MissionCriticalPartners

September 25, 2013

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Re: Comments - *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114

Dear Ms. Dortch:

Mission Critical Partners, Inc. ("MCP") appreciates the opportunity to submit comments in the matters related to the above-referenced proceedings. MCP provides executive consulting to clients with public and life safety communications missions throughout North America. Our client base consists of public safety answering points in more than half of the United States, and the comments herein represent our experiences with, and on behalf of, those clients rather than advocacy for a particular product, technology, or other interest.

With a professional staff of more than 70 employees, the MCP team is uniquely qualified to comment on this issue; the majority of our staff are former public safety and PSAP professionals that have experienced the dramatic change in the delivery of 9-1-1 calls over the past two decades. Similarly, we have experienced first-hand the challenges that accompanied the shift to a majority of wireless calls.

There is no question that the matters relating to this proceeding are important to PSAPs. Any improvements to the yield, accuracy, and time to first fix (TTFF) of locations would be welcomed by PSAPs nationwide. Perhaps collaterally, however, these matters are also of particular importance to all first responders given the growing momentum of the Nationwide Public Safety Broadband Network – FirstNet – which will be built on a Long Term Evolution (LTE) platform. Moreover, recent discussions related to the eventual shift of some traditional land mobile radio communications to a mission critical Voice over LTE (VoLTE) offering on FirstNet broaden the

focus of this topic. Specifically addressing the Nationwide Public Safety Broadband Network, a recently released Department of Homeland Security document reinforces the possibility:[1]

"*In the future, broadband may be able to support mission critical voice.*"

Until only recently, the ability to locate first responders while they were away from their vehicles has been absent from the public safety marketplace. In recent years, however, several manufacturers have added global positioning system capabilities to their handheld subscriber equipment, empowering dispatchers with the capability to locate first responders when their missions were conducted away from their vehicles and within coverage of the GPS system. Nonetheless, these recent improvements come with the well-known limitations of the GPS network, namely a lack of reliable location information indoors and in challenging urban environments.

Submissions to the record in this proceeding claim the potential for a technology that would provide a TTFF of less than five seconds, as well as possible z-axis accuracy of less than five meters indoors.[2] The benefits and improvements to the safety and capabilities of first responders that would utilize a network with these location specifications would be immeasurable. Empowering both first responders and PSAPs to have situational awareness of public safety presence with such accuracy – both indoors and outdoors – would represent a capability improvement to public safety that is arguably as beneficial as the introduction of 9-1-1 itself.

Although specific plans related to the architecture of FirstNet are not established, some scenarios involve the possibility of network-sharing with existing CMRS providers. We acknowledge that such a scenario – of public safety responders utilizing commercial networks for mission-critical voice operations – is still a topic of great deliberation. That notwithstanding, we would encourage the Commission to broaden its view of the matters in this proceeding beyond the possible benefits and impacts to 9-1-1 callers, but rather consider the possibility that rule changes and other actions may also benefit the larger first responder community.

On the more specific topic and questions related to the matters in this proceeding, MCP has reviewed the August 12, 2013 report of the California Chapter of the National Emergency Number Association ("CALNENA")[3], as well as other submissions from Verizon, TruePosition, Qualcomm, and AT&T. We base the following comments primarily on our team's and client's experiences administering PSAPs throughout the United States, with some observations related to the submissions to the record:

[1] *See* Department of Homeland Security. *Public Safety Communications Evolution*, September, 2013. Available at: http://www.safecomprogram.gov/oecguidancedocuments.html
[2] *See* Comments of TruePosition, Inc. (Part One) at 22, PS Docket No. 07-114, dated Aug. 6, 2013.
[3] *See* Letter from Danita Crombach, ENP, President, The California Chapter of the National Emergency Number Association, PS Docket No. 07-114, dated Aug. 12, 2013.

1. It seems clear from the submissions of AT&T, T-Mobile, and Verizon that a more frequent and consistent process of re-bidding by the California PSAPs in the Public Safety Network's study would have dramatically increased the number of calls that terminated with Phase II data available at the PSAP.[4]

   Our experience with PSAPs and carriers throughout the United States is consistent with the assertions of AT&T, T-Mobile, and Verizon as well as guidance offered by the national chapters of both APCO and NENA[5]; high-yield Phase II data requires at least a single re-bid, no less than 15 seconds after delivery of the initial data.

2. The need to re-bid on wireless calls requires significant training of telecommunicators, and more than a basic understanding of the operational and technical aspects of the process. While most 9-1-1 call processing equipment (CPE) supports the ability to provide automatic re-bids, this, too, is not without operational and technical considerations.

   In integrated configurations, computer-aided-dispatch systems provide mapping and location verification functions derived from position data supplied by the CPE. In fully automated configurations, the receipt of updated location information from the CPE results in a refresh of the mapping application and possibly the incident location. Using the scenario of a good-Samaritan caller traveling on a highway, the initial location delivered with the call – reporting an accident, for example – would be more accurate than subsequent automatically-derived location updates as the caller continues on their travels. In this scenario the use of automatic re-bids would be more detrimental than helpful.

   Some CPE platforms offer highly customizable automatic re-bid functionality, such as the ability to re-bid at pre-determined intervals until the class of service is WPH2. In many CPE platforms re-bidding can simply be configured for a single automatic update at a specific interval after call delivery.

   Further complicating the automatic re-bid capability, however, is the view of some ALI providers on frequent, automatic re-bidding particularly in high volume PSAPs. Our experience has been that some ALI providers fall just short of forbidding automatic re-

[4] *See* Comments of T-Mobile USA, Inc. at 2, PS Docket No. 07-114, dated Sep. 5, 2013; *see also* Comments of AT&T, Inc. at 1, PS Docket No. 07-114, dated Sep. 9, 2013; *see also* Comments of Verizon. at 2, PS Docket No. 07-114, dated Sep. 11, 2013

[5] *See* National Emergency Number Association, *Wireless Phase I &II Features and Functions Operational Information Document*, Doc. 57-501, § 3.2.8, Jan. 20, 2003; *see also* APCO International, *An Assessment of the Value of Location Data Delivered to PSAPs with Enhanced Wireless 911 Calls*, Final Report, Apr., 2007.

bidding, if not strongly caution against the practice, citing an increased and perceived detrimental load that it places on their resources.

3. The lack of frequent and consistent re-bidding in the data supplied by AT&T, T-Mobile, and Verizon may be further explained by the very nature of wireless calls. During the time when wireline phones served as the origination point for the majority of 9-1-1 calls, it would have been extremely rare to receive dozens of simultaneous calls reporting the same incident. Like so many other aspects of our lives, though, wireless phones have changed that likelihood.

   It is not at all uncommon – in fact it is virtually expected – that an incident which occurs on a busy roadway or in a populated urban area will generate dozens of calls over a very short duration. After the initial information is gathered, subsequent callers rarely have additional details to offer that will affect the outcome of the incident, and thus highly-skilled telecommunicators triage the calls and terminate them quickly in order to free 9-1-1 resources. In these cases, additional location information is unnecessary, as is Phase II data resulting from a re-bid. Those experienced with PSAP management and operations could conclude that the lack of Phase II data for calls under 30 seconds in length – 44% in T-Mobile's analysis – fit these criteria. Further analysis of the data should be performed to determine what, if any, impact short duration calls had on the conclusions of the CALNENA report.

4. Based strictly on the analysis provided by CALNENA's consultant, the data do support the conclusion that Phase II data delivery at the initial bid has decreased for some carriers over the reference period, yet it has increased for others. As other commenters have addressed, this decrease is attributable to the change of location determination by those carriers from a network-based architecture to an Assisted GPS solution. It is clear how PSAPs may have concluded that this change was an overall decrease in Phase II location yield, although the impact was specifically on yield at the initial bid rather than yield during the duration of the call. As has been described, methods to increase location yield are available to the PSAPs, namely re-bidding, although this represents a change in operational procedures that were not previously required. Even so, given the data in the CALNENA report, it is difficult to support the conclusion that calls originating from *indoor* locations have been more adversely impacted than others.

5. The issues that are raised in this proceeding continue to further highlight the technical issues surrounding the traditional, legacy 9-1-1 system. In nearly every case, these issues are addressed and corrected, or at a minimum mitigated with the implementation of a fully-compliant NENA i3 or "Next Generation 9-1-1" (NG911) network. Specifically, provision of location data is "pushed" with call delivery rather than "pulled" at the request of the PSAP as in a traditional, legacy environment. We strongly encourage the

Commission to incentivize the transformation of the legacy 9-1-1 network to an NG911 network by not only PSAPs, but more importantly telecommunications service providers.

Representatives from Mission Critical Partners will be in attendance at the October 2 workshop, and we look forward to providing additional input on this important matter. We also welcome the opportunity to provide an *ex parte* presentation to Commission staff, supported by a representative group of our PSAP clients, to discuss these issues in greater detail.

Please feel free to contact me at any time if you have questions related to the comments above.

Respectfully submitted,

/s/

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