

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Wireless Emergency Alerts; Amendments to)	PS Docket No. 15-91
Part 11 of the Commission's Rules Regarding)	
the Emergency Alert System)	
)	
Amendment of Part 11 of the Commission's)	PS Docket No. 15-94
Rules Regarding Emergency Alert System)	
)	

COMMENTS OF AT&T

AT&T Services, Inc., on behalf of itself and its affiliates (collectively, “AT&T”), submits these comments in response to the Federal Communications Commission’s (“Commission” or “FCC”) *Public Notice* inviting parties to refresh the record on the feasibility of including multimedia content in Wireless Emergency Alert (“WEA”) messages.¹

I. INTRODUCTION AND SUMMARY

The WEA system is a vital component of emergency preparedness. The public alert system is designed to “alert and warn the civilian population in areas endangered by natural disasters, acts of terrorism, and other man-made disasters or threats to public safety.”² Since it was deployed in April 2012, WEA has been used to “issue over 33,000 emergency alerts,

¹ Parties Asked to Refresh the Record on Facilitating Multimedia Content in Wireless Emergency Alerts, Public Notice, PS Docket Nos. 15-91, 15-94, DA 18-302 (2018) (“*Public Notice*”).

² Integrated Public Alert and Warning System Modernization Act of 2015, Pub. L. No. 114-143, §526(a)(1) (2015).

including severe weather warnings, evacuate and shelter-in place alerts, and America's Missing: Broadcast Emergency Response (AMBER) Alerts.”³

The Commission last sought comment on incorporating multimedia capability into WEA alert messages in 2016.⁴ Since that time, despite technological advancements and standards work, incorporating multimedia content into WEA sent using proven cell broadcast technology still presents significant challenges. AT&T urges the Commission to refrain from requiring multimedia content in WEA messages until solutions are identified and standardized.

In the meantime, the Commission should urge alert originators to leverage embedded references in WEA messages—such as URLs, a capability already available—as a means for delivering multimedia content. URLs may be used to direct WEA recipients to appropriate sources of further information, such as web pages containing rich multimedia content, as well as broadcast radio and television. This approach would reduce or eliminate many concerns including backwards compatibility, interoperability/roaming, and ubiquity raised by multimedia messages. AT&T further encourages the Commission to remain technology neutral on all WEA requirements to afford industry the flexibility to take advantage of new capabilities and advances to meet any future requirements.

II. AT&T WELCOMES THE OPPORTUNITY TO CONTINUE TO ENHANCE WEA.

AT&T has supported WEA since its initial deployment and has devoted considerable time and resources to developing standards and evaluating new technologies, including

³ *Wireless Emergency Alerts, Amendments to the Commission's Rules Regarding the Emergency Alert System*, Second Report & Order & Second Order on Reconsideration, 33 FCC Rcd 1320 (2018).

⁴ *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, Report & Order & Further Notice of Proposed Rulemaking, 31 FCC Rcd 11112 (2016) (“WEA FNPRM”).

technologies that would support multimedia messages. As the Commission noted, the wireless industry has already made impressive strides to enhance the value of WEA messages by geographically targeting alerts and supporting the inclusion of embedded references, such as URLs and phone numbers. By May 2019, carriers will support longer alerts as well as Spanish-language alerts.⁵ Carriers are hard at work addressing these WEA improvements as well as related issues such as implementation of previous WEA orders, completion of standards, and alert originator education efforts. The industry should remain focused on these efforts, which will enhance the WEA system in the near term, before additional complexity and requirements are layered on.

In addition, the FCC’s Communications Security, Reliability and Interoperability Council (“CSRIC”) VI has a working group looking at the “comprehensive re-imagining of emergency alerting.”⁶ AT&T is an active participant in this CSRIC VI working group, and looks forward to reaching consensus with its wireless industry and public safety peers on recommendations for emergency alerting in the near and longer terms.

III. CELL BROADCAST IS, AND WILL REMAIN, THE PRIMARY MEANS OF BROADCASTING WEA.

The WEA system has historically utilized cell broadcast technology for delivery of alerts,⁷ and this proven technology will continue to be the method for delivery of WEA messages as we evolve to 5G. The Commission seeks comment on the technical feasibility of distributing

⁵ *Public Notice* at 2.

⁶ FCC, CSRIC VI, <https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-council> (Mar. 7, 2018).

⁷ The ability to use cell broadcast as the means for distributing WEA was a critical assumption underlying many of the carriers voluntarily opting in to the WEA program, because cell broadcast was the least disruptive to carrier networks.

multimedia content in WEA messages, the current state of multimedia testing and standards development, and the potential costs and benefits to public safety and participating commercial mobile service (“CMS”) providers.⁸ The arrival of 5G will not alter the WEA technology roadmap—cell broadcast is and will remain the primary way to send WEA messages, whether it be via LTE in non-standalone 5G deployments, or in the standalone 5G new radio deployments.

Cell broadcast technology, which is optimized for text messages, will be extremely challenged to support multimedia messages—even smaller files like static photos, much less video files. AT&T is aware of proposals to allow images to be converted to binary data and sent over multiple cell broadcast messages, potentially tens of messages. However, this would require significant standards development, for both the network and handsets, and would require new handsets, introducing backwards compatibility and roaming challenges. The multimedia capability enabled by this approach would be extremely limited even with compression technology. The use of multiple cell broadcast messages to distribute a single alert has the potential to impact overall system operation due to increased demand on control channels and may limit the number of simultaneous WEA messages that can be broadcast in a given geographic area, especially when considering messages will have to be delivered in both English and Spanish. A multiple message approach would increase the likelihood of delivery failure and potentially introduce significant latency delays even when successfully delivered.

Multimedia messages may also increase network congestion and introduce latency delays because such messages require more bandwidth than standard WEA messages. Broadcasting binary images in multiple cell broadcast messages may delay reception significantly. These problems may be exacerbated when a sudden disaster strikes and the

⁸ *Public Notice* at 2.

network faces unusually high demand for voice and data services as end users turn to their mobile devices to contact loved ones or obtain further information. As the Commission has previously acknowledged, “[w]e would not want the transmission of multimedia content to delay receipt of the most time-sensitive Alert Message text.”⁹

Further, CMS providers would only be able to deliver multimedia messages on 4G LTE networks or newer. Members of the public connected to legacy networks would not be able to receive multimedia content. In addition, if a new technology is introduced to deliver multimedia content, members of the public using legacy or other devices that cannot support the multimedia delivery mechanism would not receive these messages.

By contrast, existing cell broadcast-based WEA provides availability across all technology generations, including evolving 5G. Using the 360-character WEA messages with embedded references (URLs) offers the best opportunity to provide access to multimedia information in emergencies.

IV. WHILE EMBMS HAS POTENTIAL FOR DISTRIBUTING MULTIMEDIA MESSAGES IN WEA, FURTHER STUDY IS REQUIRED TO RESOLVE CHALLENGES.

AT&T and others continue to examine opportunities presented by advances in evolved Multimedia Broadcast Multicast Service (“eMBMS”), which could potentially enable broadcast of large amounts of data, including multimedia content. eMBMS involves the multicast of specific content to mobile end user devices. Despite ongoing standards development, eMBMS is unlikely to be widely deployed either commercially or to support alerts, and significant technical enhancements and challenges remain requiring in-depth study and standardization efforts.

⁹ WEA FNPRM ¶ 127.

Although 3GPP has developed standards for eMBMS, these standards would need extensions if eMBMS is to be used for public warning and alerting purposes. Use of eMBMS for alerting introduces additional complexities that must be addressed before the technology can be fully implemented for this purpose. For example, the standards should address how eMBMS can be used in a dynamic spectrum environment, where other users and functions will also need access to spectrum. Also, the mechanism for a WEA message to trigger a device to tune to an eMBMS channel to obtain the multimedia content would have to be developed, standardized, and deployed in eMBMS capable devices. These additional standards efforts would require feasibility studies followed by standards development, and likely would not be available prior to the deployment of standalone 5G.

CMS providers must also analyze how to utilize eMBMS to effectively present multimedia content to the public while efficiently using network resources. Multicasting may tax system resources, which are likely to be even more heavily used in an emergency situation. If a CMS provider chooses to deploy eMBMS at all, it is likely to be on a geographically limited basis. eMBMS would not benefit from the ubiquity of coverage that is seen with cell broadcast, meaning that a significant percentage of the public would not receive benefit from eMBMS and any multimedia capabilities. eMBMS may hold potential, but it would be premature to require distribution of multimedia WEA using this technology, especially without significant commercial deployments to evaluate the full impact on the network.

V. CONCLUSION

Ubiquitous availability of WEA messages has enhanced public safety by providing the public timely and pertinent information that saves lives. AT&T welcomes the opportunity to collaborate with the Commission, wireless industry, and public safety stakeholders to identify, study, and implement appropriate technologies to enhance the WEA system for the continued

benefit of subscribers. While technological challenges remain with respect to including multimedia content directly in WEA messages, alert originators can leverage embedded references (*e.g.*, URLs) to direct subscribers to vital emergency information.

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