February 11, 2016

Via FCC Electronic Comment Filing System

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
Re: Wireless Emergency Alerts (WEA) – Proceeding 15-91

Dear Ms. Dortch:

We kindly want to bring to your attention the **comments filed to the FCC by multiple parties that support the inclusion of simple information in WEA broadcasts which would enable innovations in public alerting**. NOAA National Weather Service (NWS) comments posted on January 12, 2016, similarly recommend, by example, that WEA broadcasts include the CAP identifier. This will enable WEA and third party applications to obtain more information from IPAWS or other CAP source, further **allowing the device to render critical life-saving information in text, graphical, audio and/or disability-friendly formats as well as multiple languages**.

However, the innovations described in the following comments to the FCC cannot be realized unless WEA provides the mobile device with, and makes available to connected technologies, enabling information in the WEA broadcast.

Eliot Christian says the FCC needs to anticipate a broad array of life-saving devices and applications that leverage the powerful combination of Cell Broadcast and CAP:

> "have the option to disseminate not only the short, unstructured text message now offered in WEA, but…enable receiving devices to make fuller use of important information in the original alert that is not currently in the WEA message...For example, BART in San Francisco already has smart devices that slow trains in response to an automatically generated 'earthquake early warning' message. FCC should anticipate a broad array of life-saving devices and applications that leverage the powerful combination of Cell Broadcast and CAP-enabled alerting."

The **AWARN Coalition** describes numerous benefits of using AWARN in concert with WEA:

> "…rich-media information is sent by alert originators, transmitted via AWARN over the broadcast signal, and downloaded in the background to user devices. The content could include video, radar images and evacuation maps; local news and weather coverage; text, photographic, or pictorial instructions; inundation maps; plume models for chemical or radiological releases; and shelter locations, treatment protocols, and other recovery

> information. People in harm's way would have this deeper alert and response information sent via AWARN literally at their fingertips."

The **California Governor's Office of Emergency Services** describes how interaction between the mobile device and WEA could improve Earthquake Early Warning:

> "The FCC should consider expanding WEA alerts to include alerts that could be readable by mobile phone applications. Earthquake Early Warning's effectiveness could be enhanced if an alert were to be able to interact with a mobile phone's application, location and other variables to calculate an accurate warning time and magnitude for a pending earthquake."

AC&C strongly recommends leveraging the alert polygon vertices in combination with capabilities of the mobile device to improve geographical targeting of WEA messages:

> "AC&C recommends…the FCC…strongly consider the benefits of device based/device assisted discrimination. Leveraging the processing capabilities of handheld devices improves the effectiveness of WEA message content and geo-targeting, facilitate additional usage of the system and the service, thereby limiting the need for testing and proficiency training, as well as encourages citizens not to opt out and all mobile providers to participate."

Krown Manufacturing, who manufactures and distributes visual alert notification equipment for the deaf and hard of hearing, describes what is needed to improve WEA accessibility:

> "there should be a standard set of reference values appended to the delivered message which would allow the alerting technology to identify the type, intent and geolocation of the message. There should also be an alert reference number to synchronize updates…to provide for clear messages."

The **United States Geological Survey (USGS)** says "'Smart' devices are now ubiquitous and it is irresponsible not to harness their capabilities":

> "machine-readable…could be captured and interpreted by phone apps for particular purposes. In the case of EEW alerts, cell broadcast via WEA is the most efficient way to notify the public that they are about to experience heavy shaking. The severity and time of arrival of that shaking could be easily calculated by a phone app based on each individual's location. A message type that would make this possible is critical to maximizing the public safety impact of EEW and other hazard warnings.
>
> The assumption that WEA message content will only be viewed directly by humans severely limits its usefulness. Likewise, the assumption that the phone will respond only with a preconfigured tone, cadence, and message precludes the possibility of developing apps that provide greater functionality that uses the user's location and context. More sophisticated logic could give context-specific instructions if someone is, for example, driving, in a tall building, or in a tsunami zone."

> The USGS goes on to say, "We also support adoption of techniques like those developed at Carnegie Mellon to reduce the size of polygon vertices and embed them in WEA messages… support pursuing geo-targeting using network-based, device-based, and third-party-assisted solutions. 'Smart' devices are now ubiquitous and it is irresponsible not to harness their capabilities to refine and customize alerts.'"

The **City of Houston** says the "FCC should require" that the capabilities of the mobile device be leveraged to improve geographical targeting of WEA messages:

> "The FCC should require carriers to use integrated the Global Positioning System (GPS) capability in most new phones to allow for a greater pin-pointing of geo-targeted warnings. The nature of cell broadcast allows for a great amount of over-warning, however if warnings could be tailored so that a device is able to choose to display a warning, or not do so, based on the combination of the warning polygon and the devices GPS coordinates, it may allow for more targeted warning. In situations such as hazardous chemical releases, where protective actions are differentiated based on proximity and direction of the hazard, this could ensure that the right message reaches the right person, at the right time."

MobiLaps describes how enabling third party development could bring innovative alerting capabilities to communities:

> "third-party developers face a prohibitive barrier due to the lack of clarity about programming rules and procedures for accessing and retrieving CMAS messages…The power of today's smartphone is derived not solely from its computer-like capabilities and Broadband connectivity, but also from its openness to third-party developers, who have been responsible for most of the hit mobile applications (apps) on smartphones… more sophisticated third-party CMAS apps can take advantage of the smartphone's capabilities to…translate the message to another language, map the incident relative to the user, provide customized response instructions etc… an all-in-one personal alerter for meetings, daycare incidents, national emergencies etc; thus increasing its utility and commercial appeal to the user…the third-party app can kick in as soon as the built-in app has completed its presentation."