

EX PARTE OR LATE FILED

ACCEPTED/FILED

NOV 19 2014

Federal Communications Commission
Office of the Secretary

November 12, 2014

Honorable Tom Wheeler
Chairman
Federal Communications Commission
445 12th Street, SE
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Re: Docket No. 07-114

Dear Chairman Wheeler:

We write to you to express our strong opposition to the terms of a 9-1-1 location accuracy deal being proposed by the wireless carriers after closed door negotiations with the National Emergency Number Association (NENA) and the Association of Public-Safety Communications Officials (APCO). (The draft terms of that deal as of October 29th are appended to this letter.)

The terms of the carrier proposal are unacceptable. They would remove all mandatory accuracy requirements and their associated deadlines, sabotage the Commission's stated goal of finding all indoor callers, and delay any carrier action for years longer than the FCC's proposed timeline.

Specifically, the carrier proposal:

- Eliminates the FCC's proposed requirements that carriers provide horizontal location information within 50 meters for 67 percent of callers within two years and 80 percent of callers within five years;
- Eliminates the proposed requirements that carriers provide vertical location information within three meters for 67 percent of callers within three years and 80 percent within five years;
- Offers no specific or binding requirements for location accuracy at any point in the future;
- Does not improve location accuracy for the 225 million users of 3G phones in the U.S.;
- Would rely on the Russian GLONASS satellite system, putting location accuracy and the effectiveness of our public safety response in the hands of a foreign power.

In place of the substantive and realistic objectives originally proposed by the Commission, the carrier plan suggests a series of weak and unenforceable steps to brainstorm, develop, test and launch an entirely new location system over the next 4+ years. (As we know from long experience, even if such a system existed today, a broad deployment would take years or decades longer to implement.)

The carrier proposal does not include a single mandatory accuracy requirement, even for the proposed "dispatchable address" solution it suggests. Instead, the carrier plan is replete with multi-year process goals like "develop and implement a technology test bed," "develop [an] outreach program," "develop and implement" a new address database, and "demonstrate support for the end-to-end functionality of such solutions."

Even after five years, the carrier plan only proposes that 80% of calls use some kind of "heightened accuracy location technologies" without any requirement as to the accuracy of those technologies.

No. of Copies rec'd 0
List ABOVE

Chairman Wheeler
November 12, 2014
Page Two

Put another way, at no point do the carriers offer any specific commitments to improving location accuracy, only to use new technologies to provide it.

In short, the carrier plan would delay improvements in our nation's 9-1-1 system for years beyond the FCC's proposed rule, remove any concrete location accuracy requirements, depend on theoretical technology and systems that do not exist, and put our citizen's safety in the hands of a satellite system run by a foreign power.

We speak for the tens of thousands of public safety officials on the front lines in helping callers in need, as well as the millions of Americans whose lives depend on accurate locations for their 9-1-1 calls.

Despite the important roles our organizations play in representing public safety professionals, seniors, and deaf/hard of hearing Americans, we have been shut out of this process. Rather than working with other relevant stakeholders in an open and inclusive manner, the carriers have ignored any requests from our organizations to be involved, so we must share our deep concerns about the proposal openly.

This plan is a blatant attempt by the carriers to delay, distract and dilute any proceedings that would impose real accuracy requirements that include FCC oversight and regulation. We urge you to dismiss it and adopt the strong and effective rule that the Commission has put forward.

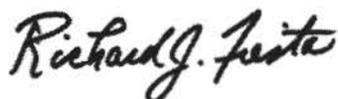
Sincerely,



Danita Crombach
President
California Chapter of the National Emergency Number Association (CALNENA)



R. Craig Whittington, ENP (Retired)
National President 2009/2010
National Emergency Number Association (NENA)

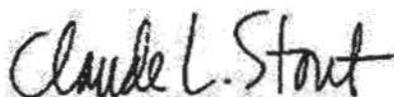


Richard J. Fiesta
Executive Director
Alliance for Retired Americans

Chairman Wheeler
November 12, 2014
Page Three



Angelo Salvucci, MD, FACEP
Emergency Medical Services (EMS) Medical Directors Association of California (EMDAC)
Authorized Representative and Past President



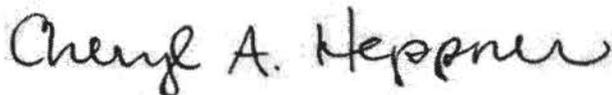
Claude L. Stout
Executive Director
Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)



Nancy B. Rarus
President, Deaf Seniors of America

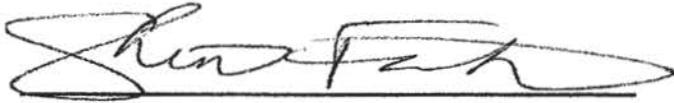


David Litman
Association of Late-Deafened Adults, President 2014



Cheryl A. Heppner
Vice Chair
Deaf and Hard of Hearing Consumer Advocacy Network (DHHCAN)

Chairman Wheeler
November 12, 2014
Page Four

A handwritten signature in black ink, appearing to read "Sheri Farinha". The signature is fluid and cursive, with a long horizontal stroke at the end.

Sheri Farinha
Acting Chair
California Coalition of Agenices Serving the Deaf and Hard of Hearing (CCASDHH)

A handwritten signature in black ink, appearing to read "Howard A. Rosenblum". The signature is cursive and somewhat stylized, with a long horizontal stroke at the end.

Howard A. Rosenblum
Chief Executive Officer
National Association of the Deaf (NAD)

s/
Mark Gasaway
President
American Association of the Deaf-Blind

s/
Mark Hill
President
Cerebral Palsy and Deaf Organization

Roadmap for Improving E911 Location Accuracy
Draft Proposal

This paper describes a roadmap for achieving improved location accuracy for both outdoor and indoor 9-1-1 calls, and is based on an agreement between APCO, NENA, and those wireless carriers that are signatories to the agreement ("the Agreement"). This roadmap includes short term (0-2 years), medium term (2-4 years), and long term (4+ years) initiatives that will advance E911 location accuracy utilizing a variety of technological solutions including those based on traditional latitude/longitude methods, as well as emerging next-generation solutions that would provide a "dispatchable location" to first responders. Dispatchable location is the civic address of the calling party, which includes floor, suite, apartment or other information when needed to adequately identify the location of the calling party. A summary of some of the more critical initiatives is provided below (with estimated timelines based on date of signed agreement):

Short Term {0-2 years}

- Advance implementation of improved latitude/longitude-based solutions that have been recently developed (i.e., OTDOA and A-GNSS) (6-12 months);
- Conduct a pre-standards demonstration of a dispatchable location solution (9 months);
- Develop and implement a technology test bed in accordance with CSRIC recommendations and work undertaken by ATIS (12 months);
- Establish operational, governance, and funding requirements for the National Emergency Address Database (NEAD) (12-24 months);
- Develop outreach program to promote the development of dispatchable location solutions (12-24 months);
- Introduce new products and devices that improve location accuracy, e.g., new wireless products that support dispatchable location and new mobile devices that support A-GNSS (12-24 months);
- Promote development and approval of 3GPP standards that support the delivery of dispatchable location data (18 months); and
- Obtain a location fix using heightened accuracy location technologies, including A-GNSS (GPS and/or GLONASS), OTDOA, or dispatchable location, or a hybrid of any of the listed or future technologies that provide a comparable or greater level of accuracy, including crowd sourced information for 67% of all wireless 9-1-1 calls in test cities (24 months).

Medium Term {2-4 years}

- Continue introduction of products and devices that support advanced solutions (e.g., A-GNSS, dispatchable location solutions) (24-48 months);
- Develop and implement the National Emergency Address Database (NEAD) (36 months); and

- Enable the delivery of dispatchable location information across VoLTE networks and demonstrate support for the end-to-end functionality of such solutions (48 months).

Long Term (4+ years)

- Expand implementation and use of dispatchable location solutions through NEAD; and
- Incorporate A-GNSS and dispatchable location capabilities into new products and devices going forward;
- Obtain a location fix using heightened accuracy location technologies, including A-GNSS (GPS and/or GLONASS), OTDOA, or dispatchable location, or a hybrid of any of the listed or future technologies that provide a comparable or greater level of accuracy, including crowd sourced information for 80% of all wireless 9-1-1 calls in test cities (60 months).

As described below, implementation and execution of the elements within this document may be subject to a number of variables, including but not limited to standards development and third party resources, which may require the signatories to reassess the progress of this agreement. In any event, the objective of these initiatives is to increase the accuracy of location information for wireless 9-1-1 calls. Each of the carrier signatories to this agreement has made an individual decision to implement the provisions below. Moreover, carriers agree to comply with this Agreement on a prospective basis, as they implement new voice-enabled LTE ("VoLTE") networks and handset's.

Beacons and battery backup. We recognize that battery backup for Wi-Fi Access Points when used for locating 9-1-1 calls from indoor locations is important. Most managed Wi-Fi Access Points will be powered by commercial power and many can be expected to have some amount of backup power. Wi-Fi Access Points used in enterprise locations, for example, will typically have some type of Uninterruptible Power Supplies (UPS) that will provide backup power on the order of a couple of hours which will survive most power outages. Bluetooth Low Energy Beacons draw an extremely small amount of power and batteries can be expected to support operations for 2 years. We anticipate that some BLE devices used for 9-1-1 would also be connected to commercial power, which would further extend operations well beyond 2 years.

1) Test Bed

- a) Carriers agree to support a test bed that will facilitate the testing of OTDOA/A-GNSS, dispatchable location solutions, and other possible location solutions, and to work with APCO and NENA to establish the test bed within 12 months of this Agreement.
 - i) Test bed will be managed by a non-governmental entity (*e.g.*, ATIS) and operated in an open, transparent, and competitively neutral manner, both as to carriers and location solution vendors;
 - ii) Test bed will be utilized both to demonstrate vendor performance of E911 location solutions and to characterize technology performance of OTDOA/A-GNSS to help establish any E911 location benchmarks. While the test bed will be available to and can be used by vendors to assess the performance of solutions not yet standardized or commercially available, only testing of solutions based on industry standards and commercial configurations will be relied on to verify performance expectations to an E911 location benchmark.
 - iii) The test bed will be consistent with the elements recommended by the CSRIC III Working Group and with the work undertaken by the Emergency Services Interconnection Forum (ESIF) established by the Alliance for Telecommunications Industry Solutions (ATIS).
- b) Carriers, APCO and NENA agree to work together to develop an appropriate funding framework for the test bed that includes funding support from carriers and affected E911 location vendors, and will also investigate the potential for obtaining other sources of funding (*e.g.*, government grants).

2) Location Solutions Providing Dispatchable Location

- a) Dispatchable location is the civic address of the calling party, which includes floor, suite, apartment or other information when needed to adequately identify the location of the calling party.
- b) Conduct a pre-standards demonstration of a dispatchable location 9-1-1 solution within 9 months from the date of the Agreement.
 - i) While Bluetooth Low Energy ("LE") and WiFi are standardized technologies, there are no standards for use of these technologies with 9-1-1 calls. This proof of concept demonstration will show how such technologies could be used including a demonstration of handsets detecting Bluetooth LE and/or WiFi location beacons, reporting to the network, followed by a database look-up of dispatchable location (for display on a map or other signaling to a PSAP).
- c) Promote development and approval of standards within 18 months of the date of the Agreement.
 - i) Carriers agree to formally sponsor 3GPP Study Item RP-141003 as the standards vehicle that will allow handsets to deliver Bluetooth LE and WiFi information to the network, and to work through the standards process to incorporate the Bluetooth LE and WiFi dispatchable location concept into the 3GPP technical report within 12 months of the Agreement.
 - ii) Carriers agree to participate actively in the work of the relevant standards organizations, and to work with APCO and NENA, technology companies, and others in the private sector to promote efforts to prioritize the completion of those standards described above—at a minimum including—
 - (1) Relevant 3GPP Specifications (e.g., LTE control plane location 3GPP LPP spec 36.355)
 - (2) Standards to support dispatchable location (e.g., J-STD-036)
 - iii) Carriers agree to sponsor standards activities to operationalize the display of dispatchable location in pre NG-911 PSAPs.
- d) Design, develop, and implement the National Emergency Address Database (NEAD) within 36 months from the date of the Agreement.
 - i) National Emergency Address Database (NEAD)- database that provides the correlation between MAC address and dispatchable location
 - ii) Carriers, APCO and NENA agree to work together to develop the design, operations, and maintenance requirements for the NEAD database within 12 months of the Agreement.

- iii) Carriers, APCO and NENA agree to work together to establish a database owner, funding mechanisms, provisions for defining security/privacy, performance, and management aspects, and to launch the initial database within 12-24 months after the development of the design requirements described above.
 - iv) Carriers, APCO and NENA agree to work together to develop an outreach program that will promote a broader integration of beacons into the NEAD from a variety of dispatchable location sources, and enlist the support of other organizations (e.g., hotel associations) to achieve this goal.
- e) Handset Design and Development
- i) 25% of all new VoLTE handset models offered by carriers will have the capability to support delivery of beacon information, e.g., Bluetooth LE and WiFi, to the network in conjunction with a 9-1-1 call made on VoLTE within 18-24 months after the completion of standards.
 - ii) 50% of all new VoLTE handset models offered by carriers will have the capability to support delivery of beacon information, e.g., Bluetooth LE and WiFi, to the network in conjunction with a 9-1-1 call made on VoLTE within 24-30 months after completion of standards.
 - iii) 100% of all new VoLTE handset models offered by carriers will have the capability to support delivery of beacon information, e.g., Bluetooth LE and WiFi, to the network in conjunction with a 9-1-1 call made on VoLTE within 30-36 months after completion of standards.
 - iv) Carriers, APCO and NENA will jointly work with OEMs, OS providers, the Federal Communications Commission, and other stakeholders as necessary to address issues that may arise concerning the NEAD's and carriers' access to Bluetooth LE, WiFi beacon, and other handset-related information necessary for the NEAD and other dispatchable location methods to function effectively.
- f) Network Design and Development
- i) Carriers will enable their VoLTE networks to deliver beacon information from the handsets to the Location Server within 24 months after completion of standards.
- g) Wireless Consumer Home Products
- i) To the extent that a carrier plans to introduce new wireless consumer home products, such carrier agrees to introduce such products that will provide dispatchable location within 18-24 months of the date of the Agreement. Products not installed by carrier representatives may require the customer to input dispatchable location data (e.g., apartment number) into the product or device.

h) Initial End-to-End Functionality

- i) Carriers agree to provide initial end-to-end dispatchable location functionality on their respective VoLTE networks no later than 48 months from the date of this Agreement, after completion of the steps specified in Sections 2(b)-(e).
- i) 36 Month Assessment of Dispatchable Location
 - i) Carriers, APCO and NENA agree to jointly conduct a formal assessment of the progress made in developing and implementing dispatchable location solutions 36 months after the date of the Agreement in accordance with Section 6.

3) Location Solutions Providing Latitude/Longitude

- a) Carriers agree to conduct testing of OTDOA and A-GNSS (GPS and GLONASS) for both outdoor and indoor accuracy on each of their respective VoLTE platforms within 6-12 months from the date of the Agreement, and to conduct formal test bed evaluation once the formal test bed process is established. Since OTDOA for use with 9-1-1 calls requires VoLTE, any operational testing of OTDOA in conjunction with 9-1-1 calls will necessarily hinge on VoLTE implementation, which will vary by carrier and by market.
- b) Carriers agree to deploy OTDOA in their networks in association with VoLTE, with implementation (including related testing) in each market as they transition 9-1-1 calls to VoLTE. OTDOA will be used in conjunction with A-GNSS as the primary location solution, and will operate on a standalone basis only when A-GNSS is not available. Until such time as OTDOA implementation is complete, carriers will provide APCO and NENA with reports on the progress of its OTDOA implementation for use with 9-1-1 calls on a semi-annual basis.
- c) Carriers agree to introduce new devices with A-GNSS 9-1-1 capabilities in accordance with the following benchmarks:
 - i) 50% of all new VoLTE handset models offered by carriers will have the capability to support A-GNSS (e.g., GPS and GLONASS) for 9-1-1 calls made on VoLTE within 24 months of the date of the Agreement.
 - ii) 75% of all new VoLTE handset models offered by carriers will have the capability to support A-GNSS (e.g., GPS and GLONASS) for 9-1-1 calls made on VoLTE within 36 months of the date of the Agreement.
 - iii) 100% of all new VoLTE handset models offered by carriers will have the capability to support A-GNSS (e.g., GPS and GLONASS) for 9-1-1 calls made on VoLTE within 48 months of the date of the Agreement.
- d) Carriers agree to test delivery of crowd-sourced latitude/longitude from Wi-Fi beacons once the capability becomes available (estimated to be 30-36 months from the date of the Agreement).

4) Metrics for Assessing Performance of Location Methods

- a) Carriers agree to collect data for all live wireless 9-1-1 calls on a monthly basis that would show the percentage of time that each 'positioning source method' is used to deliver a wireless 911 call, consistent with the following:
 - i) 'Positioning source method' would include dispatchable location methods as well as positioning based on latitude/longitude (*e.g.*, A-GPS, GLONASS, OTDOA, AFLT, RTT, Cell ID, or a hybrid of any of the listed or future technologies); and
 - ii) Data would be collected in and reported according to the six regional test beds recommended by ATIS ESIF. After careful consideration by public safety, wireless carriers, and other relevant stakeholders, these test regions were selected to be representative of common indoor use-cases for wireless 9-1-1 calls across the nation. The test regions include dense urban, urban, suburban, and rural morphologies, are generally distributed across the country, and cover various building construction materials, densities, and heights. Data would be collected in the six cities recommended by ATIS ESIF, subject to carrier provision of service in those cities.
- b) Carriers would provide reports to APCO and NENA on a quarterly basis, subject to appropriate confidentiality protections, with the first report due 18 months after the date of this Agreement. Carriers, APCO, and NENA will use the data from these reports to assess the trend in positioning performance over time.
- c) Carrier signatories commit to obtain a location fix using heightened accuracy location technologies-*e.g.*, A-GNSS (GPS and/or GLONASS), OTDOA, or dispatchable location, or a hybrid of any of the listed or other technologies that provide a comparable or greater level of accuracy, including crowd sourced information-for the following percentage of all wireless 911 calls consistent with Section 4.a. (call data).
 - i) 67% of all VoLTE wireless 9-1-1 calls within two years; and
 - ii) 80% of all VoLTE wireless 9-1-1 calls within five years.
- d) Each carrier will ensure that its location technology deployment is consistent between the test bed deployments and coverage areas outside the test beds, so that empirical test results established in the test bed regions are reflective of performance achievable from a particular location technology under similar environmental conditions in a mature deployment in other indoor locations where 9-1-1 calls are made. In addition, carriers will continue to ensure that handset models offered by carriers provide location performance consistent with handsets used for testing in the regional test beds, consistent with Sections 2)e) and 3)c).

5) Vertical Location Information

- a) Signatories agree to support the development of standards that would enable the delivery of uncompensated barometric pressure data to PSAPs with 911 calls.
- b) Carriers agree to work with APCO, NENA, and other interested parties to conduct a study on z-axis solutions within 18 months of this agreement. Study would include testing z-axis solutions, evaluating the benefits of uncompensated barometric pressure data for use by first responders, evaluating the readiness of PSAPs to utilize z-axis data, and evaluating the ability of barometric pressure sensor-based location solutions to provide effective vertical location.
 - i) The first phase of the study, which will be completed in six months, will evaluate options for utilizing uncompensated barometric pressure data and any corresponding benefits to PSAPs and first responders.
- c) If the study referenced above determines that there is significant benefit to PSAPs associated with the delivery of uncompensated barometric pressure data, carriers agree to deliver such data to the PSAPs from any handset that supports such a capability within 2 years after completion of standards.

6) 36 Month Assessment of Dispatchable Location

- a) To the extent that signatories determine that dispatchable location solutions are not on track to provide improved location estimates within the timeframes described in section 2, carrier signatories agree to supplement dispatchable location solutions with implementation of other technically feasible, non-duplicative solutions from vendors that fit within network architecture and plans, predicated on the following:
- i) Solution must be standardized, scalable, and commercially available from multiple sources;
 - ii) Solution may require consumers to purchase equipment and/or to incur additional costs but would not include additional 9-1-1 service fees. For example, to the extent that new handset hardware is needed, or existing handset software cannot be updated over-the-air or manually, a consumer may need to purchase a new handset and, depending on the service provider and the customer's existing plan, a modified service plan as well;
 - iii) Solution must demonstrate through the test bed the ability to provide a meaningful improvement in indoor location accuracy and reliability—i.e., for lat/long solutions, at least a 50% improvement in meter level accuracy—over currently implemented location solutions or those location solutions in deployment (including OTDOA/A-GNSS) in all test bed environments; for example, if OTDOA provided location within an accuracy of 80 meters, an alternative solution would need to provide location within an accuracy of 40 meters;
 - iv) Implementation timelines for alternative solutions must recognize the interdependence of different activities, e.g., development of industry standards, handset availability, phased-in deployment over covered POPs, PSAP readiness, etc.; and
 - v) Any deployment and activation of alternative location solutions that deliver dispatchable location information will count toward these implementation efforts.