

**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	)	WT Docket No. 94-102
	)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling	)	
	)	
911 Requirement for IP-Enabled Service Providers	)	WC Docket No. 05-196
	)	

**COMMENTS OF VERIZON WIRELESS**

Verizon Wireless hereby responds to the Commission's Public Notice seeking comment on proposals for new wireless E911 accuracy requirements for handset-based and network-based technologies.<sup>1</sup> The Public Notice references the joint proposal that Verizon Wireless developed with the Association of Public Safety Communications Officials, International (APCO) and the National Emergency Numbering Association (NENA) for location accuracy rules for handset-based technologies,<sup>2</sup> as well as a separate

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<sup>1</sup> *Public Notice, Comment Sought on Proposals Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability, DA 08-2129, PS Docket No. 07-114, September 22, 2008.*

<sup>2</sup> *See Letter from John T. Scott, III, Vice President and Deputy General Counsel, Verizon Wireless, Robert M. Gurss, Director, Legal and Government Affairs, APCO, and Brian Fontes, CEO, NENA, filed August 20, 2008.*

joint proposal between AT&T and those same organizations for a location accuracy framework for network-based technologies.<sup>3</sup> Both proposals recommend that the Commission adopt specific accuracy standards at the county level that would be phased in over specific time periods.

**I. VERIZON WIRELESS’S PROPOSAL MEETS THE NEEDS OF PUBLIC SAFETY, WILL ENSURE HIGHLY ACCURATE EMERGENCY CALLS, AND IS TECHNICALLY ACHIEVABLE.**

Verizon’s joint proposal with APCO and NENA to adopt stringent, localized E911 accuracy standards at the county level is fully consistent with the company’s longstanding commitment to providing the most accurate and reliable wireless E911 location services. Verizon Wireless has been a leader in providing E911 services to the nation’s public safety and emergency response agencies. It has invested substantial network and other resources to deploy E911 location capability in nearly 3,000 separate communities across the nation, and was the first national carrier using handset-based technology to achieve the Commission’s goal of providing 95 percent of customers with GPS-capable handsets. Verizon Wireless’s “Assisted GPS” (AGPS) technology provides the most accurate E911 location technology available today.

The APCO-NENA-Verizon Wireless proposal serves the public interest by providing an expedited way to resolve long-pending issues as to how to measure the accuracy of handset-based E911 systems. It reflects the cooperative efforts of industry and public safety to advance E911 accuracy. It specifies accuracy standards that would measure the performance of wireless location systems at the county level, satisfying the

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<sup>3</sup> See Letter from Robert W. Quinn, Jr., Senior Vice President – Federal Regulatory, AT&T, Robert M. Gurs, Director, Legal and Government Affairs, APCO, and Brian Fontes, CEO, NENA, filed August 25, 2008 (“AT&T August 25<sup>th</sup> Letter”).

public safety organizations' objective of having a locally-based measurement technique that in many cases will correspond to the local PSAP boundaries. It would also impose even more stringent accuracy requirements at the county level over time, fulfilling the Commission's objective of improving E911 accuracy as technology permits. The final accuracy requirements, which would take effect eight years after the Commission adopts new rules, are modeled on the existing accuracy standards that are set forth in Section 20.18 of the Commission's rules and would achieve extremely accurate locations for the vast majority of emergency calls.

As documented by Verizon Wireless's *ex parte* letter further explaining the company's support for the APCO-NENA-Verizon Wireless proposal,<sup>4</sup> the proposed accuracy standards in its joint proposal with APCO and NENA are rigorous but can be achieved as long as the exceptions and milestones contained in the proposal are adopted.

The proposal recognizes that the particular topology of a county can impede accuracy, because the precision of the location fix depends on the wireless handset's ability to "see" multiple GPS satellites. Verizon Wireless's *ex parte* letter described the two notable features of AGPS technology: (1) the technology is highly accurate when four or more satellites are visible to the handset; and (2) when there are not enough satellites visible to the handset (usually two satellites or less), AGPS relies on data from nearby cell sites to supplement or completely replace satellite signals in calculating location measurements. Location measurements become less accurate as more reliance is placed on cell site triangulation. When cell sites are used to supplement or substitute for

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<sup>4</sup> Letter from John T. Scott, III to Marlene H. Dortch, PS Docket No. 07-114, September 5, 2008.

satellite signals in this manner, the handset must be able to “see” a minimum of three cell sites that are geometrically spaced in a manner that allows for triangulation – much like the network-based E911 solutions deployed by other carriers. Like the paths from the GPS satellite to the handset, the path from cell sites to the handset can be compromised by the topology, preventing achievement of a location to the accuracy levels achievable where the topology is more open.

The approach of the APCO-NENA-Verizon Wireless handset-based proposal, by modifying the existing accuracy standards and excluding a percentage of counties based on heavy forestation from the upper accuracy threshold, is absolutely necessary given the public safety organizations’ desire for county-level testing and accuracy rules. The parties to the proposal agree that it is not technically feasible for carriers to meet either the existing or the proposed accuracy standards in all counties. The handset-based proposal and the exclusion of 15% of counties recognize these realities. It will, however, serve the public interest by requiring a very high level of accuracy for the vast majority of emergency calls to PSAPs.

## **II. THE PROVISION OF CONFIDENCE AND UNCERTAINTY DATA SHOULD BE SUPPORTED BY 911 SERVICE PROVIDERS.**

AT&T’s joint proposal with public safety, in addition to recommending new E911 accuracy standards at the county level for network-based technologies, recommends that the Commission require wireless carriers to send confidence and uncertainty information to PSAPs.

Wireless carriers are able to, and in many cases do, provide per-call confidence and uncertainty data to many PSAPs today. This information gives PSAPs the ability to

judge, on a given call, whether to place more or less confidence in the location information provided. It can directly impact the amount of police, fire or emergency resources that are dispatched to a given location. Moreover, given that accuracy testing is a snapshot in time in which results are compiled and weighted, receiving on a recurring basis per call confidence and uncertainty information can be very useful to PSAPs on a more routine, daily basis.

However, in nearly all situations, wireless carriers route E911 information to the local exchange carrier that in turn relays the information to the PSAP. The LEC is known as the “emergency services provider.” In some cases, the emergency services provider does not have the capability to transmit confidence and uncertainty information. It would not be appropriate or lawful for the Commission to impose an unqualified obligation on wireless providers to deliver information to the PSAP when the intervening emergency services provider is unable to do so. Verizon Wireless thus recommends that the Commission instead require that wireless carriers include confidence and uncertainty information in the call location information they provide to the emergency services provider. That carrier should, in turn, transmit the confidence and uncertainty data to its PSAP customer.

### **III. CONCLUSION**

For the above reasons, Verizon Wireless urges the Commission to adopt its proposed accuracy standards for E911 accuracy and the timelines for achieving those standards. Should the Commission adopt additional rules governing confidence and uncertainty information, it should require that wireless carriers transmit that information to the emergency service providers serving the local PSAP. These actions will resolve

longstanding issues as to wireless E911 services and assure the continued accuracy of wireless E911 systems for the benefit of the public.

Respectfully submitted,

VERIZON WIRELESS

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