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September 5, 2008

***Ex Parte***

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, D.C. 20554

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

Dear Ms. Dortch:

On August 20, 2008, the Association of Public Safety Communications Officials, International (APCO), the National Emergency Numbering Association (NENA), and Verizon Wireless filed a letter with the Commission proposing improved compliance measurements for wireless providers using handset-based E911 technologies. This letter submits additional information in support of that proposal.

The proposal has five interrelated aspects: (1) new E911 accuracy standards that will be measured at the county level; (2) deadlines for achieving these standards; (3) an exception for a subset of counties that present technical challenges to location accuracy; (4) a commitment to work toward recommendations on indoor accuracy testing, and (5) agreement that the Commission should go no farther than adopting these new standards in amending its current E911 rules for handset-based technologies.

Verizon Wireless believes that the proposed accuracy standards, while rigorous, can be achieved within the time frames set forth in the proposal. In the company's experience, the greatest technical barrier to the accuracy of handset-based E911 technologies is the presence of terrain obstructions, whether natural or manmade. The "topology" (or terrain characteristics) of an area is critically important to accuracy because the precision of the location fix depends on the wireless handset's ability to "see" multiple Global Positioning System (GPS) satellites. In Verizon Wireless's hybrid Assisted GPS location system,<sup>1</sup> four or more satellites are required for a precise GPS-

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<sup>1</sup> Verizon Wireless's system uses a "hybrid" technology known as "Assisted GPS", because it supplements GPS technology with network-based network triangulation technology. The network-based technology, however, does not provide accuracy to within the precise distance limits the Commission previously set for handset-based technology.

only location. When there are not enough satellites visible to the handset due to line of sight obstructions, then the location system relies on data from surrounding cell sites to supplement or completely replace satellite signals in calculating location measurements. When cell sites are used to supplement or substitute for satellite measurements, 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. Location measurements become less accurate as more reliance is placed on cell site triangulation.

Where, for example, an area’s topology is characterized by forest, the likelihood of a good location fix is reduced because the tree cover obstructs the transmission path between the satellites and the handset. The more extensive the tree cover, the greater difficulty the system has in generating a GPS-based fix. Likewise, man-made as well as natural obstructions may also pose challenges for obtaining an accurate network-based fix because RF signals may be delayed or blocked altogether. In contrast, where an area is more open so that it is more likely that sufficient GPS satellites will be accessed by the handset, handset-based technologies provide highly accurate location fixes.

In short, while meeting E911 accuracy requirements at the county level is feasible in many counties, the parties to the proposal recognized that it is not technically feasible for carriers to meet the current accuracy standards in all counties using currently available technology. Any new E911 rule for handset-based systems must recognize these realities in order to be technically achievable.

The APCO-NENA-Verizon Wireless proposal incorporates these technical realities in two ways. First, in recognition that accuracy will now be tested and measured at an individual county level, it sets the percentage of Phase 2 E911 calls that must be accurate to within 50 meters at 67%, and the percentage of calls that must be accurate to within 150 meters at 80%, within two years from the effective date of the new rules. No more than six years later (that is, eight years after the rules’ effective date), the percentage of Phase 2 calls that must be accurate to within 150 meters increases to 90%, thus raising over time the required accuracy of the system.

Second, the proposal allows the wireless provider to exclude up to 15% of counties served from the 150 meter accuracy standard based on heavy forestation, to reflect the fact that many counties are characterized by tree coverage that reduces the ability to obtain sufficient accuracy to establish compliance.

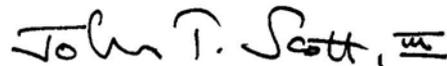
By excluding a small percentage of counties, as well as a small (and decreasing) percentage of calls from compliance, the proposal acknowledges that these exceptions are both necessary and appropriate in order to achieve the rigorous accuracy requirements that will apply to all other E911 Phase 2 calls.

The compliance periods set forth in the proposal serve two important purposes. The initial two-year period is necessary for Verizon Wireless to establish new protocols for county-level accuracy testing and to conduct that testing in order to verify compliance

with the new standards. The additional six-year period is needed for Verizon Wireless to work to achieve the more rigorous "90% of Phase 2 calls" accuracy standard. The company anticipates that during this time there are likely to be developments in the field of location technologies that may enable improvements in accuracy of handset-based technologies. This period will allow the company needed time to test and deploy new software or equipment using such technologies.

The APCO-NENA-Verizon Wireless proposal addresses Public Safety's desire for wireless E911 systems to demonstrate accuracy at an individual county level, while incorporating a limited but needed amount of flexibility for wireless carriers using handset-based technologies to meet the accuracy standards. The company believes that this proposal is feasible and achievable as long as it is adopted as a whole and without additional requirements. It thus encourages the Commission to consider it at such time as the Commission resumes its consideration of changes to its E911 accuracy rules.

Sincerely,

A handwritten signature in black ink that reads "John T. Scott, III". The signature is written in a cursive style with a horizontal line under the name.

John T. Scott, III

cc: Derek Poarch, Chief, Public Safety and Homeland Security Bureau  
Jeffrey Cohen, Public Safety and Homeland Security Bureau  
Brian Fontes, NENA  
Robert Gurss, APCO