

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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

The International Association of Fire Fighters (IAFF) strongly supports the proposal of the Federal Commission's Commission (Commission) to adopt a vertical location metric of 3 meters to assist fire fighters and other responders in locating wireless callers to E911 emergency services.

The IAFF represents more than 316,000 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 furtherance of its 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 past century.

The primary question raised by the Commission's Fourth FNPRM is whether the Commission is correct in concluding that a 3 meters vertical accuracy requirement "will significantly narrow the scope of the search and can provide a reasonable basis for identifying the correct floor in most cases." A great deal of technical analysis supporting this conclusion has already been submitted into the record of the FCC's rulemaking

proceeding. Nevertheless, by far the best way to verify this conclusion is through field tests that replicate emergency conditions. Fortunately, such tests were conducted on July 9, 2014 by IAFF Local 798, the San Francisco Fire Department and the San Francisco Department of Emergency Management Division of Emergency Communications.

The vertical location field tests, the results of which were previously reported to the Commission,¹ were conducted using two teams of personnel from the San Francisco Fire Department that were instructed to locate markers that had been hidden in two high rise buildings. One search team was dispatched with only traditional horizontal location information. The other team was dispatched with both horizontal and vertical location information. Specifically, the second team was provided with a user device equipped with the beacon location technology developed by NextNav, LLC. As the Commission's *Fourth FNPRM* acknowledges, NextNav's technology provides vertical location accuracy within 3 meters, which was already the case in 2014 when the field tests were conducted.

As detailed in the table below, the time differences recorded between an emergency dispatch to a precise vertical location versus an indefinite search area is dramatic and too often may mean the difference between life and death.

	BUILDING 1 19 Stories	BUILDING 2 45 Stories
TEAM A	7 minutes 6 seconds	19 minutes 11 seconds

¹ Letter from William Storti, Battalion Chief, San Francisco Fire Department; Robert Smuts, Deputy Director, Division of Emergency Communications; Tom O'Connor, President, San Francisco Fire Fighters, to Marlene H. Dortch, Secretary, Federal Communication Commission, PS Docket 07-114, at 2 (July 14, 2014) (describing the test process that was employed and detailing the results).

TEAM B w/ Vertical	3 minutes 26 seconds	2 minutes 18 seconds
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The field tests provided a clear and measurable validation of the Commission's conclusion that the availability of vertical location information of within 3 meters significantly improves emergency response.

The Commission should reject proposals for a vertical metric of +/-5 meters because that will introduce excessive and unnecessary variables into the search process. Wireless callers in distress reasonably expect that when they dial 911, help will quickly arrive. The Commission's E911 rules are intended to make this expectation a reality by ensuring that 911 calls are seamlessly routed to the proper PSAP with the necessary location information to enable the closest appropriate resources to be rapidly and accurately dispatched. With the ever growing prevalence of wireless devices, it is beyond dispute that most calls to emergency services will be made using wireless handsets, and the infrastructure that exists to support emergency response must be optimized to address these conditions.

The Commission has a public interest obligation to conclude that the vertical location information that is provided to PSAPs must be sufficiently accurate to permit fire fighters and other responders to identify the floor of a wireless caller to E911 with reasonable consistency. A vertical location metric of 3 meters has been demonstrated to be sufficient to achieve this outcome.

It is not sufficient to provide a vertical location within 5 meters, or to provide the location address of Wi-Fi access points somewhere in the vicinity of a wireless caller. In an emergency situation, individuals often move within a building attempting to escape a fire, hide from an assailant, or respond to other emergencies. As the caller moves

through a structure within a floor or between floors, accurate floor level information will enhance the ability of emergency responders to locate that individual. Further, in many of these situations, power to the building may be out, thus eliminating any Wi-Fi based location methods.

The same technology that allows PSAPs to identify the floor level of a caller in distress can also help locate fallen rescuers. Burning multi-story structures are extremely hazardous and unpredictable environments. Fire fighters in these conditions must overcome a lack of visibility, an inability to hear, and are at risk of falling through roofs or floors and becoming injured, trapped, or disoriented. Any search for an injured fire fighter that lacks accurate vertical location information can take excessively long to complete and may exceed the air remaining in a fire fighter's breathing apparatus. Extensive searches of burning structures also place other fire fighters at risk.

To protect the public effectively, the Commission should promote rules that protect fire fighters, paramedics, and other emergency personnel as well as the public at large. Reliable and accurate vertical floor level information is necessary to locate wireless callers in distress and ensure the safety of those dispatched to aide them. The field tests that have been conducted demonstrate that a vertical location metric of 3 meters is sufficient to achieve these requirements, or at the very least, represents a significant step forward in improving the safety of the public and first responders alike. Therefore, the Commission should mandate that the major carriers consistently provide 3 meter accuracy for wireless calls to E911 no later than April 2021 in the largest twenty five cellular market areas (CMAs) and by April 2023 in the largest fifty CMAs.

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 initial 'H'.

Harold A. Schaitberger

General President