

September 4, 2003

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, D.C. 20554

Re: Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102

Dear Ms. Dortch:

Recent submissions by several rural wireless carriers in the above-captioned docket reflect the view that there is a dearth of available network-based location solutions for CDMA carriers. The concerns have tended to focus upon CDMA carriers utilizing a type of Motorola network equipment, which is not fully compliant with J-STD-036. TruePosition is making this submission to provide some additional background and because some of the issues that one of the filers, First Cellular of Southern Illinois, raise need to be understood in a broader context.<sup>1</sup> The Commission's reticence in prescribing a specific standard for mobile wireless modulation or for location functionality has produced a great many benefits in terms of industry dynamism, but it also imposes occasional costs when the market moves away from committed investments. First Cellular's situation is an example of the latter phenomenon.

One basis for First Cellular's requests is the difficulty it has experienced securing a network-based location solution that is compatible with its existing infrastructure equipment. First Cellular uses a particular vintage of Motorola equipment that is not fully J-STD-036 compliant and that is not compatible with the network location technology provided by TruePosition (or by other network technology companies). The J-STD-036 standard allows network-based location technologies to monitor and measure the mobile carrier's voice channel in connection with a time difference of arrival technique for establishing location. Consistent with the standard, TruePosition monitors and measures the mobile carrier's voice channel to establish location. Unless and until Motorola were to design and sell modifications to the type of equipment that First Cellular uses, it is not possible to use the voice channel to establish location. Rather, it would be necessary to monitor and measure the carrier's control channel.

TruePosition invested substantial resources toward the development of a control channel product and, in fact, conducted field trials of the technology in several locations between 1998

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<sup>1</sup> See Southern Illinois RSA Partnership d/b/a First Cellular of Southern Illinois, *Amended E911 Interim Report*, CC Docket No. 94-102 (filed Aug. 18, 2003) and *Petition for the Extension of the Implementation Schedule*, CC Docket No. 94-102 (filed Aug. 26, 2003).

and 2001. In December 2000, TruePosition and Verizon Wireless reported the successful completion of a location system test in Manhattan on Verizon Wireless' CDMA network. With over 30,000 test calls, the CDMA solution demonstrated sub-100 meter location results in a variety of indoor, outdoor, pedestrian, and moving vehicle scenarios.

Notwithstanding the success of the trial and TruePosition's willingness to offer the product on commercial terms, Verizon Wireless and other major CDMA carriers chose to adopt A-GPS technology. In addition, the infrastructure and switch vendors adopted J-STD-036. When it became apparent that the market was moving away from control channel approaches, TruePosition deferred further development work on this commercially available product. The current products from TruePosition and other location technology vendors require relevant J-STD-036 compatibility from the network equipment that is not currently supported in the Motorola network equipment. However, if First Cellular or other carriers were to place orders that require the use of control channels to establish location, TruePosition would be able to re-start the development process and have technology available within 12-14 months.

The issue presented by First Cellular's stay request is both classic and limited. It is classic in the sense that it is precisely the type of systems-related complication that can and often does arise when important components of a system are independently controlled. In this case, as TruePosition has come to understand the matter, normal changes in marketplace demand have created a situation in which it is not economic for Motorola to make the investments to modify its equipment to permit voice channel monitoring and it is not economic for location technology companies to make the investments to perfect control channel monitoring.

Dale Hatfield identified this issue in his October, 2002, report to the Commission:

[W]hile various entities have responsibility for parts of the system, there is no entity charged with examining how the parts fit together and how they might be redesigned or reconfigured to improve end-to-end performance or reduce the overall costs of meeting the requirements spelled out in the Commission's rules. Likewise, there is no single entity charged with carrying out the systems engineering studies necessary to develop the means to accommodate changing technology and changing requirements at minimal overall cost.<sup>2</sup>

The issue is limited because use of the particular vintage of incompatible switching equipment. In this sense, the specific type of problem that First Cellular has brought to the Commission is self-liquidating. That is not to say that the problem is not a real and valid one for rural carriers utilizing the Motorola switch nor that it does not require some amelioration--there is no immediately available location technology that it can deploy. It is only to say that it is a clear exception to the general state of E911 affairs in which, fortunately, the technologies being provided by independent infrastructure and location companies are compatible.

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<sup>2</sup> A Report on Technical and Operational Issues Impacting the Provision of Wireless Enhanced 911 Services, Oct. 15, 2002, 22. Lodged in WT Docket No. 02-46.

We hope that this information will prove useful to the FCC in addressing the recent requests for waivers filed by rural carriers.

Respectfully submitted,

*/s/ Michael Amarosa*

Michael Amarosa