P.O. Box 42563 Washington, D.C. 20015-2604

September 25, 2013

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

Re: **Comments** – DA 13-1873; *Public Safety and Homeland Security Bureau Announces Workshop on E911 Phase II Location Accuracy*; PS Docket No. 07-114.

Dear Ms. Dortch:

The Industry Council for Emergency Response Technologies ("iCERT" or "Industry Council")[1] hereby submits its comments in response to the Public Notice ("Notice") released by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceeding.[2] The Notice seeks comment on a variety of issues that will be the subject of the FCC's upcoming E911 workshop on October 2, 2013. As an organization created specifically to represent the emergency communications industry in the development of emergency technology infrastructure and policy, the Industry Council has unique insights into E911 issues and a strong interest in the FCC's planned workshop.

Among the issues to be discussed at the FCC's upcoming workshop are assumptions and concerns raised by the California chapter of the National Emergency Number Association (CALNENA) in its *ex parte* letter of August 12, 2013. Based on analysis performed by its consultant, Public Safety Network (PSN), CALNENA concludes that there has been a substantial decline in the *delivery of Phase II location information with*

[1] http://www.theindustrycouncil.org/index.cfm

[2] Public Notice, *Public Safety and Homeland Security Bureau Announces Workshop on E911 Phase II Location Accuracy*, PS Docket No. 07-114, DA 13-1873 (September 9, 2013).

wireless 9-1-1 calls in California over the past five years, and that the commensurate decline in wireless 9-1-1 accuracy poses a serious public safety problem.

The Industry Council's membership includes, among others, wireless service providers, 9-1-1 equipment manufacturers, 9-1-1 system service providers and E911 location technology integrators and developers. These companies have made significant investments in the technologies, equipment, networks and services that are necessary to support today's E911 systems, and have worked diligently to improve both the accuracy and timeliness of location information provided to Public Safety Answering Points (PSAPs). Consequently, iCERT takes very seriously any claim that the performance of E911 systems has declined or is not in compliance with applicable public safety established standards.

The Industry Council has undertaken a review of the PSN data analysis, as well as subsequent information provided by AT&T, T-Mobile, and Verizon Wireless.[3] Based on this review, we believe there is merit in statements provided by the carriers that Phase II location data is provided at a very high level in accordance with the Commission's rules, and the apparent disparity between PSN's data and the carriers' data is likely attributed to the manner in which bidding for location data is performed. As Verizon notes:

> "Under the established and Commission-approved NCAS Wireline Compatibility Mode ("NCAS") E911 solution, the PSAP itself is responsible for *retrieving* the Phase II data from the "Mobile Positioning Center" ("MPC"), a designated point at the carrier's network, via a query or "bid" to the PSAP's own ALI database. This enables the *PSAP's own network* to complete the delivery of the Phase II data to the 9-1-1 call taker's equipment. In other words, while wireless carriers "push" Phase II location data to the MPC, the PSAPs must "pull" that data in order for them to have access to it on call-takers' screens." [4]

iCERT also thus emphasizes that the current method of bidding for location data, including manual rebids, was constituted through a collaborative approach endorsed by representatives of the PSAP, carrier and 9-1-1 service provider communities; crafted with trade-offs for having a call route quickly (and data post quickly) while still providing PSAPs with the capacity to see and update location data as a call progresses, including improved accuracy for Phase II data.

Despite the fact that the carriers are providing Phase II data at a high level, there is a legitimate question posed by the Commission in its Public Notice that is pertinent to this issue and that is the apparent cause of some confusion among carriers and PSAPs: "How is the ability of PSAPs to respond to 9-1-1 calls affected by the availability or unavailability of Phase II location information, the time required to obtain a Phase II fix (including rebids), and the quality of the Phase II information when it is provided?" [5]

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[3] Ex parte of T-Mobile USA, Inc. filed September 5, 2013 (T-Mobile Filing); Ex parte of AT&T Services, Inc. filed September 9, 2013; and Ex parte of Verizon and Verizon Wireless filed September 11, 2013; all in FCC Docket 07-114.

[4] See letter to Ms. Marlene H. Dortch, Secretary, Federal Communications Commission from Nneka Ezenwa Chiazor, Executive Director, Federal Regulatory, Verizon Wireless, September 11, 2013.

[5] Public Notice, page 3.

Therefore, with all these factors noted, iCERT does not believe that the PSN data supports a conclusion that the availability and accuracy of location information has diminished. We offer the following comments on the CALNENA study:

1. CALNENA's conclusions regarding the purported decline of Phase II data delivery with the initial 9-1-1 call creates the false impression that Phase II location data is unavailable for most wireless 9-1-1 calls because carriers are failing in their obligation to deliver the data to the PSAP. However, in accordance with industry standards and regulations, Phase II data is not delivered by the carriers to the PSAP with the call. It is delivered to a database (e.g., Mobile Positioning Center or Global Mobile Location Center), from which the PSAP must pull this information via an initial bid and re-bid process. Generally, the initial bid is automatically performed by the PSAP's 9-1-1 system and provides the then-available location data to the call taker when the call is received. However, due to the time it takes to obtain accurate Phase II data, the information provided via the initial bid may not be Phase II.

   Over the five years studied by CALNENA, some carriers (e.g., AT&T and T-Mobile) have transitioned from network-based location technologies to a handset-based location technology called Assisted-GPS (AGPS). While AGPS provides more accurate Phase II location data, it also takes longer to provide this data, and as a result, Phase II data may not be available with the initial bid. A decline in the availability of Phase II data with the initial bid for some carriers transitioning to a new technology could, understandably, lead CALNENA to broadly conclude that there has been a decline in Phase II data *delivered with the 9-1-1 call*. iCERT believes that PSN's analysis does not provide sufficient data to reach such a conclusion, independent of any changes in technology employed by carriers.

2. Low re-bid rates appear to have contributed to the misperception that Phase II data delivery has declined. As already noted, Phase II data may not be available with the initial bid and would have to be obtained through a manual re-bid performed by the PSAP. Public safety standards recommend that a re-bid be performed approximately 20-30 seconds after the 9-1-1 call has been initiated. Unless these re-bids are performed, Phase II data may not be provided for a significant number of wireless 9-1-1 calls. PSN does not appear to have analyzed the rate at which the five subject PSAPs performed re-bids. Data provided by AT&T, T-Mobile, and Verizon Wireless, however, indicate that re-bids were not performed by these PSAPs for a majority of calls.

   While iCERT cannot attest to the accuracy of the carriers' data, we believe it is consistent with the type of results one would expect. For a variety of reasons, 9-1-1 call takers often choose not to perform a re-bid, e.g., because the call is determined to be a non-emergency and terminated quickly, or because the caller has provided specific location information verbally. Given the limited data that PSN collected, the types of calls handled by PSAPs, and the manual re-bid process routinely employed by 9-1-1 call takers, it should not be surprising to see a relatively low percentage of 9-1-1 calls for which Phase II location

information is "received" by the PSAPs, even with carriers producing a high Phase II yield for 9-1-1 calls. Further analysis of the bid rates performed by PSAPs may provide additional insight into any long term trends.

Implementation of an automated re-bid process by the PSAPs could improve the operational effectiveness of 9-1-1 call takers by eliminating the need for them to manually request a re-bid. However, prior to implementing such a process, care must be taken to ensure it can be supported effectively within the PSAP's 9-1-1 system and that the timing is set to optimize its effectiveness for all carrier traffic (e.g., re-bid after 30 sec). iCERT posits that the public and private sectors – working in concert – could examine the feasibility and effectiveness of an automated re-bid process through a more directed study that would specifically examine the impact of automatic re-bids on the E911 call process. In doing so, however, the analysis must take into consideration the fact that a significant number of 9-1-1 calls are of a short duration (less than 30 seconds) and thus may not benefit from an automated re-bid process.[6]

3. CALNENA's study actually suggests an increase in Phase II location availability and accuracy. As already noted, some wireless carriers (e.g., AT&T and T-Mobile) are in the process of transitioning to AGPS location technology. Because AGPS is more accurate than network-based location technologies, this transition should significantly improve the call location accuracy of wireless 9-1-1 calls from these carriers' customers. In addition, the positive upward trends reflected in PSN's data for Metro PCS, Sprint, and Verizon Wireless (all of which employed AGPS technology throughout the study period) suggests that those carriers have also experienced significant improvements in their ability to obtain and provide Phase II data in a timely manner. Further data analysis is required to better assess any long term trends associated with the availability and accuracy of Phase II data.

4. While CALNENA's assertions and conclusions related to indoor location accuracy are relevant to the Commission's October 2nd workshop, they are unrelated to claims of a decline in the delivery and accuracy of Phase II location information. Citing data specific to San Francisco, CALNENA concludes that the purported decline in E911 Phase II performance is more pronounced in urban areas, and posits that this may be the result of challenges associated with determining accurate location information inside buildings. iCERT acknowledges that the continued growth in the use of wireless services, including as the primary mode of communications for an increasing percentage of U.S. consumers, may in some areas result in an increased number of wireless 9-1-1 calls being originated indoors. However, because it lacks any information related to call origination location, the PSN data does not provide any factual or statistical support for the hypothesis that an increasing number of 9-1-1 calls are originated indoors, nor does it support a conclusion that determining accurate location indoors is currently a problem.

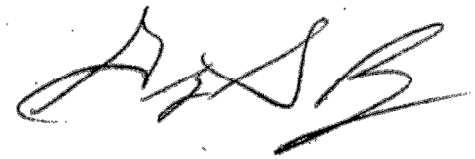
[6] T-Mobile Filing at p. 2 (". . . 21% of calls to these 5 PSAPs are under 5 seconds, 32% are under 15 seconds, and 44% are under 30 seconds.")

As already noted, while AGPS is more accurate, it takes longer to obtain a location fix using AGPS than it does using a network-based solution. It may take even longer in areas of difficult terrain, such as indoors, in heavily wooded areas, or in the "urban canyons" created by high-rise buildings. Where the GPS signal is unavailable, the time to obtain an accurate fix can be increased due to the need to substitute a network-based solution as back-up. Given the shift to AGPS by some wireless carriers over the study period, it seems likely that the CALNENA study is more indicative of the delay in availability of Phase II information in urban areas than in any challenges associated with indoor accuracy. Even so, data provided by Verizon Wireless demonstrates a high Phase II yield (91-95%) for all wireless 9-1-1 calls including those from indoor locations, which contradicts CALNENA's assertion that acquiring location data for a 9-1-1 call placed from an indoor location may be a problem.

In summary, iCERT commends CALNENA for pursuing this project on behalf of public safety, as these issues hold great importance for our nation's emergency calling system. However, with due respect to this undertaking, iCERT does not believe that CALNENA's study provides sufficient data to support a conclusion that there is a problem with the delivery of Phase II location data. Nonetheless, it provides useful insight into areas that may require further study, such as the timeliness of Phase II location information delivery, alternatives to the current manual re-bid process, and the impact of indoor 9-1-1 calls on Phase II location delivery. The Industry Council recommends that the FCC work with iCERT, others in industry, and the public safety community (including CALNENA) to develop uniform metrics for analyzing those areas of study that will best ensure the effective deliver of 9-1-1 location data.

Please feel free to contact me if you have any questions.

Kind regards,



George S. Rice, Jr.
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