



July 8, 2026

The Honorable Richard Hudson
Chairman, Subcommittee on
Communications and Technology
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

The Honorable Doris Matsui
Ranking Member, Subcommittee on
Communications and Technology
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Hudson and Ranking Member Matsui:

Thank you for the opportunity to testify before the Subcommittee on Communications and Technology on June 4, 2026, at the hearing entitled, "Where Are We? Examining Positioning, Navigation, and Timing Capabilities in the United States."

Please find my responses to the Questions for the Record transmitted on June 24, 2026. I would be pleased to answer any further questions from you and other Committee and/or Subcommittee members.

Sincerely,

//signed//

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CC: Noah Jackson, Legislative Clerk
Committee on Energy and Commerce

**The Honorable Troy Carter (D-LA)
Questions for the Record**

**Lisa Dyer
Executive Director, GPS Innovation Alliance**

1. One utility reports that hundreds of thousands of natural gas detectors rely on these communications networks to transmit in-home safety alarms. What happens if those alarm systems experience degraded connectivity during an emergency?

RESPONSE: One of the most challenging aspects of an emergency is its unpredictability and the cascading impacts of the unfolding situation on systems that are installed and operated to save lives and property. Many of these systems rely on communications networks to emit alarms and other life-saving warnings to utilities and affected people and populations.

Safety standards and directives apply to natural gas installation, products, and related operations to ensure public safety-oriented procedures are in place and followed. For instance, National Fire Protection Association (NFPA) 715, *Standard for the Installation of Fuel Gases Detection and Warning Equipment* (“NFPA 715”), provides requirements for installing fuel gas detection and warning equipment for all buildings¹, and NFPA 54, *National Fuel Gas Code*, outlines required separation distances for gas equipment. The Underwriters Laboratory maintains standards for detector products². Local utility companies also publish and require strict adherence to their own guidelines for natural gas equipment and installation due to public safety concerns.

Natural gas detectors owned and operated by a homeowner may be hard wired, plugged into the electrical system, battery powered, or a combination thereof. “Fail safe” systems are designed to emit a loud noise when a leak is detected, even when electrical or other systems stop working. Depending upon the type of system selected by the homeowner, these systems may incorporate communications networks³.

¹ Shawn Mahoney, NPFA, *Household Propane and Natural Gas Detection and Alarms*, Feb. 25, 2026. <https://www.nfpa.org/news-blogs-and-articles/blogs/2025/02/13/residential-fuel-gas-alarms-and-nfpa-715> (last visited July 6, 2026).

² Stephen Olenick, Combustion Sci. & Eng’g, Inc. NFPA 715, *Standard for the Installation of Fuel Gases Detection and Warning Equipment: Past, Present, and Future* [https://northeastgas.org/files/galleries/Olenick_NortheastGas_2025_10_01_\(1\).pdf](https://northeastgas.org/files/galleries/Olenick_NortheastGas_2025_10_01_(1).pdf). (last accessed Jul. 6, 2026).

³ Consumer Reports Blog, *The Five Best Gas Leak Detectors of 2026*, <https://www.consumerreports.blog/best-gas-leak-detector/> (last visited July 6, 2026).

Communications networks play a vital role in delivering important public safety benefits for utilities and the people and businesses they serve⁴. For instance, more than 160 million smart meters communicate over the 900 MHz band⁵, whether in homes, businesses, or other locations. Information transmitted over these networks offer utilities and companies remote monitoring and cutoff capabilities as well as cost savings from minimizing retrofitting of new electrical lines and outlets. Communications networks also enable the individuals who are deaf and hearing-impaired communities to receive visual and tactile notifications⁶, and the individuals who are blind or low vision to receive alarms and audible warnings that natural gas and other emergency hazards have been detected⁷.

Degraded communications networks, whether due to the impact of the emergency or to the receipt of harmful interference, will have significant impacts on people, businesses, utilities and first responders who rely on information reported by “smart” natural gas detectors, including the location(s) of the leaks and the warnings that these systems can emit.

2. To your knowledge, what work has the FCC done to complete transparent, independently validated interference testing with utilities operating real-world systems?

RESPONSE: The FCC publishes on its website information regarding rules, regulations, and processes for obtaining equipment authorization⁸, which includes electromagnetic and radiofrequency interference testing to ensure electronic devices can safely operate in and near utilities. The website also includes publicly available presentations⁹, searchable databases and tools¹⁰ related to this testing, including an equipment authorization database¹¹.

I defer to utilities providers, manufacturers of unlicensed and licensed equipment, to include smart meter manufacturers, experimental licensees, and first responders to offer views on whether the testing is transparent and independently validated.

⁴ California Energy Comm’n, *Smart Shutoff Technology for Commercial and Residential Buildings* (July 2024) https://www.energy.ca.gov/sites/default/files/2024-07/CEC-500-2024-089_0.pdf.

⁵ Marguerite Behringer, PowerMag, *What Utilities Need to Know About the 900-MHz ‘NextNav’ FCC Proceeding*, June 8, 2026, <https://www.powermag.com/what-utilities-need-to-know-about-the-900-mhz-nextnav-fcc-proceeding/>.

⁶ Diglo, https://www.diglo.com/shop-by-alert-trigger/carbon-monoxide;d=3;c=32;s=322?srsId=AfmBOoqiWKAOA_m5BtljicGrAEKDEGVT3Rs6FIZvzhzS3OzBBgmebj2G (last visited July 7, 2026).

⁷ Nipsco, *What are natural gas detectors?* <https://www.nipsco.com/safety/home-safety/products> (last visited July 7, 2026).

⁸ Federal Communications Commission, *Equipment Authorization* <https://www.fcc.gov/engineering-technology/laboratory-division/general/equipment-authorization> (last visited July 7, 2026).

⁹ Federal Communications Commission, *Equipment Authorization - Presentations* <https://www.fcc.gov/general/equipment-authorization-presentations> (last visited July 7, 2026).

¹⁰ Federal Communications Commission, *Tools* Sept. 17, 2020, <https://www.fcc.gov/tools>.

¹¹ Federal Communications Commission Office of Engineering and Technology, *Equipment Authorization Database* <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> (last visited June 7, 2026).

**The Honorable Kevin Mullin (D-CA)
Question for the Record**

**Lisa Dyer
Executive Director, GPS Innovation Alliance**

1. Emergency alerts play an important role in keeping communities safe from quickly-evolving natural disasters, but their effectiveness depends on precise geotargeting. During last year's fires in Los Angeles, over 10 million people were accidentally sent an evacuation warning intended for a single neighborhood, triggering widespread panic and hindering emergency response efforts. A 2022 wireless emergency alert test by the FCC found that the needed geotargeting precision only worked for one-third of the devices that supported it. How might we strengthen our national PNT infrastructure to help improve the precision and reliability of emergency alerts?

RESPONSE: The GPS Innovation Alliance (GPSIA) continues to recommend a “More is More”¹² approach, which incorporates multi-frequency, multiple-source signals, to strengthening the National PNT infrastructure. Space-based systems offer important benefits, including 24-hours-a-day, seven days-a-week contiguous coverage of the United States and the entire globe for Americans as they live, work, and travel. While the Global Positioning System (GPS) is the backbone of the national positioning, navigation, and timing (PNT) architecture, the marketplace has proven exceptionally resilient. Several complements to GPS are already in use, as a 2021 DHS report¹³ noted, each with advantages and disadvantages. More are nearly operational. While NTIA provided a valuable inventory¹⁴ in the Federal Communication Commission's (FCC, or “Commission”) Notice of Inquiry on PNT¹⁵, GPSIA would add more to that list.

Congress plays an important role in improving communications alerts in the event of man-made or natural disasters. The Warning, Alert, and Response Network Act of 2006 (“WARN Act”) established the Wireless Emergency Alerts (WEA) system¹⁶. The WARN Act required the FCC

¹² See Letter from John Raquet and William Burruss to Marlene H. Dortch, Sec’y, FCC in WT Docket No. 25-110 (filed Mar. 31, 2025) (appending white paper entitled “More is More: Using Multiple Global Navigational Satellite Systems to Improve Geolocation Accuracy, Performance, and Resilience”), <https://www.fcc.gov/ecfs/document/10331505428967/1> (“More is More”).

¹³ See Richard Mason et. al., RAND Corp. on behalf of the Dep’t of Homeland Security National Protection and Programs Directorate, *Analyzing a More Resilient National Positioning, Navigation, and Timing Capability* (May 2021), https://www.rand.org/pubs/research_reports/RR2970.html and *See Best Practices for Resilient PNT Supporting Critical Infrastructure*, U.S. Dep’t of Homeland Security (Sept. 2024). https://www.dhs.gov/sites/default/files/2025-02/25_0220_st_pnt_best_practices_ci.pdf.

¹⁴ See Letter from David Brodian, Chief Counsel, Nat’l Telecomm. and Info. Admin., to Marlene H. Dortch, Sec’y, FCC in WT Docket No. 25-110 (filed May 27, 2025) (appending document titled, “Inventory of Complementary, Alternative, and Augmentative PNT Solutions”), <https://www.ntia.gov/sites/default/files/2025-05/inventory-of-pnt-solutions.pdf> (“Inventory”).

¹⁵ *Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions*, WT Docket No. 25-110, Notice of Inquiry, FCC 25-20 (2025) (“NOR”).

¹⁶ FCC, *Wireless Emergency Alerts*, (Sept. 25, 2025) <https://www.fcc.gov/consumers/guides/wireless-emergency-alerts>.

to establish technical and operational standards for providing alerts to affected populations. In implementing the WARN Act, the FCC determined that as of November 2019, new phones must provide WEA alerts to people carrying a phone with a GPS-derived accuracy of 0.1 mile of the affected geographic identified by Alerting Authorities, known as “WEA 3.0”¹⁷. U.S. Representative Robert Garcia’s report following the tragic 2025 Los Angeles wildfires also provided valuable lessons learned on how to improve the alerting¹⁸.

First responders, federal agencies, regulators such as the FCC, industry, and vendors and industries supporting voluntary WEA implementation are continually seeking to improve their offerings and operational processes subsequent to natural disasters. For example, FCC Chairman Brendan Carr sent a letter to Representative Garcia outlining what the FCC, the Federal Emergency Management Agency, and Los Angeles County investigators determined were contributing factors to the challenges to the issuance and receipt of WEAs during the 2025 Los Angeles wildfires as well as the steps being undertaken to resolve identified issues¹⁹. The FCC website also includes extensive information about WEA, including a Frequently Asked Questions page and a Consumer Guide²⁰. The FCC’s June 29, 2026 Report and Order and Further Notice of Proposed Rulemaking concerning four related dockets, “Modernization of the Nation’s Alerting Systems,” “Protecting the Nation’s Communications Systems from Cybersecurity Threats,” “Wireless Emergency Alerts,” and “Amendment of Part 11 of the Commission’s Rules Regarding the Emergency Alert System” demonstrate the Commission’s continued commitment to improving the WEA system²¹.

The wireless industry also provides significant resources to educate regulators and consumers about WEA implementation, including links to determine which cellular phones support WEA 3.0²². The wireless industry estimates today that up to 83% of all cellular smartphones today support WEA 3.0, an increase from 18% in 2020²³. That percentage will rise as consumers upgrade their phones to those that are compatible with WEA 3.0, in turn reducing the numbers of people who unnecessarily receive alerts about disasters that are not directly affecting their physical locations.

¹⁷ Nat’l Weather Serv., *Weather warnings on the go!* <https://www.weather.gov/wrn/wea> (last visited July 7, 2026). WEA 3.0 includes other improvements, such as an increased number of characters that can be sent in each alert.

¹⁸ U.S. Representative Robert Garcia, *Sounding the Alarm: Lessons from the Kenneth Fire False Alerts*, (May 12, 2025) <https://robertgarcia.house.gov/sites/evo-subsites/robertgarcia.house.gov/files/evo-media-document/false-alerts-final-report-5.10.pdf>.

¹⁹ See Letter from FCC Chairman Brendan Carr to U.S. Representative Robert Garcia, “re: FCC Los Angeles County Wildfire Response” Apr. 1, 2025, <https://robertgarcia.house.gov/sites/evo-subsites/robertgarcia.house.gov/files/evo-media-document/fcc-wildfire-inquiry-response.pdf>.

²⁰ See supra note 16.

²¹ In re *Modernization of the Nation’s Alerting Systems*, et. al., Report and Order in PS Dockets No. 25-224 and 22-329; and Further Notice of Proposed Rulemaking in PS Dockets 25-224, 15-91, and 15-94, FCC 26-38, PS Dockets No. 15-91, 15-94, 25-224, 22-329 (rel. June 29, 2026), <https://docs.fcc.gov/public/attachments/FCC-26-38A1.pdf>.

²² CTIA, *Wireless Emergency Alerts*, <https://www.ctia.org/consumer-resources/wireless-emergency-alerts> (last visited July 7, 2026).

²³ See supra note 16.

Smartphone manufacturers have also invested significant resources to ensure WEAs reach people who are affected by manmade and natural disasters²⁴. Mobile phone technologies enable on-device geotargeting capabilities, also known as device-based geofencing²⁵, which determine the phone's location from GPS, Wi-Fi, and other technologies available to the phone. These device-based capabilities ensure the alerts reach people within geographic areas identified by Alerting Authorities.

²⁴ Apple, *Government, Emergency, and Enhanced Safety Alerts on iPhone*, (Dec. 12, 2025) <https://support.apple.com/en-us/102516>.

²⁵ ATIS, *ATIS Standards Advance Geo-Targeting Capabilities of the Wireless Emergency Alerts System* (May 23, 2019) <https://atis.org/press-releases/new-atis-standards-advance-geo-targeting-capabilities-of-the-wireless-emergency-alerts-system/>.