

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Improving Wireless Emergency	)	PS Docket 15-91
Alerts and Community-Initiated	)	
Alerting	)	
	)	

**COMMENTS OF THE ALLIANCE FOR  
TELECOMMUNICATIONS INDUSTRY SOLUTIONS**

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## SUMMARY

In comments, the Alliance for Telecommunications Industry Solutions (ATIS) notes that significant industry work has already been completed to address many of the issues raised by the Commission in the *Notice of Proposed Rulemaking (NPRM)*. Based on the industry's analysis of the technical and operational issues associated with changes to Wireless Emergency Alerts (WEA), ATIS Wireless Technologies and Systems Committee (WTSC):

- Supports the expansion of the maximum permissible length of WEA messages from 90 to 360 characters of alphanumeric text, but notes that the proposed one-year compliance deadline may not be feasible given the steps that must be taken to implement the change in the message length;
- Recommends that any new alerting categories be incorporated into the existing alert classifications;
- Notes that introducing URLs and/or telephone numbers in WEA messages could result in issues within the service provider infrastructure network and may increase the likelihood of severe network congestion resulting in the inability of subscribers to make calls;
- Explains that the industry has identified numerous issues that would make the presentation of multimedia content, such as maps, photos and hazard symbols, in WEA notifications problematic if not technically infeasible;
- Supports the provisioning of WEA in Spanish, but does not support rules that would require messages in languages other than English and Spanish based on technical challenges;
- Concludes that the current service provider infrastructure-based calculation of the WEA alert broadcast area continues to be the best solution for WEA geo-targeting;
- Supports the expectations expressed in the CSRIC IV report regarding WEA testing (no required service providers support, testing should occur no more than once a month, service providers should have the option to reject a localized WEA test request, localized WEA testing device impacts should be standardized in the *Joint ATIS/TIA CMAS Mobile Device Behavior Specification (J-STD-100)*, localized tests would not be supported in legacy 2G or 3G or 4G devices, etc.);
- Notes that, to support the Commission-proposed subscriber opt-in for State/Local WEA testing, additional or modified technical standards may be necessary, including changes to mobile device behavior specifications and to the ATIS and ATIS/TIA WEA specifications;
- Recommends that the Commission clarify that any new WEA logging/reporting requirements would not be the responsibility of service providers but of the Federal Alert Gateway providers;
- Believes adding complexity to WEA, by for example offering more consumer opt-out choices, may increase the number of consumers choosing to opt out of WEA; instead, ATIS WTSC recommends that that message originators consider the timing of alerts based on their content and classification to minimize negative impacts on consumers;
- Notes that, despite the passage of time and advances in technology, the prioritization of WEA notifications over all other mobile device activity is not technically feasible;
- While supporting the implementation of 360-character WEA notifications (consistent with ATIS' input in these comments) within one year of the rules' effective date, notes that it may be too soon to establish deadlines for other WEA capabilities; and

- In place of speculative implementation deadlines, recommends that a meeting of the relevant stakeholders be convened after the new rules are established to develop reasonable implementation timeframes.

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The Alliance for Telecommunications Industry Solutions (ATIS), on behalf of its Wireless Technologies and Systems Committee (WTSC), hereby submits these comments in response to the *Notice of Proposed Rulemaking (NPRM)*, released November 19, 2015, in the above-referenced docket. In the *NPRM*, the Federal Communications Commission (Commission) seeks input on proposed revisions to its rules pertaining to Wireless Emergency Alerts (WEA). As an important stakeholder in the development of WEA standards, ATIS is pleased to have the opportunity to provide input to the *NPRM* and notes that significant industry work has already been completed to address many of the issues raised by the Commission.

While ATIS provides specific input on the technical issues raised in the *NPRM*, the following general comments are also offered:

- WEA notifications are designed to alert subscribers to emergencies and to provide immediate instructions. They are not intended to be, nor should they be viewed as, comprehensive sources for all emergency information. Upon receiving a notification, it is expected that subscribers who need more information will utilize other sources of information, including broadcast radio and television.
- While, as explained in more detail below, significant work has already completed by the industry to develop WEA standards and study WEA enhancements, significant

additional work would be required. Changes to WEA may significantly impact existing industry standards or require the development of new standards. Any implementation timeline must accommodate the time necessary to develop and/or revise relevant standards.

## **I. Introduction**

ATIS is a global standards development and technical planning organization that leads, develops and promotes worldwide technical and operations standards for information, entertainment, and communications technologies. ATIS' diverse membership includes key stakeholders from the Information and Communications Technologies (ICT) industry – wireless and wireline service providers, equipment manufacturers, broadband providers, software developers, consumer electronics companies, public safety agencies, and internet service providers. ATIS is also the North American Organizational Partner of the Third Generation Partnership Project (3GPP), the global collaborative effort that has developed the LTE and LTE-Advanced wireless specifications. Nearly 600 industry subject matter experts work collaboratively in ATIS' open industry committees and incubator solutions programs.

ATIS WTSC coordinates, develops and recommends standards and technical reports relating to wireless/mobile telecommunications networks. With active participation from key wireless service providers and manufacturers, WTSC is the primary industry committee within ATIS that focuses on next generation wireless issues, including those wireless issues related to the implementations of LTE in the U.S. WTSC is also the lead on multiple joint industry standards projects, including work on SMS/MMS to 9-1-1, coexistence and interference issues, WEA, and public safety mission critical Push to Talk (PTT) voice interoperation between Land

Mobile Radio (LMR) and LTE systems. As explained more fully below, ATIS WTSC has also been a major developer of WEA-related standards and specifications.<sup>1</sup>

## II. Comments

### A. Increasing WEA Message Length

In the *NPRM*, the Commission proposes to amend its rules to expand the maximum permissible length of WEA messages from 90 to 360 characters of alphanumeric text.<sup>2</sup> ATIS WTSC supports this proposed change, noting that it is consistent with the recommendations in the *ATIS Feasibility Study for LTE WEA Message Length* (ATIS-0700023).<sup>3</sup> This study was initiated by ATIS WTSC in response to the report from the Communications Security, Reliability and Interoperability Council IV (CSRIC IV), Working Group 4, which recommended that the character limit be increased “following technology confirmation by ATIS standards.”<sup>4</sup> This CSRIC report also recommended that the existing 90 character limit remain in effect for 2G, 3G and legacy 4G networks and devices.<sup>5</sup>

In analyzing the technical impacts of increasing the WEA message length, WTSC noted that there is a direct relationship between the WEA message length, potential transmission delay, and the mobile device power consumption.<sup>6</sup> The longer the message, the greater potential for transmission delay and the greater impact on power consumption. It was also noted that, because

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<sup>1</sup> The *Feasibility Study for LTE WEA Message Length* (ATIS-0700023), *Feasibility Study for WEA Supplemental Text* (ATIS-0700026), and *Feasibility Study for WEA Cell Broadcast Geo-Targeting* (ATIS-0700027) may be accessed at no charge via the [ATIS White Paper Center](#).

<sup>2</sup> *NPRM* at ¶9.

<sup>3</sup> The *ATIS Feasibility Study for LTE WEA Message Length* (ATIS 0700023) is available from the ATIS White Paper Center at [www.atis.org/01\\_resources/whitepapers.asp](http://www.atis.org/01_resources/whitepapers.asp). This ATIS document is incorrectly referred to in the *NPRM* as a joint ATIS-TIA document.

<sup>4</sup> CSRIC IV, Working Group 2, Geographic Targeting, Message Content and Character Limitation Subgroup Report (October 2014), Section 1.1.

<sup>5</sup> *Id.*, Section 4.3.

<sup>6</sup> *ATIS Feasibility Study for LTE WEA Message Length*, Section 5.1. It is important to note that, if the Commission’s rules are revised to increase the maximum number of characters from 90 to 360, alert originators may need to transmit two alerts for each emergency – one limited to 90 characters for use by service providers in their legacy networks and a second, longer notification for use in LTE networks.

the broadcasting of WEA messages uses a mechanism that was designed to transmit critical system information required to support voice and data services and not user data, there could be a potential negative impact if this critical system resource is overused. Based on an analysis of the technology and the impacts of extending WEA messages, ATIS WTSC recommended a maximum WEA message length of 360 characters of displayable text based upon the GSM 7-bit alphabet.<sup>7</sup>

As noted in the study, this recommendation is based solely on increasing the maximum English language WEA message length processed by a participating service provider. Additional enhancements, such as additional languages or information (e.g., map information, polygon, etc.), would require re-evaluation of the message length.<sup>8</sup> The study also notes that changes to existing industry standards will be needed to reflect any Commission rule changes. Once these changes are made, the industry will undertake standards changes to ATIS and 3GPP standards, modifications to the “C” interface between the Federal Emergency Management Agency (FEMA) Integrated Public Alert and Warning System (IPAWS) Federal Alert Gateway and the Commercial Mobile Service Provider (CMSP) Gateway, and modifications to network infrastructure and mobile devices. Backwards compatibility with the existing 90-character limit also will have to be maintained. In addition, the Alert Originator policies and equipment will need to support the maximum length change.

The Commission proposes in the *NPRM* that participating service providers be required to comply with the new WEA messaging rules within one year of the adoption of final rules.<sup>9</sup> ATIS WTSC believes that this one-year compliance deadline may not be feasible given the steps that must be taken to implement the change in the message length. As noted above, significant

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<sup>7</sup> *ATIS Feasibility Study for LTE WEA Message Length*, Section 5.2.

<sup>8</sup> *Id.*

<sup>9</sup> *NPRM* at ¶15.

technical work will be needed to update existing industry standards to reflect the increased message length. Among the existing standards that may need modification:

- *Technical realization of Cell Broadcast Service* (3GPP TS 23.041);
- *Joint ATIS/TIA CMAS Mobile Device Behavior Specification* (J-STD-100);
- *Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Specification* (J-STD-101);
- *Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Test Specification* (J-STD-102);
- *Cell Broadcast Entity (CBE) to Cell Broadcast Center (CBC) Interface Specification* (ATIS-0700008); and
- *CMAS via EPS Public Warning System Specification* (ATIS-0700010).<sup>10</sup>

While the revision of existing standards can begin soon after new rules are adopted by the Commission, it will take time to complete the standardization process. Additional time will also be necessary to implement these standards by alert originators and within the FEMA IPAWS system and service provider infrastructure.

## **B. New Class(es) of WEA**

In the *NPRM*, the Commission seeks input on whether there are other classes of alerts that should be added to WEA, noting that FEMA has recommended that the Commission amend its rules to create the following classes: Federal Alerts (authorized by the President), AMBER Alerts, Severe Weather Alerts, and Local Threat Alerts, each of which would have its own unique attention signal and vibration cadence.<sup>11</sup> ATIS WTSC does not support the creation of new classes of service, recommending instead that any new categories of alert be accommodated within the existing alert classifications: Presidential, Imminent Threat, and Amber.

The creation of new classes of alerts with unique attention signal and vibration cadence may have significant technical impacts. In addition to significant revisions to existing,

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<sup>10</sup> Work is also underway on additional relevant standards, including the ATIS CMAS International Roaming Specification, which will also require changes.

<sup>11</sup> *NPRM* at ¶22.

implemented standards,<sup>12</sup> there would be significant impacts to existing technologies at the originator, network and end-user level. To mitigate the impact of new categories and reduce time needed for the development and implementation of new technical standards, software and hardware, ATIS WTSC recommends that any new WEA categories should be supported within existing WEA capabilities, event codes, alert classes, cell broadcast message IDs, and subscriber opt-out capabilities.

The Commission specifically seeks comment on a proposal to further amend its WEA rules to create a new “Emergency Government Information” alert for essential public safety advisories that prescribe one or more actions likely to save lives and/or safeguard property during an emergency.<sup>13</sup> Consistent with the views expressed above, ATIS WTSC believes that this new category, if adopted by the Commission, could be accommodated within the existing categories.

The Commission also solicits input as to whether there are additional alert types, such as those offered by private mass notifications systems, that would be appropriate for WEA.<sup>14</sup> ATIS WTSC recommends that that these mass notification systems not be incorporated into WEA. These proprietary systems may not have sufficient security mechanisms to ensure that only authorized message originators can use the systems, and could thereby threaten the security and efficacy of the WEA System. While the underlying Cell Broadcast (CB) technology that enables the provisioning of WEA notifications could be used to support other services, these other types

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<sup>12</sup> The existing standards that would be affected include numerous ATIS, joint ATIS-TIA and 3GPP documents.

<sup>13</sup> *NPRM* at ¶18.

<sup>14</sup> *NPRM* at ¶22.

of alerts should not be mandated as part of WEA.<sup>15</sup> WEA should be limited to those services that are specified by the Warning, Alert, and Response Network (WARN) Act.

### **C. Supplementing WEA with Multimedia**

#### **1. URLs and Phone Numbers**

The Commission also examines in the *NPRM* whether WEA messaging should allow for the inclusion of multimedia content. In particular, the Commission proposes amending its rules to allow embedded URLs and phone numbers in WEA messages.<sup>16</sup>

As described in more detail in the *ATIS Feasibility Study for WEA Supplemental Text* (ATIS-0700026), there are technical challenges that must be considered before any decision can be made to allow the embedding of URLs in WEA notifications. This study examined the feasibility and impacts of including an embedded URL in a WEA notification message. The study concluded that introducing URLs in a WEA message could result in significant challenges within the service provider infrastructure network and may increase the likelihood of severe network congestion resulting in the inability of subscribers to make calls.<sup>17</sup> The server to which the URL points could also be overloaded, resulting in the inability of the subscriber to access the intended information. The study also noted that subscriber charges and internet access restrictions for retrieving additional WEA notification information through WEA text alert URLs would need to be considered or addressed in more detail by the industry.

The ATIS study also identified a need to examine the issue of cybersecurity for the access of this web content and to develop appropriate approaches to mitigate associated cyber

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<sup>15</sup> *CMAS via GSM/UMTS Cell Broadcast Service Specification* (ATIS-0700006) describes the use of the GSM/UMTS Cell Broadcast Service for the broadcast of WEA messages.

<sup>16</sup> *NPRM* at ¶25.

<sup>17</sup> While some congestion could be alleviated if there are available Wi-Fi networks and Wi-Fi is enabled/available on the subscriber's smartphone, the end-user's access to Wi-Fi generally falls outside of the service provider's control.

threats, including DOS/DDOS attacks, DNS cache poisoning, DNS spoofing, injection attacks, cross-site scripting, web server compromise, mobile malware distribution and insecure direct object references.<sup>18</sup> In addition to new and revised cybersecurity standards, other industry standards would need to be revised before embedded URLs could be included as part of WEA notifications.

The study also identified the need for the Commission and/or Congress to address any additional service provider liability because the transmission of URLs was not defined as a service provider obligation under the Warning, Alert and Response Network (WARN) Act.<sup>19</sup> It is important that the liability protection established by the WARN Act apply to any WEA changes.

Finally, while the embedding of telephone numbers was not addressed in the study, ATIS WTSC believes that including phone numbers as part of any WEA notification may pose similar network congestion-related challenges.

## **2. Presenting Multimedia Content in Alerts**

The Commission also seeks comments on whether to adopt rules governing multimedia-based alerts, including alerts that contain high-information maps that demonstrate the location of the alert recipient relative to an area affected by an imminent threat.<sup>20</sup> ATIS' *Feasibility Study for WEA Supplemental Text* (ATIS-0700026) addressed several aspects of multimedia, including the display of: WEA alert maps, photos for Amber alerts, and hazard alert symbols.<sup>21</sup> The study considered the technical feasibility of using long term technologies, such as Multimedia

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<sup>18</sup> *ATIS Feasibility Study for WEA Supplemental Text* (ATIS-0700026), Section 5.5.1.

<sup>19</sup> Warn Act, Section 602(e).

<sup>20</sup> *NPRM* at ¶25, 30.

<sup>21</sup> *ATIS Feasibility Study for WEA Supplemental Text*, Sections 5.1, 5.2, and 5.3.

Broadcast Multicast Service in LTE (eMBMS), in the delivery of multimedia-based WEA notifications.

While an eMBMS would permit the broadcasting of large amounts of data, including multimedia content, there are a number of issues that must be considered in relation to the use of eMBMS for WEA. In particular, it should be noted that eMBMS is not widely deployed and the underlying standards are still in a state of flux as enhancements to eMBMS are being considered by the industry.<sup>22</sup> Such standardization efforts, including efforts to make any necessary WEA-related modifications, would take significant time (i.e., minimally several years), as would the implementation of new/revised standards. Furthermore, eMBMS will require significant technical changes to service providers' networks; decisions regarding whether and when to make such upgrades should not be dictated by the Commission as part of the voluntary WEA program.

The study also examined the technical issues related to the possible use of deployed Cell Broadcast technology to transmit multimedia content in alerts. Unlike eMBMS, Cell Broadcast technology is not designed for multimedia and the study identified numerous issues that would make the presentation of multimedia content in WEA notifications problematic if not technically infeasible. The conclusions of this study include:

- WEA Alert Maps. There are a number of technical and social issues with displaying maps associated with WEA messages. From a technical perspective, consideration must be given to how the subscriber will gain access to the map. If the map is not pre-loaded on the device, the subscriber may need to download the map, which could cause network congestion. Establishing the location of the subscriber's mobile device must also be considered. This depends on the subscriber enabling the location services, which may impact data usage and battery life and create privacy concerns. Getting the coordinates of the alert to the mobile device in order to display the alert area on a map is also a consideration. Getting coordinates to devices could take up many, if not most, of the 360 characters that may be available in an alert. These steps pose significant technical challenges that require further study by ATIS and other standards organizations.

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<sup>22</sup> The decision to implement eMBMS and the timing of any implementation will be appropriately be made by service providers based on commercial considerations.

Additionally, some studies have shown adding maps to messages greater than 90-characters decreases message understanding.<sup>23</sup> Furthermore, it will take significant time and resources to standardize, develop, and upgrade service provider infrastructure, and to standardize and build new mobile devices capable of displaying maps associated with WEA messages.

- Display of Photos for Amber Alerts. As noted above, the Cell Broadcast technology used to broadcast text-based WEA messages is not designed to transmit large amount of data. The amount of data required to transmit even a small “thumbnail” sized picture makes the use of Cell Broadcast technology practically, if not technically, infeasible. The study explains that to transmit even a simple 1.5”x1.5” 8-color photo using digital compression technology would require 11 WEA binary messages.<sup>24</sup> Alternatively, providing a URL to a website with the photo would pose other technical challenges as discussed above.
- Display of Hazard Alert Symbols. The inclusion of symbols (e.g., fire, flood, chemical spill, etc.) has been suggested as part of WEA notifications as a way to reinforce the significance of the public emergency that is represented in the text portion of the WEA alert. To ensure that the use of hazard symbols improves the usability and accessibility of an alert, a study of the User Experience Design (UXD) covering the Human-Computer Interaction (HCI) for the mobile user should be undertaken, followed by global standardization. Additionally, the hazard symbols would require a common, internationally agreed upon set of definitions.<sup>25</sup>

ATIS also notes that it would require significant time and resources to standardize, develop, and upgrade service provider infrastructure, and to standardize and build new mobile devices capable of displaying multimedia content in WEA notifications. Given the time and resources that would be needed and the existing technical challenges surrounding the transmission of these types of multimedia content in WEA, ATIS WTSC recommends that these capabilities not be implemented.

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<sup>23</sup> Abhinav Jauhri, Martin Griss & Hakan Erdogmus, Carnegie Mellon University, Small Polygon Compression for Integer Coordinates; presented June 12 2015 at American Meteorological Society 43rd Conference on Broadcast Meteorology / 3rd Conference on Weather Warnings and Communication. available at <https://ams.confex.com/ams/43BC3WxWarn/webprogram/Paper273645.html>

<sup>24</sup> *ATIS Feasibility Study for WEA Supplemental Text*, Section 5.2.2.1.

<sup>25</sup> If symbols were to be included as part of the WEA alert, the use of internationally recognized symbols would simplify public education efforts as well as reduce issues of language and cultural differences and understanding of the hazard symbols

#### D. Multilingual WEA Notifications

The Commission also seeks input on the technical challenges associated with the provision of WEA notifications in languages other than English.<sup>26</sup> ATIS WTSC notes that service providers strive to meet the needs of all consumers, regardless of the language they speak. To this end, WTSC has evaluated the technical challenges associated with providing alerts in a language other than English and has developed three standards that support the provision of WEA notifications in Spanish:<sup>27</sup>

- *ATIS Implementation Guidelines for CMAS Supplemental Information Retrieval Revision 2* (ATIS-0700012v.002), which details the capability of CMAS supplemental information retrieval process associated with CMAS message text in Spanish.
- *ATIS Implementation Guidelines for Mobile Device Support of Multi-Language CMAS* (ATIS-0700013), which defines the guidelines for mobile devices that support CMAS in multiple languages (e.g., English and Spanish); and
- *ATIS Implementation Guidelines for CMSP Handling of CMAS Supplemental Information Broadcast Revision 2* (ATIS-0700014.v002), which describes the functionality of Cell Broadcast based CMAS when the CMAS messages are being broadcast in English and Spanish.

While ATIS WTSC has done significant work to support the delivery of WEA notifications in Spanish, it remains concerned about the technical issues that would be associated with requirements to support additional languages beyond Spanish. As noted in the Commercial Mobile Service Alert Advisory Committee (CMSAAC) Report, support for WEA messages in languages other than English is a complex issue.<sup>28</sup> As an initial matter, there must be a determination made as to which languages would be supported in WEA. As noted in the CSMAAC Report, there could be as many as 37 different languages spoken by 1% or more of a

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<sup>26</sup> *NPRM* at ¶¶32-33.

<sup>27</sup> It also should be noted that the some underlying 3GPP specifications already support WEA alert messages in multiple languages, providing that the primary alert is the countries' local language and secondary alerts are for other languages. See *Technical realization of Cell Broadcast Service* (ATIS.3GPP.23.041V700-2007).

<sup>28</sup> CSMAAC Report, Section 5.7.

local population.<sup>29</sup> Increasing the number of languages that would need to be supported would increase both the complexity and associated costs. Moreover, as noted in the CSMAAC Report, increasing the number of languages that must be supported raises issues such as character set limitations, the amount of alert message traffic that must be delivered in multi-languages, and bandwidth limitations.<sup>30</sup>

For these reasons, ATIS WTSC at this time does not support changes to the WEA rules that would require WEA messages in languages other than English and Spanish, created by the Alert Originators, and limited to 90 and 360 displayable characters.<sup>31</sup>

#### **E. WEA Geo-Targeting**

The Commission also seeks input on the technical feasibility of complying with more granular geo-targeting proposals that would require participating service providers to distribute WEA messages to a geographic area that more accurately matches the target area specified by the alert originator and on whether a device-based solution could improve WEA geo-targeting without burdening participating service provider infrastructure.<sup>32</sup> ATIS WTSC has examined the issue of geo-targeting and has concluded that the current service provider infrastructure-based calculation of the WEA alert broadcast area continues to be the best solution for WEA geo-targeting.<sup>33</sup>

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<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> Message originators would also be required to submit multiple messages for each language – a 90-character notification for legacy networks/devices and a 360-character notification for LTE networks/devices. In order to support Spanish and English WEA notifications, there would need to be four messages created: one 90-character English message; one 360-character English message; one 90-character Spanish message; and one 360-character Spanish message.

<sup>32</sup> *NPRM* at ¶¶ 38 – 40.

<sup>33</sup> Major service providers are already targeting to the polygon beyond the county-level requirements.

*ATIS' Feasibility Study for WEA Cell Broadcast Geo-Targeting (ATIS-0700027)*

examines the technical challenges related to the support of mobile device assisted WEA geo-targeting.<sup>34</sup> Among these challenges:

- How coordinates of the alert polygon or circle should be sent to the mobile device. The feasibility study examined the numerous options (broadcast coordinates as part of the WEA alert message, broadcast coordinates in separate WEA messages, using WEA Supplemental Text to obtain coordinates, etc.) and found no option to be technically feasible.
- Multiple alert areas. A WEA alert message may have multiple polygons or circles, which would require multiple sets of associated coordinates to be delivered to the mobile devices and the mobile devices to maintain an association between the multiple alerts and the multiple alert areas.
- Size of polygon. The amount of data being broadcast for the polygon coordinates could be up to 5 times larger than the size of the actual displayable text of each alert message, even considering compression techniques.
- Determination of mobile device location. It may not always be possible for the mobile device to determine its location, especially if the mobile device user has disabled the location services to conserve battery life or for privacy reasons.
- Mobile device location accuracy and confidence levels. Depending on the level of the accuracy and confidence of the mobile device location, it is possible that the mobile device geo-targeting algorithms could indicate that the mobile device is located outside the alert area when the mobile device is actually located within the WEA alert area.

In addition to the technical challenges, the study noted two other concerns with proposed changes to geo-targeting rules. The first pertains to subscriber privacy and concerns that may be raised if the government is viewed as tracking subscribers' locations.<sup>35</sup> The second concern surrounds liability.<sup>36</sup> The liability issues and concerns associated with mobile device assisted geo-targeting miscalculation and the resultant action of not presenting the WEA message needs to be understood and addressed through Congressional/Commission action.

The Commission seeks specific input on whether a device-based solution could improve WEA geo-targeting without burdening participating service provider infrastructure.<sup>37</sup> ATIS

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<sup>34</sup> *ATIS' Feasibility Study for WEA Cell Broadcast Geo-Targeting*, Section 7.3.

<sup>35</sup> *Id.*, Section 7.7.

<sup>36</sup> *Id.*, Section 7.8.

<sup>37</sup> *NPRM* at ¶40.

WTSC notes that: (1) there will always be some amount of overshoot or undershoot of the WEA broadcast area even if mobile device assisted geo-targeting were to be implemented; and (2) a device-based solution would be burdensome because the participating service provider infrastructure would have to obtain one or more of the following sets of information and then provide this information to the mobile device for the device based geo-targeting and/or third party assisted geo-targeting solution:

- Maps of the current location of the mobile device;
- Network assisted mobile device location determination;
- Alert area polygon associated for each active WEA notifications (there can be multiple active alerts with different alert areas; e.g., severe thunderstorm and flash flood); and/or
- URL of the third party assisted service.

Moreover, the support of mobile device based geo-targeting and/or third party assisted geo-targeting would require a major standardization effort for the industry. Such an effort would take years to complete in both ATIS and 3GPP. The deployment of the standardized solution would also take years to complete after the publication of the new or updated standards.

Because mobile device assisted geo-targeting has many significant technical challenges, WTSC strongly believes that the current service provider infrastructure based calculation of the WEA alert broadcast area remains the best solution for WEA geo-targeting.

#### **F. WEA Testing and Training**

The Commission notes in the *NPRM* that there have been concerns expressed about the lack of a state/local WEA testing regime. To address these concerns, modification are proposed to the Commission's WEA rules to require participating service providers to ensure their systems support the receipt of "State/Local WEA Tests" from the Federal Alert Gateway Administrator, and to distribute such tests to the desired test area.<sup>38</sup>

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<sup>38</sup> *NPRM* at ¶47.

WTSC notes that the CSRIC IV recommended a process of localized WEA Testing that could be supported.<sup>39</sup> Under this process, a WEA alerting authority may conduct a scheduled local WEA test that targets cooperating partners (e.g., Community Emergency Response Teams, amateur radio operators, civic groups, First Responders, etc.) and other interested parties who may provide feedback to the alert originator. Under this process, participants must opt-in in order to monitor the test. The report also detailed service provider expectations related to localized WEA testing. ATIS WTSC supports the expectations expressed in the CSRIC IV report that:

- There would be no support required from service providers in the activation of the test.
- Localized WEA testing should occur no more than once a month.
- All localized WEA test messages must go through the FEMA IPAWS Federal Alert Gateway.
- Localized WEA testing should use all participating service providers in the local alert area and not focus on a subset of service providers.
- Service providers should have the option to reject a localized WEA test request if the provider determines that such testing would impact the provider's network or ongoing operations.
- Localized WEA testing impacts to devices should be standardized in the *Joint ATIS/TIA CMAS Mobile Device Behavior Specification* (J-STD-100).
- Localized WEA tests would not be supported in legacy 2G or 3G or 4G devices.<sup>40</sup>

To implement the proposed testing requirements, WTSC notes that additional or modified technical standards may be necessary. While it is not anticipated that changes to the standards associated with network operations would be necessary, changes to mobile device behavior specifications may be needed to support the Commission-proposed subscriber opt-in for

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<sup>39</sup> CSRIC IV, Working Group 2, Testing Subgroup Report (May 2014), Sections 3.5 and 4.1, Appendix E.

<sup>40</sup> *Id.* at Section 3.6. Section 3.10 of this report identified those standards that could be impacted by changes to WEA testing procedures. These include changes to: A /B Interface between Alert Originator and FEMA/IPAWS; *Joint ATIS/TIA CMAS Mobile Device Behavior Specification*; *Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Specification* *Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Test Specification*; *CMAS via EPS Public Warning System Specification*; Commercial Mobile Alert Services (CMAS) via GSM/UMTS Cell Broadcast Service Specification (ATIS 0700006); and 3GPP and OASIS CAP standards.

State/Local WEA testing. Moreover, many of the ATIS and ATIS/TIA WEA specifications may need to be updated in support of the localized testing recommendation, as would certain 3GPP and OASIS CAP specifications that are used to support WEA.

The Commission also proposes to require participating service provider Alert Gateways to: (1) provide a mechanism to log messages with time stamps that verify when messages are received, acknowledged, or rejected by the Alert Gateway, and if an alert is rejected, to provide the specific error code generated by the rejection; (2) maintain an online log of active and cancelled alert messages for 90 days, and maintain archived logs for at least 36 months; and (3) generate monthly system and performance statistics reports based on the category of alert, alert originator, alert area, and other alerting attributes.<sup>41</sup> ATIS WTSC does not believe that there is any reason to impose new logging or reporting requirements on service providers.<sup>42</sup> WTSC therefore recommends that the Commission clarify that any new logging/reporting requirements would not be the responsibility of service providers but of the Federal Alert Gateway providers.

#### **G. Promoting Participation in WEA**

The Commission also seeks comment on specific factors that lead customers to opt out of receiving WEA notifications, proposals to reduce the number of opt-outs, and whether participating service providers can provide subscribers with a greater number of opt-out choices that might facilitate consumer participation in WEA.<sup>43</sup> ATIS WTSC believes that adding complexity to the opt-out options may actually increase the number of subscribers choosing to opt-out of WEA. Instead of creating additional complexity in opt-out choices, WTSC recommends that message originators be encouraged to make decisions about timing of alerts

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<sup>41</sup> *NPRM* at ¶56.

<sup>42</sup> It is important to note that these logging requirements are appropriately focused verifying the delivery of WEA messages and are not appropriate for evaluating the performance of the underlying service provider network.

<sup>43</sup> *NPRM* at ¶63, ¶65.

based on their content/classification so as to minimize any unnecessary negative impacts to subscribers.

#### **H. WEA Prioritization**

The Commission solicits input on whether it should amend its rules to address prioritization at the Alert Gateway, in transit, and on the mobile device. While the Commission acknowledges that it has previously concluded that it would not be in the public interest if urgent calls for help during crises were preempted by alert traffic, the Commission seeks comment on this issue given the passage of time and advances in technology. ATIS WTSC notes that prioritizing WEA over all mobile device activity except for certain voice and data sessions is not technically feasible.

#### **I. Proposed Implementation Timeframe**

Finally, the Commission seeks comment on a proposed implementation timeline that would require participating service providers to, among other things, comply with its WEA messaging rules within one year of their effective date, and with its WEA geo-targeting and testing rules within sixty (60) days of their effective date.<sup>44</sup> The Commission also seeks comment on reasonable timelines for the support of multimedia in WEA messages and for multilingual WEA. While ATIS supports the implementation of 360-character WEA notifications (consistent with ATIS' input above) within one year of the rules' effective date, ATIS believes that some of the other proposed deadlines may not appropriately consider the work that will need to be completed by all relevant stakeholders. This work includes, but is not limited to: the modification of existing industry standards and/or development of new standards; the testing and deployment of new WEA capabilities in wireless networks; and the deployment

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<sup>44</sup> *NPRM* at ¶¶84-85.

of subscriber devices (if needed) for receipt of new WEA capabilities. Much of this work cannot be initiated until any new rules are established.

Given that there are many stakeholders that will need to act before implementation is possible, ATIS WTSC believes that it may be too soon to establish deadlines for other WEA capabilities. In place of speculative implementation deadlines for these capabilities, WTSC recommends that a meeting of the relevant stakeholders be convened after the new rules are established to develop reasonable implementation timeframes.

### **III. Conclusion**

ATIS is pleased to have this opportunity to provide input in response to the *NPRM* in the above-referenced docket.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas Goode".

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