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

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

COMMENTS OF THE ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS

Alliance for Telecommunications Industry Solutions

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Summary

ATIS Wireless Technology and Systems Committee (WTSC) does not support the data collection and reporting requirements for WEA that are proposed in the *Further Notice of Proposed Rulemaking (FNPRM)*. ATIS WTSC notes that the recent nationwide WEA test demonstrates that the WEA system is extremely reliable and consistent. Moreover, service providers have already optimized the broadcast of WEA, and any data collection will not lead to improvements to WEA performance. ATIS WTSC therefore believes that there is no technical gain that can be accomplished from these proposed automated reporting and data collection requirements.

ATIS WTSC believes the continued use of State/Local Test is the most effective way for Alert Originators to gain confidence in the reliability, speed and accuracy of WEA. ATIS WTSC believes that State/Local Test offers advantages over the other data collection requirements considered in the *FNPRM* because it provides the capability for each Alert Originator to collect a complete set of accurate and actionable data specifically relevant to their jurisdiction.

ATIS WTSC notes that it is not feasible for Participating Commercial Mobile Service Providers (CMSPs) to generate WEA performance reports based on WEA's current architecture and from WEA-capable mobile devices connected to providers' networks because there is no end-to-end reverse communication channel that can be used for WEA performance reporting. The proposed automated reporting within the current Federal Emergency Management Agency (FEMA) and CMSP equipment is also not a viable way to collect such information because there are no built-in monitoring capabilities, and incorporating such automated reporting into the current design could result in reporting errors.

ATIS WTSC does not believe that WEA reporting should attempt to reflect specific information about the actual time and location of alert receipt. Time and location reporting would be largely outside the CMSP's control and require development by multiple stakeholders, including new mobile device capabilities, to capture the data and correlate it to the proper alert. This reporting could create additional challenges and complexities that could negatively impact network capacity and would require global standardization and adoption by all WEA stakeholders. In addition, meaningful performance data can only be measured in a controlled test environment. Data collected during a live alert would introduce too many variables to provide actionable conclusions.

ATIS WTSC notes that the Commission's proposal to define reliability as "the annual percentage of WEA Alert Messages that the Participating CMS Provider processes successfully" reflects information that is already available via logged information through the CMSPs and FEMA. ATIS WTSC further notes that the Commission's proposal to define reliability as "the proportion of devices within the targeted area while the alert is active that successfully displayed the alert" is not workable and should not be pursued.

ATIS WTSC believes there are significant privacy concerns with any data collection from consumer devices and that these concerns may prompt consumers to opt-out of receiving alerts.

Finally, while ATIS WTSC does not believe there is a need for new reporting or data collection requirements, ATIS WTSC believes that development of additional educational information would increase Alert Originators' knowledge of, and therefore their confidence in, the capabilities provided by WEA and in the usefulness and validity of the data that can be obtained by conducting a State/Local Test. ATIS WTSC is examining the development of new industry guidance and/or webinars on this matter. In addition, ATIS WTSC recommends that FEMA include WEA State/Local Tests as part of the "FEMA IPAWS Guidance: Including IPAWS in Drills, Workshops, and Exercises."

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COMMENTS OF THE ALLIANCE FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS

The Alliance for Telecommunications Industry Solutions (ATIS) hereby submits these comments in response to the *Further Notice of Proposed Rulemaking* (*FNPRM*), released April 21, 2022, in the above-referenced dockets. In the *FNPRM*, the Federal Communications Commission (Commission) seeks feedback on proposals to bolster the effectiveness of Wireless Emergency Alerts (WEA). The Commission seeks input on defining WEA's reliability, speed and accuracy, and on the possible benefits of, and technical challenges associated with, the collection of additional data from alert dissemination beyond what is currently available. As noted in these comments, ATIS does not support the proposed data collection and reporting requirements for WEA. ATIS believes the continued use of State/Local Test is the most effective way for Alert Originators to gain confidence in the reliability, speed, and accuracy of WEA. Moreover, as further explained in these comments:

- There is no need for automated reporting and data collection requirements because WEA is already effective and reliable. The results of the nationwide WEA test confirm the reliability and effectiveness of WEA. As noted by the Commission, the results of the 2021 nationwide WEA test indicated that 90% of the respondents received the test message, most within two minutes of transmission.[1] Moreover the results of the nationwide test further demonstrated that "WEA's reliability was largely consistent

[1] *FNPRM* at ¶7.

across CMS Providers, generation of wireless network technology (i.e., 4G or 5G), mobile device manufacturer, device operating system, whether a user was indoors or outdoors, and whether the mobile device was already in use at the time of the test." Based on the consistency of these results, ATIS WTSC believes a significant majority of the 10% that did not receive the test message are likely the result of the inherent broadcast and device anomalies expected in a mobile environment.

- Service providers have already optimized the broadcast of WEA, and any data collection will not change WEA performance. WEA performance is already optimized to provide speed, reliability and consistency despite the inherent challenges that cannot be removed or overcome, including: limitations imposed by the nature of wireless technology, the ever-evolving nature of wireless networks and mobile devices, consumer turnover of mobile devices, and software updates that are applied continuously to both network and mobile devices. The WEA messages that reportedly did not get through during the nationwide WEA test were not the result of the failure of the performance of wireless providers or their networks.
- Privacy concerns related to the proposed collection of additional WEA performance information may negatively impact consumer usage of WEA. As noted below, ATIS believes that the consumers will have privacy concerns with the proposed collection of data from their devices and that consumers may opt-out of receiving WEA messages if they are concerned that the receipt of WEA messages will require the sharing of information regarding their location and other specifics regarding their mobile devices.

I. Background

ATIS is a global standards development and technical planning organization that 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, wireline, and VoIP service providers, equipment manufacturers, broadband providers, software developers, consumer electronics companies, public safety agencies, and internet service providers. ATIS is also a founding partner and the North American Organizational Partner of the Third Generation Partnership Project (3GPP), the global collaborative effort that has developed the 4G Long-Term Evolution (LTE) and 5G New Radio (NR) wireless specifications.

Nearly 600 industry subject matter experts work collaboratively in ATIS' open industry committees. ATIS' Wireless Technologies and Systems Committee (WTSC) develops wireless

radio access, system, and network solutions related to wireless and/or mobile services and systems.

ATIS WTSC developed and continues to enhance solutions necessary to support WEA. Since the deployment of WEA 3.0 on December 18, 2019, ATIS WTSC has continued to develop and provide additional industry guidance to improve user experience with the collaboration of key stakeholders, including Alert Originators, Federal Emergency Management Agency (FEMA), commercial mobile service providers (CMSPs) and equipment manufacturers. *Wireless Emergency Alert (WEA) 3.0 Operational Considerations for Commercial Mobile Service Providers (CMSPs)* (ATIS-0700050), published in December 2021, provides guidance to CMSPs on operational considerations. This document also details enhancements to the user experience associated with the flexible operational settings allowed by the WEA design. *WEA 3.0 Practical Hints for Alert Originators* (ATIS-0700049), published in August 2021, examines the user experience based on the input from the Alert Originator. This document was developed via a highly collaborative effort with participating Alert Originators and FEMA.

II. Comments

A. Availability of WEA Operational Information

The Commission in the *FNPRM* seeks input on what information wireless providers would need to collect to assess WEA performance.[2] ATIS strongly supports the need for ongoing monitoring of the performance of the WEA system and believes that the State/Local Test capability, along with the requirements set by the Commission's Fourth Communications Security, Reliability, and Interoperability Council (CSRIC IV)[3] and the guidance from ATIS

[2] *FNPRM* at ¶13.
[3] *CSRIC IV Working Group 2 Testing Subgroup Report* at p. 15, p. 24.

WTSC,[4] is an effective way to provide confidence in WEA performance. WEA tests conducted in partnership with federal, state, and local management agencies offer the most dependable and accurate way to demonstrate WEA performance to ensure that the WEA system remains highly reliable and results in the receipt of WEA messages by consumers in an expedited manner.

ATIS WTSC believes that the State/Local Test capability offers advantages over the other data collection requirements considered in the *FNPRM*. As stated in FEMA's Homeland Security Exercise and Evaluation Program (HSEEP), "[a] well-designed exercise provides a low-risk environment to familiarize personnel with roles and responsibilities; foster meaningful interaction and communication across jurisdictions/organizations; assess and validate plans, policies, procedures, and capabilities; and identify strengths and areas for improvement."[5] The State/Local Test capability provides an opportunity to demonstrate and exercise WEA capabilities by local authorized Alert Originators with the goal of instilling confidence in WEA as an alerting tool. Moreover, State/Local Test is performed in a controlled environment and the participants and variables are known, which helps build confidence in WEA capabilities and to collect accurate and actionable data. State/Local Test follows the same WEA processing as all other classes of alerts. State/Local Test also allows for the same options as other classes of WEA alerts (with the exception of the National Alert), such as opt-in/out, primary and secondary language selection, and geographically based targeting. State/Local Test demonstrates the expected performance characteristics for any WEA alert in the given geographic area where the test is performed. In addition, characteristics can be compared between geographic areas to

[4] ATIS WTSC guidance includes: *Wireless Emergency Alert (WEA) 3.0 Operational Considerations for Commercial Mobile Service Providers (CMSPs)* (ATIS-0700050); *Wireless Emergency Alerts (WEA) 3.0: Device-Based Geo-Fencing* (ATIS-0700041); *Wireless Emergency Alert (WEA) 3.0 Federal Alert Gateway to CMSP Gateway Interface Test Specification* (ATIS-0700038.v003); and *WEA 3.0 Practical Hints for Alert Originators* (ATIS-0700049).

[5] Homeland Security Exercise and Evaluation Program (HSEEP) (January 2020) at p. v (available at: https://www.fema.gov/sites/default/files/2020-04/Homeland-Security-Exercise-and-Evaluation-Program-Doctrine-2020-Revision-2-2-25.pdf).

identify differences in the wireless RF environment, alert dissemination, and handling. State/Local Test can also be structured for specific "real life" scenarios, such as rapid alert updates or multiple simultaneous alerts to simulate a catastrophe. As stated in the "FEMA IPAWS Guidance: Including IPAWS in Drills, Workshops, and Exercises,"[6] incorporating IPAWS and WEA State/Local Tests can help Alert Originators evaluate decision-making processes regarding public notification, assess internal policies and procedures, and determine the effectiveness of utilizing WEA.

In the *FNPRM*, the Commission expresses concerns over the fact that some authorized Alert Originators are opting out of using WEA due to concerns over reliability, speed and accuracy, and seeks comment as to whether "increased transparency about WEA's reliability, speed, and accuracy in a given market will help provide necessary data to emergency managers to help them assess WEA's utility in their respective jurisdictions and with respect to specific use cases."[7] WEA reliability, speed and accuracy are dependent on many local factors, including the complex RF environment. The existing WEA State/Local Test functionality offers Alert Originators far more relevant data about reliability, speed and accuracy for WEAs initiated within their jurisdictions than data collected for other geographic areas or based on other Alert Originators' policies, procedures, and equipment. ATIS notes that, if reliability is defined as "percentage of WEA Alert Messages that the Participating CMS Provider processes successfully," CMSPs have nearly, if not exactly, 100% reliability with regards to processing WEA alerts. CMSPs also have optimized their networks to minimize latency from the point FEMA IPAWS delivers the WEA to the CMSP, to the time the WEA is broadcast. Moreover,

[6] "FEMA IPAWS Guidance: Including IPAWS in Drills, Workshops, and Exercises," (January 2022) at p. 1, available at https://www.fema.gov/sites/default/files/documents/fema_ipaws-guidance-drills-workshops-exercises.pdf.
[7] *FNPRM* at ¶2, ¶8.

because WEA accuracy is driven by the WEA 3.0 Device Based Geofencing (DBGF) mobile device roll-out,[8] any impressions regarding WEA accuracy are premature and misleading until DBGF-capable mobile devices are a significant majority of deployed devices. ATIS is concerned that Alert Originators could be basing their conclusions on WEA accuracy on the incorrect assumption that DBGF is already in the majority of deployed handsets.

Given the positive results of the nationwide WEA test, ATIS WTSC also notes that additional information regarding the extent of Alert Originators' concerns would be warranted before such concerns could be used to justify new WEA reporting obligations. For example,

- Has FEMA conducted a comprehensive survey to understand what percentage of Alert Originators have cited WEA performance concerns as their reason for not utilizing WEA?
- Are the Alert Originators that cited WEA performance concerns aware of, and have they utilized, State/Local Test to demonstrate the capabilities within their own jurisdiction?
- Do Alert Originators believe that State/Local Test (which is often used to validate systems before they are placed into operational status) is insufficient to give confidence in WEA?
- Do Alert Originators have other non-WEA alerting methods they prefer to use and for which they have already trained their personnel, perhaps making the use of WEA less appealing?

The Commission asks whether WEA participants should be required to file reports after each test, similar to the requirements imposed on EAS participants.[9] ATIS WTSC believes that the reporting already provided for WEA is consistent with the level of reporting used for EAS.[10] ATIS WTSC notes that, following the WEA nationwide test in August of 2021, all nationwide carriers reported step-by-step latency from processing the alert throughout the network, to the point of the broadcast. Data was also collected for mobile virtual network operators (MVNOs).

[8] *See* CTIA Ex Parte, PS Docket 15-91, 15-94 filed on July 22, 2021. According to the data provided by CTIA, 34% of active smartphones were DBGF-capable as of first quarter 2020.
[9] *FNPRM* at ¶11.
[10] *See* EAS Test Reporting System, available at: https://www.fcc.gov/general/eas-test-reporting-system.

Planned tests in collaboration with various stakeholder partners produced manually-collected data for reception and presentation at the mobile devices.

ATIS WTSC believes there is no need for the proposed automated reporting or information collection requirements. Instead, the Commission should encourage all stakeholders to continue to use the State/Local Test capabilities currently offered in WEA, using "fundamental principles for exercise programs, as well as a common approach to program management, design and development, conduct, evaluation, and improvement planning. Exercises are an important component of preparedness, by providing the whole community with the opportunity to shape planning, assess and validate capabilities, and address areas for improvement."[11] State/Local Test provides a method for demonstrating the ongoing success of the WEA system and can be a tool to instill confidence in the performance of WEA.

B. Implementation Challenges and Impacts Associated with Automated Reporting.

In the *FNPRM,* the Commission asks whether "it is feasible for Participating CMS Providers to generate WEA performance reports to be based on using information that is already collected, or could be collected, based on WEA's current architecture and from WEA-capable mobile devices connected to providers' networks…"[12] ATIS WTSC notes that the WEA system is, by design, a one-way unacknowledged broadcast, originating at the Alert Originator, sent to the Federal Emergency Management Agency (FEMA) IPAWS, and delivered to the CMSP network, which then geotargets and broadcasts the WEA (similar to the way EAS is broadcast over radio and television). WEA uses the 3GPP-defined Cell Broadcast Service (CBS), which "permits a number of *unacknowledged* general CBS messages to be broadcast to all receivers

[11] Homeland Security Exercise and Evaluation Program (HSEEP) (January 2020) at p. v, available at https://www.fema.gov/sites/default/files/2020-04/Homeland-Security-Exercise-and-Evaluation-Program-Doctrine-2020-Revision-2-2-25.pdf

[12] *FNPRM* at ¶13.

within a particular region. CBS messages are broadcast to defined geographical areas known as cell broadcast areas."[13] There is therefore no end-to-end reverse communication channel that can be used for WEA performance reporting, *by design,* to protect the network from overload, especially in times of emergency or disaster. By using cell broadcast, WEA's goal is to minimize impact to network traffic, thereby helping to keep the channels open for emergency or priority traffic on the network. Performance reporting would be contradictory to that goal. Automated WEA performance reporting would also require extensive development – possibly even a costly redesign of the system. Adding performance reporting to WEA would take a significant amount of time and resources to design, standardize, build, and deploy, and would require planning to address legacy systems, equipment impacts, consumer devices, and roaming interoperability which extends, in turn, to user impacts.[14]

The proposed automated reporting within the FEMA and CMSP equipment is also not a viable way to collect such information.[15] The WEA system was originally designed without specific performance constraints and with no built-in monitoring capabilities. To accomplish automated reporting likely will require additional system processes, which would increase latency and potentially impact WEA performance and could result in reporting errors if messaging threads (exchanges between processes or network entities) cannot be properly correlated.

[13] 3rd Generation Partnership Project; Technical Specification Group Core Network and Terminals; Technical realization of Cell Broadcast Service (CBS), Release 18 (emphasis added), available at https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=748.
[14] For this same reason, the Commission should not require that CMSP participating in WEA should be required to offer WEA-capable mobile devices "that automatically report WEA performance information back to the provider for the sole and limited purpose of being used in performance reports." *FNPRM* at ¶15.
[15] In addition to CMSP equipment, the proposed performance data regarding receipt and location, if available, must be collected in the consumer's mobile device as it is not data that the CMSP infrastructure has awareness.

The *FNPRM* asks if the proposed WEA performance reports "should reflect specific information about the actual time and location of alert receipt."[16] As ATIS WTSC explained above, there is no end-to-end reverse communication channel that can be used for reporting receipt and presentation aspects. While CMSPs know the time the WEA broadcast is initiated, the actual time and location of alert receipt, if known, is only known by each individual mobile device. Additionally, the mobile device does not log performance information related to a WEA it receives, such as the location where it received the WEA, time it was received, time it was presented, or correlation to the original alert. Time and location reporting would require development of new mobile device capabilities to capture the data and correlate it to the proper alert. In addition, a reporting mechanism for each mobile device to report the data to a "reporting entity" (CMSP, FEMA, or otherwise) would have to be developed without impairing the network during the time of the event or post-event restoration. Mobile device reporting could create additional challenges and complexities.

First, network capacity could be negatively impacted by the reporting if there are large numbers of devices that must send reports following a WEA alert. The impact to the network would depend on factors such as: how long after the WEA is received does the mobile device have to report it; and how long does the reporting entity wait to receive reports? If there were multiple active alerts simultaneously, such as during a significant weather event, additional capacity impacts (as well as challenges associated with correlating the reports to each of the simultaneous WEAs) would be a concern.

Second, even if a method were devised such that reporting from the mobile device could be performed without impacting the network, it would lack data from devices that are unable to

[16] *FNPRM* at 13.

report, including non-U.S. devices that are roaming into the U.S.,[17] which would make it impossible to draw actionable conclusions from the collected data.

ATIS WTSC opposes requiring WEA performance reports to be based on aggregated data from real-time WEA use.[18] ATIS WTSC notes that performance data, such as geo-targeting data, should only be collected and accurately measured in a controlled test environment. Data collected during a live alert would introduce too many variables to provide actionable conclusions. Variables include: the RF environment; the location of the mobile device at the time of the WEA broadcast; whether the device was unable to determine location for DBGF; and the device user settings (e.g., opted-in or opted-out of the presentation of specific alert classes, language preference indicated in user settings, location).

The Commission also requests feedback on how to define WEA reliability.[19] The Commission proposes two alternatives: (i) define reliability as "the annual percentage of WEA Alert Messages that the Participating CMS Provider processes successfully;" or (ii) define reliability as "the proportion of devices within the targeted area while the alert is active that successfully displayed the alert."[20] ATIS WTSC notes that the first proposal reflects information that is already available via logged information through the CMSPs and FEMA, and that no new requirements or metrics therefore need to be developed. The second proposal is not workable and should not be pursued. Reliability defined as "the proportion of devices within the targeted area while the alert is active that successfully displayed the alert" requires providers to determine the percentage of WEAs that were successfully processed or displayed from the total number of

[17] WEA is part of the 3GPP global public warning system service. 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Public Warning System (PWS) requirements; https://www.3gpp.org/ftp/Specs/archive/22_series/22.268/
[18] *See FNPRM* at ¶10.
[19] *FNPRM* at ¶9.
[20] *FNPRM* at ¶9.

devices that should have received the message (i.e., the number of WEA-capable devices in the target area during the time the WEA was broadcast). However, CMSPs do not know the number of WEA-capable devices in the target area over the time of the alert and therefore it is not possible to calculate the percentage of WEA messages that were processed or displayed correctly. Roaming devices into the U.S. add to the uncertainty and complexity.

Also, as acknowledged in the *FNPRM*, not all device makes/models can perform DBGF.[21] These devices may be outside the alert area and still receive and present the alert. Non-DBGF devices make it impossible to identify the proportion of devices within the targeted area while the alert is active that successfully displayed. Moreover, ATIS WTSC notes that, because cell broadcast is an unacknowledged service that does not support reporting capabilities (i.e., are not defined, supported, nor standardized), it is anticipated that the majority of deployed devices will not be able to be updated to accommodate this capability (e.g., only the newest DBGF-supporting models may support it after standardization).

The Commission in the *FNPRM* asks if there are privacy concerns associated with the automatic reporting of WEA performance information from WEA-capable mobile devices.[22] As noted above, ATIS WTSC believes there will be significant privacy concerns with this type of data collection[23] and that these concerns may prompt consumers to opt-out of receiving alerts. Privacy concerns regarding WEA have been raised since it was first deployed. As an example, during the 2018 nationwide Presidential test, a tweet from antivirus founder John McAfee claimed "[t]he Presidential alerts: they are capable of accessing the E911 chip in your phones – giving them full access to your location, microphone, camera, and every function of your

[21] *FNPRM* at ¶13.
[22] *FNPRM* at ¶16.
[23] Consumers should always be given the choice to "opt in" to providing any information related to their location or specific data regarding their mobile device or data.

phone."[24] While this is factually inaccurate, it demonstrates concerns over privacy that consumers and cybersecurity experts have on the WEA system, which could result in consumers opting out of WEA. This will significantly undermine the intent of WEA as a lifesaving tool.

III. Conclusion and Next Steps

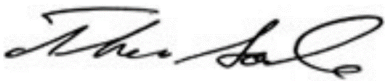
ATIS WTSC notes that the recent nationwide WEA test demonstrates that the WEA system is extremely reliable and consistent. ATIS WTSC therefore does not believe that any additional data collection or reporting requirements would enhance WEA performance – WEA already is highly reliable, fast, and accurate with WEA3.0 DBGF. State/Local Test is an existing tool that can be used to instill confidence in WEA. This capability was designed and implemented for the purpose of supporting Alert Originator drills and exercises to gain confidence in WEA as an alerting tool, as well as monitoring and providing the ability to gather actionable data specific to their individual jurisdictions.

While ATIS WTSC does not believe there is a need for new reporting or data collection requirements, ATIS WTSC does believe that additional educational resources for Alert Originators would be beneficial. ATIS WTSC is discussing in its multi-stakeholder environment additional documentation or webinars that could be developed to provide details concerning the purpose, design, and process of conducting of the State/Local Test, especially scenarios targeting the newer WEA 3.0 capabilities. ATIS WTSC believes that these efforts would increase Alert Originators' knowledge of, and therefore their confidence in, the capabilities provided by WEA and in the usefulness and validity of the data provided by this testing. In addition, ATIS

[24] "There are Many Problems with Mobile Privacy but the Presidential Alert Isn't One of Them," Cooper Quintin, (October 4, 2018), available at https://www.eff.org/deeplinks/2018/10/there-are-many-problems-mobile-privacy-presidential-alert-isnt-one-them.

encourages FEMA to include WEA State/Local Tests as part of the "FEMA IPAWS Guidance: Including IPAWS in Drills, Workshops, and Exercises."[25]

Respectfully submitted,



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[25] "FEMA IPAWS Guidance: Including IPAWS in Drills, Workshops, and Exercises," (January 2022), available at https://www.fema.gov/sites/default/files/documents/fema_ipaws-guidance-drills-workshops-exercises.pdf.