



December 21, 2017

**VIA ELECTRONIC FILING**

Ms. Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

**Re: Ex Parte Presentation, *Improving Wireless Emergency Alerts and Community-Initiated Alerting*, PS Docket No. 15-91.**

Dear Ms. Dortch,

On December 21st, CTIA along with its member companies (industry parties) met via conference call with representatives from the Commission's Public Safety & Homeland Security Bureau and Office of General Counsel concerning the Commission's *Further Notice of Proposed Rulemaking* in the above referenced proceeding.<sup>1</sup> During the meeting, the industry parties discussed a framework to effectively enhance the geo-targeting capabilities of alert originators within the existing architecture and framework for Wireless Emergency Alert (WEA) that relies upon cell-broadcast technology.

Importantly, the industry parties explained that incorporating device-based solutions to enhance WEA geo-targeting represents a fundamental shift in the design and use of WEA – from a network-based approach that disseminates emergency information across a wide area with minimal network impact, to device-based technologies that confine presentation of the alerts to a more focused geographic area that will have network impacts. Such a fundamental shift will require new mobile wireless network and device standards and solutions, as well as new or modified technologies and practices for alert originators. In consideration of these issues, the

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<sup>1</sup> *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-127 (rel. Sept. 29, 2016).



industry parties proposed a framework and timeline to enhance WEA geo-targeting capabilities.

***CTIA and Its Member Companies Support the Commission's Adoption of Enhanced WEA Geo-Targeting Requirements for Participating CMS Providers.***

Today's WEA geo-targeting capabilities play a vital role in disseminating emergency messages intended for a specific geographic reach. As described below, a Commission requirement for geo-targeting of WEA messages should continue to utilize network-based cell-sector technology that requires participating Commercial Mobile Service (CMS) providers to deliver WEA messages to the entirety of the alert area defined by an alert originator subject to where mobile wireless coverage is available. These capabilities are currently supported by participating CMS providers and enables alert originators to target WEA to a particular geographic area, but may result in over-alerting for more narrowly focused emergency messages, such as public safety messages more relevant to people within a limited geographic area.

To mitigate the possibility of over-alerting, the framework below proposes to enhance the geo-targeting capabilities of WEA through device-based technologies that harness the location capabilities of the mobile device, a capability that is not presently incorporated into the cell-broadcast technology of the WEA system. The framework recognizes that device-based technologies can minimize the extent to which a WEA alert is received outside of the WEA alert area to no more than 0.10 mile for devices with such capability. Devices capable of meeting these enhanced requirements will need to support applicable standards and may be capable of meeting the 0.10 mile target so long as the device is capable of sufficiently determining location in relation to the alert area. It is commonly understood that a device's location determination ability at any given time is subject to external limitations (for example, the environment where the device receives a WEA alert) at the time the alert message is received, and any technically feasible framework must account for those limits.

Specifically, the industry parties suggest that the Commission adopt a new WEA geo-targeting rule with the following components:



For an Alert Message that is specified by a geocode, circle, or polygon, a Participating CMS Provider must transmit the Alert Message to the entirety of the area to the extent of a Participating CMS Provider's commercial service coverage area, but not larger than the propagation area of a single transmission site.

Participating CMS providers must support devices capable of suppressing (or otherwise not presenting) an Alert Message in an area specified by a circle or polygon if the device determines that the device itself is more than 0.10 mile outside the specified circle or polygon.<sup>2 3</sup>

To meet this new requirement, within 36 months after the effective date, all new WEA-capable devices should be capable of using device location to either present or suppress the Alert Message based upon the device's estimate of its location in relation to the specified circle or polygon, which may be impacted by external limitations when the device receives a WEA alert, such as the radiofrequency environment or device settings.<sup>4</sup>

CTIA and its member companies urged the Commission to adopt this framework to effectively enhance the geo-targeting capabilities of alert originators within the existing architecture and framework for WEA.

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<sup>2</sup> For purposes of device-based WEA geo-targeting, an Alert Message can only be specified by a circle or polygon through 360-character maximum Alert Messages. Thus, 90-character maximum Alert Messages should remain subject to the "entirety of the area" network-based cell-sector geo-targeting obligation. The Commission should also note record support for inclusion of the circle or polygon alert areas within 360-character maximum Alert Messages. See e.g., AC&C, LLC Ex Parte, Nov. 9, 2017, quoting a Sept. 16, 2016 Joint Filing of CSRIC V Geographic Targeting Working Group Public Safety Participants that "While inclusion of the polygon coordinates will reduce available characters for the alert message, **this is an acceptable tradeoff for Public Safety**. The mix of polygon coordinates vs text message could be divided based on the desires of the alert originator. For example, the first 270 characters could be allocated for the WEA text message and the remaining 90 characters for polygon coordinates." (emphasis added).

<sup>3</sup> During the call, CTIA and its member companies clarified that suppression of the Alert Message would occur outside of the specified circle or polygon.

<sup>4</sup> This requirement would apply only to new device models first introduced 36 months after the effective date of the rule. The industry parties propose an approach to address legacy or existing devices below.



***36-months is an Aggressive, Yet Achievable, Timeline for Implementation of Enhanced WEA Geo-Targeting.***

The industry parties believe that integration of new enhanced WEA geo-targeting capabilities into devices and networks will require no less than 36 months from the effective date of new FCC rules. The industry parties noted that, in the interim, existing WEA geo-targeting capabilities will continue to provide a meaningful level of geo-targeting in many emergency situations.

The WEA system is a success in large part because the Commission has balanced time for standards-based technology to be developed, implemented, and tested, with the urgency of the public safety mission. For device-based geo-targeting to succeed, the Commission must again determine a reasonable timeline that accounts for technical feasibility, the rulemaking record, considers relevant precedent, and recognizes the important role of WEA to the safety and security of Americans. From CTIA and its member companies' perspective, enhanced WEA geo-targeting will require fundamental changes to the existing WEA system and components, including provider networks, mobile devices, and public safety networks and technologies.

From a systematic perspective, enhanced WEA geo-targeting will require the development and implementation of participating CMS provider network and device standards, completion of technical acceptance testing, and the deployment of devices that support these applicable standards. For example, provider network capabilities will need to be modified to support cell-broadcast of polygon coordinates to devices in the alert area. In addition, FEMA's IPAWS Gateway and the "C" interface that enables alert originators to send WEA messages through a central gateway to participating CMS provider networks will also need modifications to support enhanced geo-targeting.

Further, mobile devices will have a fundamentally different role in the WEA system once enhanced WEA geo-targeting is implemented. Unlike the existing WEA system where WEA-messages are automatically displayed by the mobile device upon receipt, WEA-messages that are intended to utilize enhanced geo-targeting will require the mobile device to determine whether to display the WEA-message based on the compressed polygon coordinates and location of the device. To do this, the mobile



device will have to intercept and analyze the enhanced WEA message prior to display and harness new WEA components within the device to determine location, likely through new interfaces defined in standards.

Overall, this multi-faceted effort to support the enhanced WEA geo-targeting capabilities will require sufficient time for technical experts to develop standards and for the various stakeholders to implement, including participating CMS Providers, handset and component manufacturers, FEMA and alert originators. Specifically, implementation of a device-based geo-targeting capability for WEA requires:

- New standards development in appropriate technical bodies, such as ATIS and 3GPP, that will require approximately 12-18 months;
- Development of new device capabilities and enhancements, such as chipsets, drivers or software, that will require approximately 12-18 months;
- Integration of new interfaces into handsets and software that will require approximately 12-18 months;
- Updates to the CMS Providers' core networks that support the WEA-system that will require approximately 9-12 months;
- End-to-end testing of the implementation of all these new features and capabilities that will require approximately 6 months; and
- Updates to FEMA's IPAWS, alert originator technologies, and other integration efforts.

While the standards process to support enhanced WEA geo-targeting is already underway, a Commission Order will provide clearer guidance to affected stakeholders about the requirements that standards will need to address. CTIA and its member companies expect that a number of these activities can occur in parallel. For example, updates to providers' core networks and device interface integration could be developed during the same time period.

Further, the industry parties noted that additional analysis is needed among technical experts to determine the ability of legacy or existing devices to support these device-based technology capabilities in a standardized way. To address this issue, the industry parties suggest that the Commission keep the FNPRM open to better assess the potential for adding enhanced geo-targeting capabilities to at least some legacy or existing devices prior to the 36-month deadline. Specifically, the Commission should



consider incorporating the following into an Order adopting enhanced WEA geo-targeting requirements:

No later than June 30, 2018, ATIS is scheduled to complete its ongoing efforts to study the feasibility of device-based geo-targeting methods and the impact to consumers to obtain new devices and/or require software upgrades. The ATIS deliverable on this topic is expected to address whether such methods are technically feasible and, if so, (1) when standardized methods could be available for new and existing handsets, (2) whether such methods are incompatible with certain devices, (3) impacts to networks for deployment of such solutions, and (4) any actions FEMA and alert originators must take for consumers to use and benefit from such methods. The Bureau should seek expedited comment on ATIS' findings.

While the wireless industry will develop and deploy enhanced WEA geo-targeting capabilities for their networks and devices, the industry parties expect that the wireless industry and public safety stakeholders will work together to establish best practices that help alert originators effectively utilize geo-targeting capabilities to help mitigate the extent of over-alerting while considering the nature of the emergency, as well as network impacts.

Given the significant efforts that will be necessary to support this new capability, CTIA and its member companies believe 36 months is the most aggressive, yet achievable, timeline the Commission should adopt. By adopting a 36-month timeline, the Commission can most likely avoid the type of uncertainty and delay that overshadowed previous Commission efforts to enhance wireless emergency communications systems within infeasible timelines.<sup>5</sup>

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<sup>5</sup> See, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 18676 (1996); see also, FCC Acts on Wireless Carrier and Public Safety Requests Regarding Enhanced Wireless 911 Services, WT Docket No. 94-102 (rel. Oct. 5, 2001) (found at: [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-216723A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-216723A1.pdf)).



Overall, CTIA and its member companies support this framework to enable the Commission to adopt new rules and requirements that can enhance the geo-targeting capabilities of the WEA system, and maintain the important role of WEA to the safety and security of America's wireless consumers.

Sincerely,

/s/ Matthew Gerst

Assistant Vice President – Regulatory Affairs  
CTIA®

cc: Nicole McGinnis  
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## Attachment A

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