PSAP actually

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14 *See* 47 C.F.R. § 64.605.

15 Comments of the Rehabilitation Engineering Research Center on Telecommunications Access at 2.

16 *See Nuvio Corp. v. FCC*, 473 F.3d 302, 303 (D.C. Cir. 2006) (noting that technical feasibility is a clear requirement of the arbitrary and capricious standard for rulemaking); *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991) ("Impossible requirements imposed by an agency are perforce unreasonable.").

17 Comments of L.R. Kimball at 5.

received the SMS message. And, SMS-to-911 systemic implementation would also require changes to PSAP infrastructure and training to handle emergency SMS messages, processes to forward messages among PSAPs, methods to provide cybersecurity and to protect against abuse, and appropriate liability protections for all actors.

Arguments of other commenters are no more persuasive. The Public Safety Communications Office of the California Technology Agency, though acknowledging the difficulties caused by the asynchronous nature of SMS, suggests that those limitations can be overcome by nothing more than consumer education, with no reference to the myriad technical and operational challenges of SMS-to-911.[18] And, although TeleCommunications Systems suggests that SMS-to-911 must not be all that difficult to implement because other countries, including Canada, have allegedly created SMS-to-911 systems,[19] the Canadian Radio-television and Telecommunications Commission (CRTC) has found that SMS is not a "viable solution" for emergency communication, and the Canadian interim SMS solution cited by TCS is *not* direct SMS-to-911 communication.[20]

Rather than expend resources trying to make SMS work for 911, stakeholders should instead focus on next-generation communications services that will provide better 911 access to all consumers. Part of that effort should include consumer education efforts designed to inform

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[18] Comments of PSCO at 9,

[19] Comments of TeleCommunications Systems at 6-7.

[20] Telecom Decision 2010-224, *CRTC Interconnection Steering Committee – Improving Access To Emergency Services For People With Hearing And Speech Disabilities*, File No. 8665-C12-200807943. The CRTC approved a limited test of technology that would allow pre-registered hearing- and speech-disabled persons to call 911 and subsequently be contacted by a PSAP via SMS. The CRTC noted that "this solution would not enable people to initiate a 9-1-1 call via text message or to text directly to 9-1-1, and would require PSAPs to change their call handling procedures." In the United States, IP Relay already permits hearing and speech disabled persons to contact 911 via text-based messaging.

consumers that SMS messages may *not* reach public safety as well as providing them with information about the best mechanisms for reaching emergency services.[21] Finally, with respect to near-term solutions for the hearing and speech disabled, T-Mobile encourages the Commission to look to the recently-announced ATIS Incubator for non-voice emergency services.[22]

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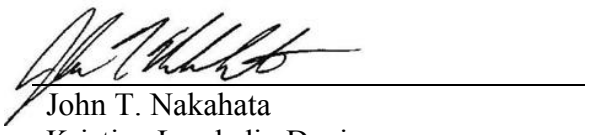
[21] *See* Comments of PlantCML at 2 ("We encourage the Commission to collaborate with industry and media partners and public safety to educate consumers about the current and ongoing limitations of SMS for emergency communications. Absent this needed education the public will incorrectly assume that SMS text messaging can be reliably utilized for emergency reporting.").

[22] *See* News Release, *ATIS Launches Non-Voice Emergency Communications Initiative*, March 10, 2011, http://www.atis.org/PRESS/pressreleases2011/031011.html. In the interim, IP Relay services are already available to provide text-to-911 capability for many hearing- and speech-disabled individuals; Comments of T-Mobile at 7 n.12.

II. CONCLUSION

T-Mobile looks forward to working with the Commission and all stakeholders on the implementation of NG911. As the Commission, public safety, and industry look forward to NG911 implementation, all involved should focus their efforts on the IP-based architecture and technologies that will bring next-generation communications services to all consumers, and not on expending time and money to retrofit legacy SMS technology for emergency communications. Having all parties invest in the infrastructure and technology necessary to create a new standard for non-voice emergency services rather than rely on outdated legacy technologies that are likely to be phased out as IP-based networks are rolled out will bring far greater benefit to the public.[23]

Respectfully submitted,



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[23] *See* Comments of ATIS at 7; Comments of NENA at 14.