



September 6, 2007

**Ex Parte**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: *Wireless E911 Location Accuracy Requirements*, PS Dkt. No. 07-114, WC  
Dkt. No. 05-196 (NPRM Sections III.A & III.B)

Dear Ms. Dortch:

T-Mobile USA, Inc. (“T-Mobile”) is concerned by reports that the Commission is considering requiring CMRS carriers to meet the E911 accuracy requirements of 47 C.F.R. 20.18(h) at the PSAP-level for every PSAP in the country by a date certain.<sup>1</sup> While T-Mobile respects and fully supports the Commission’s goals to improve E911 accuracy, the record in this proceeding clearly shows that this requirement simply cannot be met using current or foreseeable technologies. As a result, there is simply no basis to conclude that Rule 20.18(h) accuracy levels for 100 percent of the PSAPs can be achieved in any particular timeframe.

Instead of imposing an impossible mandate, T-Mobile urges the Commission to consider T-Mobile’s alternative proposal, which would provide both immediate benefit at the PSAP level and a path forward towards further E911 improvements. Specifically, T-Mobile’s plan will immediately and continually require carriers to optimize the performance of their deployed location technologies at the PSAP level. This will ensure that carriers are delivering the best possible location accuracy with their current technologies and are not simply “writing off” smaller communities by relying on their more accurate results in larger communities to achieve compliance on a broader geographic basis. At the same time, public safety, the industry, and the Commission will evaluate the best location performance solutions and requirements for the future.

As detailed most recently again by Verizon Wireless and the Rural Cellular Association in their ex parte letter filed on August 31, 2007, the Commission’s contemplated PSAP-level accuracy requirement by a date certain would order carriers to do the impossible, and would therefore be both arbitrary and capricious.<sup>2</sup> Furthermore,

<sup>1</sup> Communications Daily, Aug. 27, 2007, at 3.

<sup>2</sup> *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir 1991) (“Impossible requirements imposed by an agency are perforce unreasonable.”); *Bunker Hill Co. v. EPA*, 572 F.2d 1286,

the record also makes clear that imposition of an impossible-to-meet PSAP-level accuracy requirement will force carriers to drop or not deploy service in areas where PSAP-level compliance is most difficult.<sup>3</sup> The Commission has not even begun to develop the record necessary to evaluate the harm to the public interest that would be caused when users can no longer complete *any* wireless calls in these areas, including 911 calls. Surely the benefits from wireless access to 911 in these areas with location accuracy that is as good as can be reasonably achieved outweighs whatever incremental harm results from not meeting the Rule 20.18(h) requirements at the PSAP level.

The Commission also has not developed a record as to the potential competitive impact of such dramatic requirements. In particular, T-Mobile and smaller carriers will be disadvantaged by such a mandate, as we are only just beginning to deploy broadband UMTS and other next generation technologies that will bring strong competition to the wireless marketplace. As the top bidder in the recent FCC Advance Wireless Service (“AWS”) auction, T-Mobile is working diligently to clear AWS spectrum acquired in the AWS auction and to develop technology for that band at substantial cost to its business. Exorbitant and unpredictable new compliance costs in the area of E911 will undoubtedly force us to make hard choices about our options to deploy in particular areas, hurting our ability to compete against our largest competitors. All of these substantial arguments cannot be ignored and counsel strongly for an alternative approach.<sup>4</sup>

Even the comments of the most aggressive vendor, TruePosition, do not support a finding that it is technically feasible to meet the Rule 20.18(h) requirements at the PSAP-level at every PSAP by a date certain. TruePosition does not ever claim that a U-TDOA/A-GPS hybrid could reasonably achieve PSAP-level compliance at 100 percent of PSAPs, as the Commission apparently is considering mandating.<sup>5</sup> Even then,

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1301 (9<sup>th</sup> Cir. 1977) (“The record must establish that the required technology is feasible, not merely *possibly* feasible.”). *See generally* Letter to Marlene H. Dortch, Secretary, FCC from David L. Nace, Esq., Counsel to Rural Cellular Association, and John T. Scott, III, Vice President and Deputy General Counsel – Regulatory Law, Verizon Wireless, PS Docket No. 07-114, CC Docket No. 94-102, WC Docket No. 05-196 (filed August 31, 2007) (“*Joint RCA/VZW Ex Parte*”). T-Mobile fully supports the arguments set forth in the *Joint RCA/VZW Ex Parte*.

<sup>3</sup> *See, e.g.*, Comments of T-Mobile USA, Inc., PS Docket No. 07-114 at 14 (filed July 5, 2007) (“*T-Mobile Part III.A Comments*”); Reply Comments of T-Mobile USA, Inc., PS Docket No. 07-114 at 2, 14 (filed July 11, 2007) (“*T-Mobile Part III.A Reply Comments*”); Comments of Cincinnati Bell Wireless LLC, PS Docket No. 07-114 at 4-5 (filed July 5, 2007) (“*Cincinnati Bell Part III.A Comments*”); Comments of Rural Cellular Association, PS Docket No. 07-114 at 6 (filed July 3, 2007) (“*Rural Cellular Assoc. Part III.A Comments*”); Reply Comments of Rural Cellular Association, PS Docket No. 07-114 at 4 (filed July 11, 2007) (“*Rural Cellular Assoc. Part III.A Reply Comments*”).

<sup>4</sup> In addition, even if existing technologies were capable of meeting such a PSAP-level mandate at all PSAPs, a one-year compliance deadline would not provide sufficient time to physically test all PSAPs to establish compliance with the rule. Other practical impediments would need to be addressed. *See e.g.* Sprint Nextel Comments, PS Docket No. 07-114 at 12-14 (filed July 5, 2007) (“*Sprint Part III.A Comments*”); Comments of Verizon Wireless, PS Docket No. 07-114 at 23-25 (filed July 5, 2007) (“*Verizon Wireless Part III.A Comments*”).

<sup>5</sup> Comments of TruePosition, Inc., PS Docket No. 07-114 at 10 (filed Aug. 20, 2007) (“*TruePosition Part III.B Comments*”) (claiming that carriers could meet the FCC 50/150 hybrid solution accuracy requirements at “the vast majority” of PSAPs with a U-TDOA/A-GPS hybrid); Comments of TruePosition, INC., PS Docket No. 07-114 at 5 (filed July 5, 2007) (“*TruePosition Part III.A Comments*”).

TruePosition's performance claims regarding a U-TDOA/A-GPS hybrid are completely without basis. No such system has been built, fielded, or tested – including by TruePosition. This is a perfect example of vendor vaporware. No cost/benefit analysis has been conducted to justify such an approach might offer, particularly in light of the extensive costs, not just to carriers, but to consumers, of such a requirement – including the costs of carriers discontinuing service in some areas. T-Mobile adamantly disagrees with the performance claims and compliance levels suggested by TruePosition, and would welcome an opportunity to discuss the details of this further with the Commission.

Furthermore, the 18-month figure TruePosition gave in its Part B comments with regard to its proposed development of a hybrid solution only accounts for software development for the "network functionality," not the development of the entire solution. This estimate for this limited first step is extremely optimistic, and suspect, as TruePosition projected twice as long in its Part A comments.<sup>6</sup> The estimate does not include the time needed to standardize such an approach, manufacture equipment and chipsets, put them into handsets and cell sites for testing purposes, complete the testing, make adjustments, manufacture the equipment and chips for commercial distribution, add them to handsets and deploy required equipment throughout the network, and introduce the new handsets into the carriers' lineups. As outlined in more detail in T-Mobile's Part B comments, this technology development, implementation and initial manufacturing process would likely take five or more years to complete.<sup>7</sup> Only then could the first handset be provided to a subscriber with this capability. The process of achieving a 95 percent penetration into the subscriber base would then start, likely taking upwards of 8 or more years, as recently seen with the CDMA carriers.<sup>8</sup>

TruePosition's comments also confirm that it is not technically possible to comply with Rule 20.18(h) accuracy requirements at the PSAP-level for every PSAP using U-TDOA, as supplemented by a new and as yet unproven TruePosition software release, or U-TDOA in combination with Angle-Of-Arrival (AOA) technology (which only recently became available in a pre-production environment). Even assuming that these solutions all work as TruePosition claims<sup>9</sup> and using TruePosition's own estimates, which are based on a small subset of PSAPs predominantly from the urban and suburban areas

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<sup>6</sup> TruePosition Part III.A Comments at 5.

<sup>7</sup> T-Mobile USA, Inc., Comments on Section 111.B of the Wireless E911 Location Accuracy NPRM, PS Docket No. 07-114 at 17-20 (filed Aug. 20, 2007) ("*T-Mobile Part III.B Comments*").

<sup>8</sup> See T-Mobile Part III.A Comments at 7 & n. 12; see also TruePosition Part III.A Comments at 6.

<sup>9</sup> As set forth in T-Mobile's Part III.A Reply Comments, which have not been rebutted, there are substantial technical reasons to doubt that AOA will significantly improve the ability to meet FCC accuracy requirements in the most problematic PSAPs and would pose significant siting problems that would inevitably slow deployment beyond the proposed one-year compliance deadline. T-Mobile Part III.A Reply Comments at 8 ("Angle-of-Arrival accuracy degrades with increased distance from the cell site. Where the degradation is most evident is in the same areas that U-TDOA accuracy is most challenged (*e.g.*, rural areas and highways). Furthermore, Angle-of-Arrival requires additional and larger antennas than U-TDOA. The addition of these antennas would present significant issues in obtaining necessary approvals to place these antennas on cell towers, and would, even when approval can be secured, make the installation and space rental for these antennas much more difficult and costly due, *inter alia*, to the increased weight and wind load factors involved.").

where U-TDOA tends to perform best,<sup>10</sup> none of these technological solutions can achieve compliance at 100 percent of PSAPs without “dramatic deployment of AOA and U-TDOA sites” that would “benefit only 1-2 percent of all E911 calls at an extremely large expense” – which TruePosition itself does not support.<sup>11</sup> The record again lacks any evidence to demonstrate that the extreme costs of such solutions would be outweighed by the incremental location accuracy benefits, especially when the likelihood that carriers would drop service to hard-to-comply areas is also considered.<sup>12</sup> In sum, there is no record basis for setting *any* date certain for PSAP-level compliance with Rule 20.18(h) at every PSAP.

As an alternative to the legally problematic approach of promulgating a PSAP-level compliance deadline that cannot be met at every PSAP, T-Mobile respectfully suggests that the Commission adopt T-Mobile’s proposed three-stage process to improve accuracy performance. This process would require carriers to maximize the performance of their technologies while simultaneously initiating a technically-based review process to move quickly towards achievable requirements for the future. From a practical standpoint, it would achieve the same results as the rule the Commission is contemplating without creating a date certain at which carriers will have to discontinue service to avoid non-compliance.

- **Stage 1 – Require Carriers to Optimize Existing Technologies at the PSAP Level.** Starting immediately, carriers and PSAPs can begin working to optimize current technologies for performance at the PSAP-level.<sup>13</sup> Such a process, which would be initiated by a PSAP request to a carrier for optimization, would ensure that PSAPs get the best location performance reasonably possible in the near term and prevent carriers from simply relying on results averaged over larger geographies without taking further measures to improve accuracy where possible.

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<sup>10</sup> TruePosition Part III.B Comments at 9 (“This analysis is based on a recent snapshot of carrier deployments. In general, these deployments tend to encompass urban and suburban areas. Many rural areas remain to be deployed. As those deployments occur, we anticipate a higher percentage of PSAPs will fall into categories requiring additional effort to bring them into compliance”). TruePosition’s PSAP compliance analysis is also likely to be substantially overstated because it completely excluded all PSAPs that have not yet been deployed with Phase II location technology. Many of these PSAPs are located in more remote and rural areas, where U-TDOA is most challenged.

<sup>11</sup> TruePosition Part III.B Comments at 8-9; T-Mobile Part III.A Reply Comments at 8 (AOA/U-TDOA combination “only recently became available in a pre-production environment from T-Mobile’s technology vendor, so there is no real-world experience with the combined technology”).

<sup>12</sup> See, e.g., Cincinnati Bell Part III.A Comments at 4 (stating that, with its AOA technology, it would have to “either remove certain sites at the edges of its network that serve only small portions of certain PSAPs’ jurisdictions or build additional sites at the edges of its network for which there is little or no consumer demand.”)

<sup>13</sup> See e.g. NRIC VII, Focus Group 1A, Near Term Issues for Emergency/E9-1-1 Services, Final Report, Appendix E “E9-1-1 Phase II Accuracy Optimization Reporting and Resolution Process,” at 50 (Dec. 2005) (recommending that carriers be required “to optimize the performance of their deployed location technology at the Public Safety Answering Point (PSAP) level, to the extent technically feasible and commercially reasonable,” and setting specific timelines and procedures for doing so, both at initial deployment and subsequently in response to a PSAP’s own testing), *attached to* Reply Comments of Verizon Wireless, PS Docket No. 07-114 (filed July 11, 2007).

- **Stage 2 – Immediately Empanel Advisory Committee.** As both public safety and industry commenters proposed, the Commission should immediately establish a WARN Act-type advisory committee to investigate new location technologies, evaluate their real-world performance, and make recommendations to the Commission. The committee would unite industry, technology providers, public safety agencies, the Commission and other interested parties into a meaningful partnership capable of charting the most effective way forward to improved accuracy and public safety. Given the number and complexity of the issues such a group would be addressing, this process should be given a reasonable time to complete its work, e.g., two years, although it can be given intermediate benchmarks and asked to deliver recommendations on certain discrete issues earlier.
- **Stage 3 – Adopt and Implement New Standards.** In this phase, the Commission would adopt any technically feasible and reasonable new standards. Carriers, network and handset vendors, and PSAPs would transition to those new standards as quickly as reasonably possible, in accordance with a transition schedule reflecting technical obstacles, variations in PSAP resources, and variations in PSAP capabilities.

For the foregoing reasons, as well as those detailed in T-Mobile's earlier filings in this docket, the Commission should not require CMRS carriers to meet the E911 accuracy requirements of 47 C.F.R. 20.18(h) at the PSAP-level for every PSAP in the country, and should instead adopt T-Mobile's alternative three-stage approach to improved CMRS 911 accuracy.

Sincerely,



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