

October 1, 2018

In the Matter of	)	
	)	
Public Safety and Homeland Security	)	PS Docket No. 07-114
Bureau Seeks Comment on Vertical (Z-	)	
Axis) Accuracy Metric Proposed by the	)	
Nationwide Wireless Carriers	)	

**COMMENTS OF  
THE INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS**

The International Association of Fire Fighters (IAFF) submits the following comments to express its significant concerns regarding the vertical accuracy metric proposed by the four nationwide wireless carriers.

The IAFF represents more than 315,000 of the nation's full-time professional fire fighters and emergency medical personnel. Since 1918, the IAFF has worked to ensure our nation's fire fighters and emergency medical personnel have the tools they need to perform their jobs. In pursuit of its core mission to protect the public and those who serve the public, the IAFF has been the driving force behind nearly every advance in the fire and emergency services in the last one-hundred years.

The Commission should reject the proposal of the major wireless carriers for a vertical location accuracy metric of +/-5 meters and instead require the provision of vertical location information that provides true floor level accuracy (*i.e.*, no more than 3 meters) by April 2021 in the top twenty-five Cellular Market Areas and by April 2023 in the top fifty Cellular Market Areas.

Wireless callers in distress reasonably expect that when they dial 911, help will be on the way. The Commission's E911 rules were designed to make this expectation a reality by ensuring that 911 calls are seamlessly routed to the proper public safety answering point (PSAP) with the necessary location information to enable the closest appropriate resources to be quickly and accurately dispatched. When the E911 system fails and this information isn't provided delays result and the public is put at risk. It is beyond question now that the prevalence of wireless devices and indoor calls means that the existing

capabilities of the wireless carriers do not reflect the current need for more accurate indoor location capabilities.

All parties in the Commission's indoor location proceeding agree that vertical location information must be sufficiently accurate to permit emergency responders to identify the floor of a wireless caller to E911. As the Commission is aware, the time difference between an emergency response to a precise location as compared to a vague search area may be the difference between life and death. In the time it takes to locate a medical emergency, rescue situation, or a recently ignited fire in a large building a situation can escalate dramatically, placing victims and responders at risk.

The need for highly accurate vertical location information is not alleviated by the possibility that wireless carriers may be able to provide PSAPs with the location address of Wi-Fi access points near a wireless caller. In an emergency situation, individuals often move within a building attempting to escape a fire and other emergency. As a person moves through a structure within a floor or between floors, accurate floor level information would enhance the ability of emergency responders to locate such an individual.

The significance of rapid delivery of location information, including vertical, was demonstrated by IAFF members using actual field tests in San Francisco in July 2014. San Francisco Fire Fighters and IAFF Local 798 working with the San Francisco Fire Department and the City of San Francisco Department of Emergency Management Division of Emergency Communications conducted real-world dispatch tests in multistory urban structures. These tests provided a clear and measurable validation of the Commission's conclusion that dispatch with vertical location information significantly improves emergency response. The time difference between an emergency dispatch to a precise location versus an indefinite search area is enormous, and too often is the difference between life and death. These tests clearly indicate that vertical altitude information alone can provide a substantial improvement in search effectiveness in multistory structures, even without a precise floor number or a dispatchable address.

In addition to protecting the public improved indoor location information, particularly vertical location, can help protect emergency responders. The same technology that allows PSAPs to identify the

floor level of a caller in distress could also help locate fallen rescuers. Burning structures are hazardous and unpredictable environments; multistory structures increase this risk by an order of magnitude. In addition to confronting a lack of visibility and inability to hear, fire fighters are at risk of falling through roofs or floors, or otherwise becoming injured, trapped, or disoriented. Time-consuming room to room searches to locate a downed firefighter jeopardize the safety of both the fire fighter in need of assistance and those engaged in the search. An inefficient search to locate a downed fire fighter may take more time than the air remaining in a fire fighter's self-contained breathing apparatus provides and places rescuers at risk as well. Incidents in which fire fighters have been injured or killed regularly have an unfailing theme – being unable to communicate accurate location information.

To effectively protect the public, we must also protect the fire fighters and paramedics with a duty to respond. In both cases, the provision of reliable and accurate vertical floor level information is necessary to locate wireless callers in distress and to ensure the safety of the those dispatched to aide them.

A vertical location metric of +/-5 meters is wholly inadequate to fulfill these requirements. It is also inconsistent with the actual test results reported in the carriers' own testing programs. The recently completed CTIA Z Stage test bed, the 2016 CTIA Stage 2 test bed, and even the 2012 CSRIC III test bed, demonstrate that vertical location information can reliably be provided to identify the exact floor where a wireless caller or an emergency responder in need is located. We must act swiftly to enforce accurate indoor location requirements. The record on this and prior proceedings amply demonstrates both the technological capability and the urgent need to significantly improve the unacceptable status quo of impossibly-large outdoor search rings and indeterminate indoor search rings.

The Commission should continue its commitment to advancing public safety by confirming a vertical accuracy requirement of +/-3 meters for at least 80% of calls, consistent with the long-held and well-documented needs of the public safety community and the public at large. Further, the Commission should not waver in its current requirement that such capabilities be in place by no later than April 2021 in the top twenty-five major cities and by April 2023 in the top fifty major cities.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in blue ink that reads "Harold A. Schaitberger". The signature is written in a cursive style with a large, stylized 'H' and a long, sweeping underline.

Harold A. Schaitberger  
General President