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August 2, 2017

Michael Wilhelm, Acting Division Chief
Policy and Licensing Division
Public Safety and Homeland Security Bureau
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: PS Docket No. 07-114
Wireless E911 Location Accuracy Requirements
Indoor Location Accuracy Implementation Plan and Progress Report
NE Colorado Cellular, Inc dba Viaero Wireless.

Dear Mr. Wilhelm:

Pursuant to 47 C.F.R. § 20.18(i)(4)(i)-(ii), submitted herewith on behalf of NE Colorado Cellular, Inc dba Viaero Wireless, a non-nationwide Commercial Mobile Radio Service provider, is the company's indoor location accuracy Implementation Plan and Progress Report.

If questions arise, you are welcome to contact the undersigned.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Todd Slamowitz".

Todd Slamowitz

Attachment

NE Colorado Cellular, Inc.

**E911 Location Accuracy Implementation Plan and Progress Report
47 C.F.R. § 20.18(i)(4)(i) and (ii)
PS Docket No. 07-114**

Set forth below is a summary of NE Colorado Cellular, Inc. dba Viaero ("Viaero") progress toward meeting compliance deadlines prescribed by the Federal Communications Commission in *Wireless E911 Location Accuracy Requirements*, Fourth Report and Order, PS Docket No. 07-114, FCC 15-9 (released Fed. 3, 2015) (*Fourth Report and Order*), and codified in 47 CFR § 20.18(i), *et seq.* Also provided is Viaero's Implementation Plan for continuing to meet the Commission's indoor location accuracy requirements.

Progress Report

Viaero has worked diligently and covered costs necessary to provide public safety with accurate location data for emergency callers. To date, Viaero has timely performed its *Fourth Report and Order* location accuracy obligations and has submitted compliance documentation to the FCC by the following deadlines:

April 3, 2017

In accordance with 47 CFR § 20.18(i)(2)(i)(B)(1), Viaero had begun to provide dispatchable location or x/y location information within 50 meters for 40 percent of all wireless 911 calls.

June 2, 2017

As a non-nationwide CMRS provider that does not provide coverage in any of the six Test Cities, and in accordance with 47 CFR § 20.18(i)(2)(iii), Viaero submitted to the FCC certification that as of April 3, 2017, it did not provide service or report live call data in one or more of the Test Cities, was providing dispatchable location or x/y location information within 50 meters for 40 percent of all wireless 911 calls, had deployed the indoor location technology or technologies used in its networks consistently with the manner in which such technologies have been tested in the test bed, and had verified based on its own live call data that it was in compliance with the two-year benchmark set forth at 47 CFR § 20.18(i)(2)(i)(B)(1).

Viaero has adopted procedures that comply with FCC indoor accuracy requirements:

Viaero retains for two years all testing and live call data gathered for Non-Nationwide Carrier Live 911 Call Reports, pursuant to 47 C.F.R. § 20.18(i)(3)(iii).

Viaero delivers x- and y-axis (latitude, longitude) confidence and uncertainty (C/U) data for all wireless 911 calls - whether placed from indoors or outdoors - at the request of a Public Safety Answering Point (PSAP), on a per-call basis, with a uniform confidence level of 90 percent, per 47 CFR § 20.18(j).

Viaero collects and retains for two years information on all wireless 911 calls placed on its network, including the positioning source method used to provide a location fix associated with the call. The data is made available to PSAPs upon request in accordance with 47 CFR § 20.18(k).

August 1., 2017

Viaero's second Non-Nationwide Carrier Live 911 Call Report has been submitted to the FCC in PS Docket No. 07-114 on or before August 1, 2017, providing aggregate live 911 call data covering reporting period April through June 2016, with copies sent to NENA, APCO and NASNA. As a non-nationwide CMRS provider that does not provide coverage in any of the six Test Cities, and in accordance with 47 CFR § 20.18(i)(3)(ii)(E), Viaero's 911 live call data was collected and reported based on the largest county its service area footprint. The report was sent to the National Emergency Number Association (NENA), the Association of Public-Safety Communications Officials (APCO) and the National Association of State 911 Administrators (NASNA).

Implementation Plan

Viaero plans to continue to meet FCC indoor location accuracy requirements of 47 CFR § 20.18, including subsections (i)(2)(i) and (i)(2)(ii), *i.e.*, horizontal and vertical location. The plan will evolve according to the capabilities and advancements of critical vendors. To this end, Viaero plans to utilize the expertise of highly qualified providers of E911 technology services.

The data selected for the reporting area's 9-1-1 call distribution utilizes the best final fix for the call, which includes using the first fix when the PSAP did not perform a rebid. Uninitialized calls, short calls or aborted calls may be excluded in the manual report.

Looking ahead, Viaero expects that advancements in Wireless Location Accuracy will provide cost-effective strategies to provide dispatchable addresses to PSAPs. Technologies installed by a carrier or the customer will help deliver a physical address. For example, residential femtocells provide real time geo-validation of the address and can detect femtocell movement. This dispatchable location and the X/Y location of the femtocell or handset is delivered to the PSAP and displayed on the call taker's console. Enterprise femtocells, which cover definable indoor spaces such as offices and public structures, can provide a level of accuracy comparable to wireline with a dispatchable address. Devices with GPS can reliably validate the address.

Using existing technology, geo-relevant wireless automatic location identification (ALI) provides a dispatchable location associated with the emergency caller. The ALI address data is

collected from multiple sources including a user-provided address, public records databases and, potentially, a billing address. An associated nearby address (of a relative or a previously provided address) can provide PSAPs a starting point of investigation. Potentially 15-30% of all wireless 9-1-1 calls using this solution can deliver a dispatchable location.

Bluetooth Low Energy (BLE) Beacons and WiFi already exist in most new smartphones. Dedicated 9-1-1 beacons can provide highly accurate and manageable dispatchable locations. BLE beacon or WiFi addresses can be stored in the National Emergency Address Database (NEAD) and passed to the PSAP at the time of the call. Finally, "Handset Assisted Indoor Location," or "Location Fusion," is being tested in smartphones to sense satellite signals along with nearby WiFi access points and BLE beacon locations to narrow the location of callers using enabled devices. This solution blends location technologies (such as commercial location detection used by retail stores) in a secure, always-on mode. Implementation of this technology could potentially support VoIP, Voice over Wireless LAN, VoLTE, and CDMA/UMTS voice.

Viaero will work to incorporate technological advancements to deliver accurate and useful location information to emergency dispatch personnel. In keeping with FCC timelines, Viaero expects to comply with the following requirements:

2018

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

April 3 - deliver to PSAPs either "dispatchable location" or "x/y location within 50 meters," for 50 percent of 911 calls

April 3 - provide with wireless 911 calls that have a dispatchable location, upon the request of a PSAP, x- and y-axis (latitude, longitude) confidence and uncertainty information (C/U data) on a per-call basis, specifying the caller's location and the radius in meters from the reported position with a uniform confidence level of 90 percent, per 47 CFR § 20.18(j)(2). Collect and retain the data for two years, and make the data available to PSAPs upon request, per 47 CFR § 20.18(k).

June 2 - submit 911 location accuracy certification to FCC

August 3 - deliver to PSAPs uncompensated barometric data from any handset that has the capability to deliver barometric sensor data

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

August 3 - submit implementation plan and progress report to FCC

October 2 - submit 911 location accuracy certification to FCC

2019

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2020

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

April 3 - provide to PSAPs either “dispatchable location” or “x/y location within 50 meters,” for 70 percent of 911 calls, or extend the deadline based on the timing of Voice over LTE (VoLTE) deployment in the provider’s network.

June 2 - submit 911 location accuracy certification with FCC

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2021

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

April 3 - provide to PSAPs either “dispatchable location” or “x/y location within 50 meters,” for 80 percent of 911 calls, or extend the deadline based on the timing of VoLTE deployment in the provider’s network.

April 3 - provide with wireless 911 calls that have a dispatchable location, upon the request of a PSAP, x- and y-axis (latitude, longitude) confidence and uncertainty information (C/U data) on a per-call basis, specifying the caller's location and the radius in meters from the reported position with a uniform confidence level of 90 percent, per 47 CFR § 20.18(j)(3). Collect and retain the data for two years, and make the data available to PSAPs upon request, per 47 CFR § 20.18(k).

June 2 - submit 911 location accuracy certification to FCC

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2022

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

April 3 - If service is provided to any portion of the top 25 Cellular Market Areas (CMAs), deploy in that area either (1) dispatchable location, or (2) z-axis technology that achieves the Commission-approved z-axis metric:

- Where "dispatchable location" is used, populate the National Emergency Address Database (NEAD) with a total number of dispatchable location reference points in the CMA equal to 25 percent of the CMA population.
- Where z-axis technology is used, deploy z-axis technology to cover 80 percent of the CMA population.

June 2 - submit 911 location accuracy certification to FCC

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2023

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2024

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

April 3 - If service is provided to any portion of the top 50 CMAs, deploy in that area dispatchable location, or deploy z-axis technology in compliance with any accuracy metric that has been approved by the Commission.

June 2 - submit 911 location accuracy certification to FCC

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

2025

February 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

August 3 - submit live 911 call location data report to FCC, NENA, APCO and NASNA

Viaero will continue to achieve location accuracy progress as technology permits, and it will pursue its plans in future years to enhance the safety of emergency callers inside its service area.

If additional information is required, Viaero will be pleased to provide it upon the Commission's request.


Frank DiRico
President

Date: 8/1/2017