

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	CC Docket No. 94-102
	)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling	)	
	)	
E911 Requirements for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

To: The Commission

July 5, 2007

**COMMENTS OF TECHNOCOM CORPORATION**

TechnoCom Corporation hereby respectfully submits the following comments in response to the Commission's Public Notice, FCC 07-108, requesting comments on Section III.A of its Notice of Proposed Rulemaking regarding the geographic scope of the current wireless location accuracy requirements and the question of deferring enforcement of Section 20.18(h) at the PSAP service area level.

TechnoCom Corporation is a provider of automated solutions to test, monitor and report on the accuracy of wireless location systems for E911 and commercial location based services.<sup>1</sup> Its LocationAssurance Manager™ is an automated platform for conducting wireless E911 accuracy testing and reporting based on guidelines provided in OET Bulletin No. 71, testing methodologies established within Emergency Services Interconnection Forum (ESIF)<sup>2</sup> Subcommittee G<sup>3</sup>, and TechnoCom's own internally-developed best practices.

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<sup>1</sup> See <http://www.technocom-wireless.com>.

<sup>2</sup> See <http://www.atis.org/esif/index.asp>: "ESIF is the primary venue for the telecommunications industry, public safety and other stakeholders to generate and refine both technical and operational interconnection issues to ensure life-saving E9-1-1 services are available for everyone in all situations."

<sup>3</sup> See <http://www.atis.org/esif/esifsubcommitteeeg.asp>. Subcommittee G is also known as the Emergency Services Testing Methodologies subcommittee.

TechnoCom has extensive experience in E911 location system design, development and field testing, having worked on a variety of such activities with nearly twenty different location technology developers since its founding in 1995. In addition to working with developers of both network-based and handset-based E911 location technologies, TechnoCom has extensive experience in the network planning, deployment and testing of Phase II wireless E911 location systems for over fifteen wireless carriers across all wireless technologies including CDMA, GSM, iDEN™, and TDMA. TechnoCom has been an active participant in ESIF Subcommittee G since 2003, working with other industry stakeholders to establish technical standards for emergency services testing methodologies.<sup>4</sup> The members of ESIF Subcommittee G have collaboratively developed a set of requirements for accuracy testing, functionality testing, and on-going maintenance testing of E911 location systems aimed at standardizing the methods used by wireless E911 location system testing entities.

TechnoCom has dedicated substantial resources to developing solutions to make the testing, monitoring and reporting of E911 location accuracy (and other location system performance metrics) as reliable, cost-effective and manageable as possible. TechnoCom's LocationAssurance Manager (LAM) platform is installed in five different wireless networks, autonomously testing and monitoring E911 location accuracy for systems serving over seventy million subscribers. TechnoCom has developed its LAM solution to analyze test data and report on performance at any user-specified geographic level of interest. Likewise, users may configure LAM to generate accuracy reports using data gathered over any user-specified time interval (whether measured in minutes, hours, days, months, or years). Whether the Commission mandates PSAP service area level, MSA/RSA service area level, or any other geographic scope of compliance, TechnoCom's LAM solution is capable of testing, monitoring and reporting on the E911 location system accuracy within any such mandated geographic areas.

TechnoCom is aware that other E911 accuracy testing solutions of varying capability are also available from a number of other vendors. In addition to such solutions, a number of wireless engineering services companies provide manual E911 field testing services.

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<sup>4</sup> See <http://www.atis.org/esif/esifsubcommitteeG.asp>: "The mission of ESIF Subcommittee G is to provide a set of minimum, practical requirements that will ensure individual accuracy test methodologies provide consistent, valid, verifiable, and reproducible results in a variety of environments based on sound engineering and statistical practice."

Despite the wide availability of accuracy testing and reporting solutions and services, TechnoCom believes that an important impediment must be addressed to assure that compliance testing and reporting at any level can be effectively and fairly implemented – this impediment being the inconsistency of cost recovery policies within different states and counties across the country. First of all, not all states provide cost recovery mechanisms. Furthermore, in many states that do provide cost recovery mechanisms for the underlying E911 infrastructure and on-going operating costs, cost recovery for accuracy testing systems and associated testing and reporting activities is either not allowed or only partially allowed. These inconsistencies and uncertainties add confusion, complexity and cost to E911 system operation for larger carriers and potentially create a competitive disadvantage for smaller carriers who may only operate in such areas where cost recovery is not allowed or is unduly limited. Given that testing and reporting are essential elements of operating an effective E911 location system, TechnoCom requests that the Commission make it clear that such costs, whether they be internal to a carrier or submitted by equipment vendors and service providers, may be recovered by carriers to the same degree as the costs for the core E911 infrastructure and its on-going operation.

TechnoCom does not advocate a particular position with regard to the Commission's question on deferring enforcement of Section 20.18(h) at the PSAP service area level. However, TechnoCom does believe that should the Commission decide to implement enforcement at the PSAP service area level, it should take into account the realities of existing technologies and their implementation under the Commission's existing rules structure. While a particular network may be fully compliant at a network-wide (or even a state-wide or market-wide level), compliance at a PSAP service area level is not immediately assured due to the variations in geographic features, building types, propagation environments and network infrastructure characteristics across PSAP service areas in different parts of the larger area. Such factors could cause substantial variations in performance from PSAP to PSAP unless previously accounted for at the individual PSAP service area level during the original location system implementation.

TechnoCom believes that achieving compliance at the PSAP service area level, even for systems that are in compliance over a larger area (e.g., network or market), could result in the need for some additional infrastructure deployment, installation of supplemental technology where needed, and/or other operational changes by affected wireless carriers. For instance, such augmentations may be necessary to

overcome the well-known “string of pearls” situation that affects network-based technologies.<sup>5</sup>

Additionally, in any affected PSAP service areas where such augmentation may not be possible or effective due to physical, zoning, or economic factors, a carrier may find it necessary to implement a handset-based solution (e.g., AGPS) to achieve compliance at the PSAP service area level.

Similarly, augmentation may be required for PSAP service areas covering predominantly dense urban areas. In such cases, networks employing handset-based solutions based on GPS may encounter challenges in urban canyons that result in the need for either a fallback technology to be deployed to augment GPS or if an existing fallback technology is already in place (such as Advanced Forward Link Trilateration in CDMA networks), it may need to be better optimized for the PSAP service area of interest.<sup>6</sup>

Should the Commission decide on enforcement at the PSAP service area level, TechnoCom believes that given the potential for some wireless carriers to have to implement system augmentation measures within certain affected PSAP service areas, an appropriate time frame to allow for the implementation of those measures should be considered where necessary.

Respectfully submitted,



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<sup>5</sup> “String of pearls” refers to the linear arrangement of cell sites that is often encountered along interstate highways and rural roads that can make it a challenge for network-based location technologies with location equipment installed only at those sites to achieve their optimal level of performance.

<sup>6</sup> Such implementations that utilize both handset-based and network-based technologies are often referred to as hybrid solutions. See NPRM at 5, footnote 18.