

Comments Submitted by Eliot Christian on Notice of Proposed Rulemaking, FCC-15-154A1, Improving Wireless Emergency Alerts and Community (PS Docket No. 15-91)

I offer here a comment pertinent to the Notice of Proposed Rulemaking, FCC-15-154A1, Improving Wireless Emergency Alerts and Community (PS Docket No. 15-91). This comment is based on my work since 2001 in helping to develop the Common Alerting Protocol (CAP) standard and to promote its implementation worldwide. I am retired from the United States Geological Survey (USGS) and the World Meteorological Organization (WMO). I am now a consultant to the Global Disaster Preparedness Center (GDPC), part of the International Federation of Red Cross and Red Crescent Societies (IFRC).

My comment here is that wireless carriers should have the option to disseminate not only the short, unstructured text message now offered in WEA, but a structured message in CAP format reflecting the original CAP alert. As elaborated below, such dissemination would enable receiving devices to make fuller use of important information in the original alert that is not currently in the WEA message. Such a CAP alert need not be large and can be supplied at the interface between IPAWS and WEA.

It is important to note that public warning over Cell Broadcast is not being sent solely to devices that are constrained to merely display a short text message. Rather, a growing percentage of receiving devices are smart phones. Also, many technology observers predict that the "internet of Things" will soon give rise to huge numbers of other networked smart devices. 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.

Because it is short and unstructured, the text message now offered in WEA is missing important information in comparison to the original CAP alert. As a result, the public is receiving information through WEA that is not as accurate nor as complete as the alerting authority intended. The following three examples illustrate how such inaccuracy and incompleteness can compromise effective alerting.

(1) The "geo-targeting" of WEA messaging is based on converting the alerting area in a CAP alert to the coverage of cellular base stations ("cell towers"). This conversion can result in woefully inaccurate alerting, such as when powerful cell towers cover stretches of roadway that may be tens of miles long. If the wireless carrier were to send the original CAP alert, then any car with a navigation device like Google Maps can instead alert those who are actually in the specified alerting area.

(2) The "imminent threat criteria" used for selecting whether to issue a WEA alert is partially based on three elements in the original CAP alert: Urgency, Severity, and Certainty. Yet, each of these elements may be set to two levels. Those levels can be important to an end user in deciding whether to accept or opt-out of WEA messaging. For instance, because the operator of a nursing home needs more lead time to react in an emergency, he/she needs the lowest Urgency level, even though that choice means being interrupted by alerts more often. Meanwhile, absent the ability to filter on Urgency level, a healthy young man might simply opt-out of WEA messaging. If he can instead set his own preferences, he is less likely to opt-out. Here we can note that the Red Cross Hazards app, a system of public alerting that operates in parallel to WEA, does use the full CAP alerts and so offers its 2 million users such choices.

(3) The "instruction" element of a CAP message is crucial in assuring that an alerted person knows what to do in response to the emergency situation. Here, having immediate access to the fuller text provided in the original CAP alert can be life-critical. This is especially the case in a sudden-onset event such as an earthquake, tornado, tsunami, active shooter, etc. Although the short message currently offered in WEA does serve to get a person's attention, that person then needs to make a separate network interaction in order to find out how what actions are recommended. In a major emergency, those separate network interactions can be significantly delayed because the system is either overloaded, compromised, or both.