

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

In the Matter of)
)
Improving Wireless Emergency Alerts and) PS Docket No. 15-91
Community-Initiated Alerting)

COMMENTS OF SPRINT CORPORATION

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I. INTRODUCTION AND SUMMARY

Sprint Corporation (“Sprint”) hereby submits these comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”) seeking comment on proposed amendments to its rules regarding the Wireless Emergency Alert (“WEA”) system.¹ The WEA system provides a valuable resource for emergency services alert originators to provide critical information in the event of an emergency. WEA has been a successful undertaking and the wireless industry has played an active role in developing and supporting this service.

It is commendable that the Commission is evaluating whether improvements can be made to the WEA system, but a number of the Commission’s proposals would entail new standards and changes to wireless networks and devices that would fundamentally alter the program. WEA is a voluntary service and carriers have already put significant time and financial resources into developing the existing WEA system. The Commission’s proposals would effectively overhaul the existing system, significantly changing the original intent, while the current system is not yet being widely used by local authorities. Rather than focusing on overhauling a system

¹ *Improving Wireless Emergency Alerts and Community-Initiated Alerting, Notice of Proposed Rulemaking*, PS Docket No. 15-91 (Rel. Nov. 19, 2015) (“NPRM”).

that is currently operational and effective, the Commission should examine ways to promote more widespread use of WEA by state and local authorities.

In its Final Report, the CSRIC IV, Working Group 2 Geographic Targeting, Message Content and Character Limitation Subgroup (“CSRIC IV WEA Subgroup”) remarked that there was consensus among the group regarding increasing the WEA character length, but observed that, “Obtaining consensus on supplementing the WEA with graphical information and enhancements to geographical targeting is more challenging.”² The CSRIC WEA Messaging Report recommended feasibility studies to more closely examine these issues. Based on the careful work of those involved in CSRIC IV, the Commission should move forward with expanding the maximum character length of WEA messages, consistent with CSRIC IV recommendations. The Commission should refrain, however, from taking additional actions that would significantly alter the existing WEA system. In particular, the Commission should refrain from allowing embedded Uniform Resource Locators (“URLs”) or other multimedia content to be included in WEA messages. Allowing URLs to be included will cause significant congestion on wireless networks and will also introduce security issues.

Likewise, the Commission should not create an additional category of WEA messages for “Emergency Government Information.” The creation of additional alert categories will introduce unnecessary complexity. Instead, the FCC should clarify that information of this type can and should be provided under the existing category of “Imminent Threat.” The Commission should also reconsider making its proposed changes to the requirements associated with geo-targeting.

² CSRIC IV, WORKING GROUP TWO, WIRELESS EMERGENCY ALERTS, GEO-TARGETING, MESSAGE CONTENT AND CHARACTER LIMITATION SUBCOMMITTEE, FINAL REPORT (2014), *available at* https://transition.fcc.gov/pshs/advisory/csric4/CSRIC_CMAS_Geo-Target_Msg_Content_Msg_Len_Rpt_Final.pdf (last visited Jan. 11, 2016) (“CSRIC WEA Messaging Report”), Section 1.1, Executive Summary, Pg. 2.

These changes would result in undershooting the desired alert area and cannot be supported by so-called “Fourth Generation” or “4G” Long Term Evolution (“LTE”) technology.

Finally, the Commission should refrain from making proposed changes to the testing process for WEA messages by expanding testing to include state and local alerting authorities. The proposed changes would require extensive support from wireless carriers and place an extra burden on wireless network resources, which could negatively impact support of actual emergency alerts.

II. DISCUSSION

A. WEA Messaging

i. Character Length

In the NPRM the Commission states, “Consistent with the CSRIC IV recommendations and the recent ATIS/TIA study, we propose to amend Section 10.430 of our rules to expand the maximum permissible length of WEA messages from 90 to 360 characters of alphanumeric text.”³ The Commission asks whether 360 characters is the optimal maximum character length.⁴ In addition, the Commission seeks comment on whether the 90 character limit should remain in place for legacy networks.⁵ Based on the CSRIC IV recommendations, it may be appropriate to expand the maximum permissible length of WEA messages for LTE technologies. The 90 character limit should remain in place, however, for legacy 2G and 3G networks, consistent with CSRIV IV recommendations.⁶ Rather than making this requirement effective one year after the effective date of the rules, however, the Commission should tie the effective date to the completion of standards and certification to the standards by the Federal Emergency

³ NPRM at Par. 9

⁴ *Id.* at Par. 11

⁵ *Id.* at Par. 13

⁶ CSRIC WEA Messaging Report, Section 4.3.

Management Agency (“FEMA”) and Department of Homeland Security (“DHS”). The implementation timeline must take into account network development work and device development, testing, and deployment factors. Accordingly, the implementation deadline should be no sooner than one year after standards are completed plus six months after FEMA and DHS have certified that the Federal Alert Gateway is in compliance with the standard.

The Commission will need to clarify whether alerting authorities are expected to send one message of 360 characters to both legacy and LTE networks or whether two separate messages (one 90-character message and one 360-character message) are to be sent and correlated. The Commission should provide guidance to alert originators regarding the need for future messages to be tailored to both legacy and LTE networks. If only one alert message will be sent for both legacy and LTE technologies, alert originators will need to carefully craft messages so that the first 90 characters are adequate as an actionable alert because consumers on legacy networks will only receive the first 90 characters. If two different alert messages are sent, the alert identifications would need to either be synchronized or the same in order to prevent devices from displaying both alerts in the event the consumer moves from one network environment to the other.

ii. Classifying Emergency Government Information

The Commission proposes to amend the WEA rules to create an additional class of WEA message called “Emergency Government Information.”⁷ The Commission also asks whether any additional alert types should be added.⁸ The Commission has not established that there is a clear need to create a new class of messages for Emergency Government Information. Information of this type can and should be provided under the existing category of “Imminent Threat.” Creation

⁷ NPRM at Par. 18.

⁸ *Id.* at Par. 22

of any new categories would have significant technical impacts and would trigger the need for development and implementation of new technical standards and software and hardware changes. Such changes would take considerable time, as new software and hardware would also need to be tested and deployed. Timelines would also be impacted by the unavoidable delay associated with phasing out legacy devices. It will take years to phase out devices currently in use that use legacy technology, and those devices would be unable to receive any new classes of messages in the interim. Similar handset deployment and penetration factors were evaluated by ATIS in the context of its feasibility study for Earthquake Early Warning System.⁹ The Commission should, therefore, refrain from creating any new categories of messages and instead clarify that Emergency Government Information should be included as part of existing WEA message categories.

iii. Content in WEA Alerts

The Commission suggests that it would serve the public interest to reconsider the prohibition on the inclusion of telephone numbers and URLs in WEA messages.¹⁰ According to the Commission, allowing “embedded references in WEA messages will improve alert quality and accessibility by offering additional, specific information, and could reduce the risk of network congestion by focusing consumer response, thereby minimizing “milling” behavior.”¹¹

⁹ ATIS estimated it would take a minimum of 3-4 years to complete standards, fully deploy EEW (“Early Earthquake Warning”) capabilities in wireless networks, and begin introducing new cell phones which support EEW. In addition, on top of these estimated timelines, ATIS found that, “Using the approach of normal market driven cell phone replacement cycles for providing the penetration of EEW capable cell phones among consumers, it is estimated it will take an additional 2-3 years for EEW capable cell phones to represent 80% or more of all cell phones in use.” Feasibility Study for Earthquake Early Warning System (ATIS-0700020) (Approved July 2015), available at https://access.atis.org/apps/group_public/download.php/24638/Feasibility-study-for-earthquake-early-warning-system.pdf (last visited Jan. 13, 2016), Section 11, Pg. 23.

¹⁰ NPRM at Par. 25.

¹¹ *Id.* at Par. 26.

In the First Report and Order, the Commission correctly determined that allowing URLs or telephone numbers to be included in WEA messages could serve to exacerbate wireless network congestion in the wake of an emergency when wireless networks are already overburdened.¹² These concerns are still relevant, and the Commission should not remove the prohibition on including URLs in WEA messages. URLs can cause significant network congestion in the areas where the WEA alerts are sent.

The CSRIC IV WEA Messaging Report identified the need for a feasibility study to examine, among other technical issues, the use of embedded URLs.¹³ In response, ATIS released a Feasibility Study for WEA Supplemental Text in December 2015 and, in that Feasibility Study, ATIS highlighted concerns regarding overload risks associated with using URLs.¹⁴ Specifically, ATIS outlined the potential for overload of the network elements that would be used to deliver WEA alert content in response to the use of URLs in a WEA text.¹⁵ In its Conclusions, ATIS stated, “Network congestion to the point of blocking communications is a significant result of introducing URLs in a WEA Alert Message.”¹⁶

WEA was designed as a “bell ringer” or alerting service only and was not designed as a mechanism to drive users to specific media outlets or provide comprehensive information regarding emergency situations. Once a consumer receives an alert, it is expected that they will

¹² *Id.* at Par. 23, referencing The Commercial Mobile Alert System, PS Docket No. 07-287, *First Report and Order*, 23 FCC Rcd 6144 at 6162, Par. 43 (2008).

¹³ CSRIC IV WEA Messaging Report, Section 4.7, Recommendation 5.1, Pg. 47-48.

¹⁴ Feasibility Study for WEA Supplemental Text (ATIS-0700026) (Approved Dec. 2015), available at https://access.atis.org/apps/group_public/download.php/25923/ATIS-0700026_WEA_Supplemental.pdf (last visited Jan. 12, 2016) (“ATIS Feasibility Study for WEA Supplemental Text”), Section 5.5, Pg. 16.

¹⁵ *Id.*

¹⁶ *Id.*, Section 9, Pg. 21.

go to other sources, such as TV and radio, to obtain further information. The original intent of the WEA service should be preserved.

Allowing URLs to be included would also introduce security issues by potentially opening networks up to viruses and other unintended embedded content. ATIS recognized the need to evaluate potential cybersecurity concerns associated with allowing use of URLs in its Feasibility Study for WEA Supplemental Text.¹⁷

Allowing other forms of multimedia content would raise the same concerns that apply to use of URLs, including potential network congestion problems and security issues. In addition, before any multimedia content could be included in WEA, relevant standards would need to be developed. The CSRIC IV WEA Messaging Report recommended a feasibility study addressing issues associated with including other forms of multimedia in WEA.¹⁸ ATIS outlined a number of technical concerns associated with the use of simple maps and photos in its recent Feasibility Study.¹⁹

With respect to simple maps, ATIS concluded, “It will take significant time and development/deployment effort to enable the capability for a map display associated with a WEA Alert Message. Furthermore, it will take significant standardization, development time, and effort to upgrade the CMSP Infrastructure network and standardize and build new mobile devices capable of displaying maps associated with WEA alerts.”²⁰ ATIS also evaluated the possible use of photos with AMBER alerts and concluded, “Although tools for compression of images exist, it is not practical to use such tools to broadcast images using existing cell broadcast

¹⁷ *Id.*

¹⁸ CSRIC IV WEA Messaging Report, Section 4.7, Recommendation 5.1, Pg. 47.

¹⁹ ATIS Feasibility Study for WEA Supplemental Text, Section 9, Pgs. 20-21.

²⁰ *Id.*, Section 9, Pg. 20.

capabilities, the technology used to broadcast text-based WEA Alert Messages. The text-based LTE broadcast technology is not designed to transmit large amount of data such as photos.”²¹

There are a number of complex issues that would need to be addressed to accommodate multilingual alerts. First, an approach would need to be developed by appropriate standards bodies. There would need to be specifications adopted regarding what languages would be supported. Most smartphones already have the capability of device-based translation, so it is not clear there is a significant need for this offering. Carriers are not involved in composing the content of WEA alerts and there should be no expectation that carriers would be involved in translating messages.

B. WEA Geo-targeting

The Commission proposes to revise its rules, “... to require that Participating CMS Providers must transmit any alert message that is specified by a geocode, circle, or polygon to a target area not larger than the specified geocode, circle, or polygon.”²² The Commission also, however, proposes a “backstop.” According to the Commission, “If, however, the Participating CMS Provider cannot broadcast the alert to an area that accurately matches the target area, we propose that a Participating CMS Provider may transmit an Alert Message to an area that closely approximates the target area, but in any case not exceeding the propagation area of a single transmission site.”²³

The Commission should not adopt the first part of its proposed rule which would state, “A Participating CMS Provider must transmit any alert message that is specified by a geocode,

²¹ *Id.*, Section 9, Pg. 21.

²² NPRM at Par. 37. The Commission has explained that the term “CMS,” which stands for “Commercial Mobile Service” is co-extensive with the term “Commercial Mobile Radio Service.” NPRM at FN 6.

²³ *Id.* at Par. 37.

circle, or polygon to a target area not larger than the specified geocode, circle, or polygon.”²⁴ Taking the approach of limiting the target area to an area not larger than the specified geocode, circle, or polygon would consistently result in the message broadcast area “undershooting” the desired alert area. Undershooting would have the negative result of a smaller percentage of the intended population being notified. In addition, from a technical perspective, this proposed change cannot be supported by LTE, which will be the dominant technology for the next decade or longer. Requiring this greater level of granularity would require changes with significant impacts to deployed LTE networks and handsets.

With respect to the remaining portion of the Commission’s proposed rule, the first portion of the last sentence should be removed and the remaining language in §10.450 should state: “A Participating CMS Provider shall transmit an Alert Message to an area that at least closely approximates the target area, but in any case does not exceed the propagation area of a single transmission site.”²⁵ This change would more accurately reflect what most carriers are currently capable of supporting without imposing more granular criteria, which would be unrealistic and technically unfeasible. For example, Sprint currently supports polygon down to cell sector level for LTE and polygon down to cell site level for CDMA.

The Commission seeks comment on other approaches to improve geo-targeting, including device-based geo-targeting solutions.²⁶ There are many technical issues and challenges associated with mobile device-assisted WEA geo-targeting, which were identified in the ATIS

²⁴ NPRM, Appendix A, Proposed Rule §10.450.

²⁵ The Commission should revise §10.450 so the final rule states: “This section establishes minimum requirements for the geographic targeting of Alert Messages. A Participating CMS Provider will determine which of its network facilities, elements, and locations will be used to geographically target Alert Messages. A Participating CMS Provider shall transmit an Alert Message to an area that at least closely approximates the target area, but in any case does not exceed the propagation area of a single transmission site.”

²⁶ NPRM at Par. 39

Feasibility Study for WEA Cell Broadcast Geo-Targeting.²⁷ The issues identified by ATIS include: how the coordinates of the alert polygon or circle would be sent to the mobile device; handling of multiple alert areas; size of polygon; the number of decimal places; coordinate compression; determination of mobile device location; mobile device location accuracy and confidence levels; subscriber privacy; and, liability concerns.²⁸ In addition, device-based geo-targeting solutions would likely have significant impacts on the capacity of carrier networks and on location servers and significant costs associated with supporting such capacity. Accordingly, in light of the numerous issues that must be addressed before device-based geo-targeting would be viable, the Commission should not impose any mobile device assisted WEA geo-targeting requirements.

C. WEA Testing and Proficiency Training

The Commission proposes adding a requirement that Participating CMS Providers ensure their systems support the receipt of “State/Local WEA Tests” from the Federal Alert Gateway Administrator, and distribute such tests to the desired test area consistent with Section 10.450 of the rules.²⁹ The Commission also proposes that these test messages be delivered upon receipt (rather than within 24-hours as is specified in current regulations).³⁰ The proposed changes to WEA testing would have significant staffing implications for carriers associated with supporting the testing. There would also be potential standards impacts if, for example, a new category is created for this purpose, and this could also entail device specification changes and network

²⁷ Feasibility Study for WEA Cell Broadcast Geo-targeting (ATIS-0700027) (Approved Dec. 2015), available at https://access.atis.org/apps/group_public/download.php/25924/ATIS-0700027-FeasibilityStudy.pdf (last visited Jan. 12, 2016) (“ATIS Feasibility Study for WEA Cell Broadcast Geo-Targeting”).

²⁸ ATIS Feasibility Study for WEA Cell Broadcast Geo-Targeting, Section 8 at Pg. 51.

²⁹ NPRM at Par. 47.

³⁰ *Id.*

development work. Reporting requirements should be based on the existing Required Monthly Test (“RMT”) and should not compel carriers to coordinate separately with the more than 600 alerting systems currently utilizing the WEA system.

Carriers already take part in the RMT to gather data regarding whether the WEA system is working as expected. State and local authorities should take advantage of the current RMT process to conduct any testing they believe is necessary. State and local authorities already have information regarding when these RMTs are scheduled and can plan their testing around these scheduled tests. In addition, FEMA has a testbed in place for other forms of testing, which would enable state and local authorities to have a trial run at sending local messages.

With local testing would come the need for additional personnel to support the tests. The CSRIC IV, Working Group 2, Testing Subcommittee examined Commercial Mobile Service Providers’ (“CMSPs”) expectations regarding supporting local testing.³¹ In its Final Report, the CSRIC IV Testing Subcommittee outlined expectations of CMSPs regarding support of tests, explaining: “Given that WEA is a voluntary service, CMSPs should not be obligated to provide support for these tests. With the number of alert originators signing up to initiate WEA messages, there potentially could be hundreds of Localized WEA Tests annually. The level of support required has the potential to overwhelm CMSP limited resources and detract from critical support for real alerts.”³²

The Commission does not appear to have taken these concerns into account, nor does it appear to have taken into account the list of service provider expectations discussed in the

³¹ See CSRIC IV, WORKING GROUP TWO, WIRELESS EMERGENCY ALERTS, TESTING SUBCOMMITTEE, FINAL REPORT (2014), *available at*

http://transition.fcc.gov/pshs/advisory/csr4/CSRIC_IV_WG-2_Testing-Rprt_061814.pdf,

Section 3.6 and 3.6.1, Pg. 10-11.

³² *Id.* at Section 3.6.1, Pg. 11.

CSRIV IV Testing Subcommittee Report.³³ If local testing is put in place, carrier involvement will be requested and expected by local authorities even if there is an explicit statement that CMSP support is not required. Carriers have already invested significant resources in the existing WEA system. The proposed changes to testing would require carriers to allocate extensive resources to support local alerting authorities. The Commission, therefore, should not move forward with proposals to allow local testing of WEA.

III. CONCLUSION

For the reasons set forth herein, the Commission should refrain from adopting many of the proposals set forth in the NPRM. The WEA system has been a successful initiative, but it was intended as a “best efforts,” voluntary service and many of the Commission’s proposals would alter the character and intent of the existing system. It is appropriate to move forward with increasing the character length for WEA messages, consistent with the findings of CSRIC IV, but the other proposals set forth in the NPRM raise numerous technical concerns and should not be adopted.

Respectfully submitted,

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³³ *Id.* at Section 3.6, Pg. 10-11.