Testimony of

**Christopher Guttman-McCabe,
CEO of CGM Advisors, LLC**

**Testifying on Behalf of
Advanced Computer & Communications, LLC**

On the

Future of Emergency Alerting

Before the

**House Energy and Commerce Committee,
Subcommittee on Communications and Technology**

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Good morning Chairman Blackburn, Ranking Member Doyle, and members of the subcommittee. It is a privilege and honor to appear before your subcommittee to discuss the future of emergency alerts. During my testimony, I will wear two hats. Most importantly, I will represent Advanced Computers and Communications, LLC. AC&C is a software-as-a-service small business technology company, founded in 1991, that has developed a transformational software product that I believe will drive the next iteration of wireless emergency alerting. AC&C's principal offices are located in Baton Rouge, Louisiana.

In addition to representing AC&C, I also appear before you as an early advocate and long-time supporter of the wireless emergency alert service. This is an issue that is close to my heart. Today's hearing will mark the seventh time that I will appear before Congress to discuss, at least in part, the issue of emergency alerts. I also worked closely with the wireless industry and the FCC during the development of the service, and as part of the original Commercial Service Alert Advisory Committee, comprised of more than 40 individuals representing Tribal, local, State, and Federal government agencies; communications providers; vendors; broadcasters; consumers' groups; and other technical experts. I served on the Advisory Committee on behalf of CTIA.

I first tackled this issue working with Representatives Shimkus and his team, as well as Senators DeMint, Inouye and Stevens, while I was at CTIA. Their hard work and leadership, working with the Public Safety alerting community and the wireless industry, would become the Warning, Alert and Response Network Act, adopted as part of the SAFE Ports Act of 2006. The WARN Act established the framework for what is now known as the Wireless Emergency Alert service. The public-private partnership between government, alert originators and the wireless industry was designed not only to develop and deploy a state-of-the-art wireless alerting capability, but also to ensure that it would be upgraded and improved as technology would allow. Chairman Blackburn, in announcing this hearing, stated that "our communications networks are becoming more advanced and providers are taking advantage of technological innovation and advancements with better targeted, more informative emergency alerts." The Chairman also asked "what improvements have been made and what more can be done to ensure the American public is promptly notified of an emergency situation." I believe those statements can perfectly frame the discussion that we will have today.

The emergency alerting platform has evolved in the years since the adoption of the WARN Act. It will evolve further with the recent actions of the FCC and with the industry's commitment in the recent

CSRIC V working group. And still more will be done under Chairman Pai's leadership when the FCC finalizes a Further Notice of Proposed Rulemaking that focuses on additional upgrades to the WEA service, particularly the upgrades involving device-assisted geotargeting.

Currently the WEA service is based on a 90-character message, delivering alerts via a technology called cell broadcast. The alerts fall into one of three categories:

- Alerts issued by the President of the United States;
- AMBER Alerts;
- Alerts involving imminent threats to safety of life, issued in two different categories: extreme threats and severe threats.

The service was successfully launched in 2011. The goal was to get a new alerting capability off the ground, and then upgrade as technology evolved. In a hearing before Congress in October of 2013, I stated that "the wireless industry is committed to working with FEMA and the FCC to ensure that subsequent generations of the system support additional functionality and granularity." I believe that still to be the case. The first round of changes to the system were adopted in September of last year. A key element of those changes was the movement to 360 characters. I believe that the movement to 360 characters will be a catalyst for the improved granularity that I mentioned in 2013, specifically device-enhanced geo-targeting. I believe that upgrade -- the ability to precisely target alerts using a device-enhanced capability -- will future-proof wireless emergency alerting, and set emergency alerting in general on a fantastic course.

I am not alone in this thinking. Public Safety, including representatives from *Harris County, Texas; Houston, Texas; West Feliciana Parish Sheriff's Office; City of Austin HS and EM; Nevada Office of Emergency Management; APCO; NOAA/National Weather Service; Seattle Office of Emergency Management; New York Office of Emergency Management; NY Police/Fire/Mayor's Office; City and County of San Francisco Department of Emergency Management; Office of Emergency Management, Nassau County, NY; Mayor's Office of Public Safety and Homeland Security, City of Los Angeles; Government of the District of Columbia, Homeland Security and Emergency Management Agency; Boulder Regional Emergency Telephone Service Authority; Ventura County Sheriff; EOC, Brevard County, Florida,* and more have identified the need to be able to more accurately geo-target alerts as perhaps the single most important upgrade that could happen to the WEA service.

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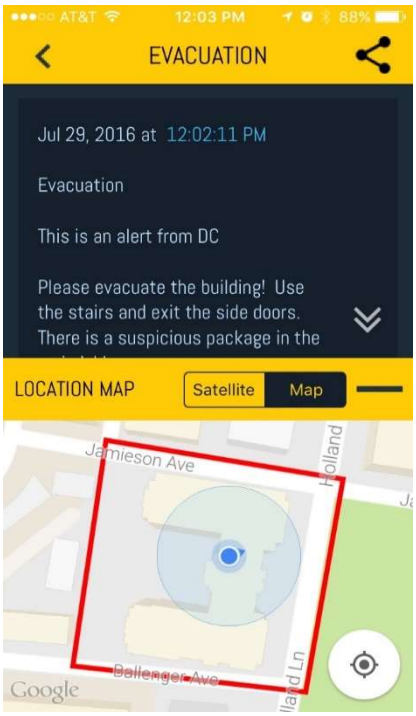
The Big City Emergency Managers organization, representing the Emergency Management Offices of the 15 largest cities in the country, perhaps has said it best. In a letter to the FCC, they said that "the recommendations concerning device assisted geo-targeting in the CSRIC Report entitled *Wireless Emergency Alerts – Recommendations to Improve Geo-Targeting and Offer Many-to-One Capabilities* (Recommendation 3 in particular), are the most important and timely changes to WEA under consideration. Simply put, device based geo-targeting provides the lightest lift with the biggest return."

AC&C, the company I represent, has designed and developed a software solution (PG Alert) that allows the targeted delivery of emergency alerts, community alerts, and other information. The solution allows alert originators and wireless providers to geo-fence messages to any shape and size. As a device-based upgrade, the PG Alert solution leverages the key components of cell broadcast technology (unlimited communication capacity within the broadcast area, no databases and one way broadcast protecting privacy) to push information into the general alert area and the device's location awareness to decide **who** the alert is relevant for and **how** the alert is displayed on the device. By passing the alert area coordinates to the device along with the message, the device can compare its physical location to the alert area coordinates and play the message only when it is within the alert area. Once the device realizes the message is relevant to its location, it then decides how the person wants the message displayed. Device-based software enhancements are designed to integrate with current technologies being used by Public Safety and the wireless industry.

This device-enhanced upgrade to the WEA service will provide benefits to consumers, alert originators, and wireless carriers. **For consumers**, the device-enhanced upgrade will confirm why the person is receiving the alert by showing the device's position within the polygon on a well-defined map. In addition, the new upgrades will leverage settings within the device to personalize an emergency alert or community message while still maintaining the user's privacy since the service is a "receive only" broadcast.

Following is an example of how the device-enhanced WEA message would appear on a mobile device. Note that the blue dot marks the device's location.



For **Public Safety alert originators**, the most significant benefit will be the ability to contain alert messages to their jurisdiction, regardless of size. With the ability to contain the message to their jurisdictional footprint, there will be no need to require authorization from overlapping jurisdictions to send an alert or deliver a community message. This will make the system feasible for jurisdictions of any size (buildings or college campuses), and will provide an "enhanced" alert/notification capability with access to all devices for local communities and Public Safety entities. Additionally, it will allow for much more significant geographic targeting capability, thus reducing the over-alerting problem, and opening the market for community messaging. Finally, increased usage of the service will provide opportunities for Public Safety to "practice" use of the product, increasing proficiency and reducing the need for "drills."

For **wireless carriers**, AC&C's product, PG Alert, is a low-cost upgrade to WEA that not only will address most of Public Safety's calls for upgrading the WEA service, but also will enable the industry to take advantage of the cell broadcast technology that exists in the carriers' networks. Additionally, the ability to precisely geo-target alerts will limit the network impact of the WEA service, particularly as carriers begin to include URLs and other information in the WEA message.

We at AC&C are not alone in thinking that this device-enhanced upgrade makes sense. Then-Commissioner Pai, now Chairman Pai, stated in September in response to the Commission's Report and Order that "after studying the record and speaking with public safety officials, including in New York City, I agreed that we need to do more than just codify the status quo. So, I proposed that we be more forward-leaning, that we commit in this *Order* to moving ahead with a device-based approach to geo-targeting. By enabling devices to screen emergency messages and only allow the relevant ones through, this approach would allow public safety officials to target information to specific geographic areas. And it would advance WEA as a platform by reducing "alert fatigue." I'm happy to report that the *Order* incorporates this approach in addition to adopting other enhancements to our geo-targeting rules. Moreover, the *Further Notice* now seeks additional comment on ways we can implement our commitment to device-assisted geo-targeting."

The FCC's record is clear that this device-assisted upgrade is both transformational and feasible. Numerous companies in the FCC's record last year and this year have stated that integrating the intelligence in the mobile device into the WEA service is possible and would drive significant upgrades to the service. In December, AT&T commented that the precision that Public Safety alert originators are seeking *"is not possible using currently deployed cell broadcast infrastructure . . . [and that] if the alert polygon is smaller than a single cell site, it is impossible to transmit the WEA alert and confine it only to those devices within the polygon and no others*." The solution that AT&T suggested is incorporating the handset. *"The managed WEA App could then take those messages and, if the user has enabled location services, determine the handset's location using existing capabilities and APIs available in the mobile device OS. Once the managed WEA App has identified the handset's location, it can determine whether the handset is in the alert area and display the message; if the handset is not in the area, it can ignore the message. If the location data are not available in the handset, the managed WEA App could default to displaying the message, which it has already received."* AT&T also stated that it *"is well aware of capabilities in mobile devices and device operating systems, as well as the APIs available to application developers. Such capabilities can be exploited in development of a managed WEA app.*"

In conclusion, we at AC&C believe that the future of wireless emergency alerting is bright. We understand that the industry is working on a device-enhanced upgrade to the WEA service, and we look forward to continuing to work with the industry and the FCC to integrate our low-cost software-based

solution that will incorporate the intelligence of the mobile device into the WEA service. It is our belief that these device-enhanced capabilities will provide significant consumer, Public Safety alert originator, and wireless industry benefits.

I thank you again for the invitation to provide my thoughts on the Future of Emergency Alerting, and I welcome any questions that you might have.