

**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	)	PS Docket No. 15-94
Regarding the Emergency Alert System	)	

**COMMENTS OF CTIA**

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Dated: December 8, 2016

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To: The Commission

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**I. INTRODUCTION AND SUMMARY.**

CTIA<sup>1</sup> respectfully submits its comments to the Further Notice of Proposed Rulemaking (“*FNPRM*”) in the above-captioned proceeding pertaining to the voluntary Wireless Emergency Alert (“*WEA*”) system.<sup>2</sup> The *WEA* system has been a highly successful public-private partnership, demonstrating the potential for voluntary, consensus-driven initiatives. American consumers have benefited from the *WEA* in numerous ways; *WEA* has assisted in the rescue of abducted children, alerted affected parties of impending natural disasters, and allowed for rapid

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<sup>1</sup> CTIA® ([www.ctia.org](http://www.ctia.org)) represents the U.S. wireless communications industry and the companies throughout the mobile ecosystem that enable Americans to lead a 21<sup>st</sup> century connected life. The association’s members include wireless carriers, device manufacturers, suppliers as well as apps and content companies. CTIA vigorously advocates at all levels of government for policies that foster continued wireless innovation and investment. The association also coordinates the industry’s voluntary best practices, hosts educational events that promote the wireless industry and co-produces the industry’s leading wireless tradeshow. CTIA was founded in 1984 and is based in Washington, D.C.

<sup>2</sup> *Wireless Emergency Alerts; Amendments to Part 11 of the Commission’s Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91 and 15-94, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-127 (rel. Sept. 29, 2016) (“*FNPRM*”).

dissemination of information during crises. The wireless industry has worked diligently to develop and deploy WEA capability, enabling alert originators and wireless subscribers to communicate and receive alerts, respectively, in a timely and accurate manner. Commercial Mobile Service (“CMS”) Providers that voluntarily support the WEA system have continued to work with alert originators and public safety entities to advance and enhance the existing system through standards efforts led by the Alliance for Telecommunications Industry Solutions (“ATIS”) and participation in the Commission’s Communications Security, Reliability and Interoperability Council (“CSRIC”). These efforts have directly led to recommendations that were adopted by the Commission to improve the functioning of the WEA.

CTIA is concerned, however, that the proposals within the *FNPRM* abandon this successful, cooperative model by ignoring the recommendations that have been developed by the CSRIC and ATIS. The Commission is proposing a number of unnecessary and burdensome mandates that have not been studied, found to be feasible, or demonstrated to provide meaningful improvements to the functioning of the WEA. Should the Commission stray from the highly effective path it has employed for WEA and adopt infeasible and unnecessary requirements for CMS providers to comply with as part of their participation, CMS participants may be forced to reconsider their support of the voluntary WEA system.

To ensure the continued success of the WEA program, CTIA asks the Commission to consider the following:

- WEA enhancements should be reasonable, technically feasible, and rely heavily upon consensus recommendations provided by stakeholder bodies;
- Geo-targeting requirements should be technologically neutral, and specifics for enhancing this capability should await action by standards bodies;

- The regulatory regime allowing for CMS Provider flexibility in infrastructure deployment should remain;
- The Commission should refrain from adopting WEA requirements that are infeasible, premature, or unnecessarily burdensome;
- CMS Providers should be provided flexibility in electing support for particular WEA capabilities, so long as their delivery complies with applicable standards; and
- Adoption of aspirational proposals may force CMS Providers to opt out of participation in the WEA system.

WEA has been a highly effective and responsive system that has resulted in the dissemination of vital information to the American public. Participating CMS Providers have been willing participants in this program because it has been developed through a consensus-based methodology that ensures that new capabilities can be employed in a seamless fashion. CTIA asks that the Commission avoid jeopardizing this success and exercise care as it considers applying new requirements on the WEA system.

## **II. THE VOLUNTARY WEA SYSTEM HAS BEEN SUCCESSFUL DUE TO THE ADOPTION OF WELL-REASONED, TECHNICALLY FEASIBLE REQUIREMENTS.**

Since April of 2012 when WEA was first implemented, thousands of WEA messages have been delivered and many have played a key role in warning the public of—and protecting them from—imminent dangers or disasters. For example, an AMBER Alert that was issued using the WEA was critical in finding a missing child in Minnesota. A citizen in the area received an alert on their smartphone, saw a black Honda Civic that matched the description

issued in the alert, and called 911. Authorities were able to respond, and rescued the child from abductors.<sup>3</sup>

WEA has also been used extensively to warn the public of impending weather issues that pose an imminent threat. On July 1, 2013, a tornado obliterated a soccer dome in East Windsor, Connecticut, where 29 children had been playing. Seconds before the tornado struck, a cellphone alert prompted the camp manager to rush the children out of the dome and into an adjacent building, preventing injuries and a possible loss of life.<sup>4</sup>

The success of the WEA program is due in large part to the Commission carefully considering the input of all affected stakeholders, including CMS Providers, alert originators, and public safety agencies. Consumers have undeniably benefited from the ongoing, collective efforts of the wireless industry—as well as FEMA, the Department of Homeland Security’s Science and Technology Directorate, the National Center for Missing and Exploited Children, alert originators, and numerous consumer groups—to analyze the efficacy of, and improve, the WEA system through a reasoned, technically feasible process of upgrades.

Unfortunately, in many instances the proposals in the *FNPRM* deviate from past reliance on recommendations from ATIS and CSRIC and, as a result, are unrealistic both as to potential benefits and feasibility for implementation in wireless networks. While still strongly supporting future enhancements to the WEA, CTIA is concerned that aspirational proposals by the

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<sup>3</sup> John Brandon, *How an Amber Alert on a smartphone saved a child in Minnesota yesterday*, COMPUTERWORLD (Oct. 23, 2015), <http://www.computerworld.com/article/2996503/emerging-technology/how-an-amber-alert-on-a-smartphone-saved-a-child-in-minnesota-yesterday.html>.

<sup>4</sup> Partnership for Public Service, *Robert Bunge: New weather alert system is saving lives*, WASHINGTON POST (Nov. 12, 2015), [https://www.washingtonpost.com/news/federal-eye/wp/2015/11/12/robert-bunge-new-weather-alert-system-is-saving-lives/?utm\\_term=.5e62507c4f53](https://www.washingtonpost.com/news/federal-eye/wp/2015/11/12/robert-bunge-new-weather-alert-system-is-saving-lives/?utm_term=.5e62507c4f53).

Commission may be adopted without considering the practical implications for CMS Provider networks and alert originator resources, thereby undermining the efficacy of this highly successful public-private partnership. Should the Commission choose to ignore the advice of entities involved in the deployment of WEA messages, it could leave CMS Providers that wish to avoid non-compliance with infeasible requirements with no other option but to opt out of the voluntary program. Instead, CTIA encourages the Commission to maintain its successful course and continue to rely strongly upon recommendations from the CSRIC and ATIS to evaluate the utility and feasibility of new WEA capabilities.

### **III. ANY GEO-TARGETING REQUIREMENTS SHOULD BE TECHNOLOGICALLY NEUTRAL FOR CMS PROVIDERS.**

CTIA agrees with the Commission that precise geo-targeting of WEA messages would be beneficial and is a high priority for development by the wireless industry. The Commission proposes to require Participating CMS Providers to match the target area specified by alert originators.<sup>5</sup> In particular, the Commission suggests two potential approaches to enhance geo-targeting functionality that would require a CMS Provider to: (1) have 100 percent of devices within the targeted area receive the Alert Message with not more than 0.1 mile overshoot; or (2) harmonize the geo-targeting accuracy for WEA with the wireless E911 indoor location accuracy requirements.<sup>6</sup> As the Commission is aware, ATIS has an active inquiry ongoing in early stages to develop a technically feasible method to provide geo-targeting for WEA messages.<sup>7</sup> As

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<sup>5</sup> *FNPRM* ¶ 139.

<sup>6</sup> *Id.* ¶ 140.

<sup>7</sup> See *Feasibility Study for WEA Cell Broadcast Geo-Targeting*, ATIS-0700027 (Dec. 2, 2015) (“ATIS Study”).

described below, action on either of the two NRPM proposals would be premature and risk harm to consumers.

Initially, ATIS work has determined that CMS provision of geo-targeting/location fixes through the network may not be the best or only approach for handling WEA messages. For example, FEMA is considering the enhancement of its existing software application that could provide a number of the features that are being considered as part of the *FNPRM*.<sup>8</sup> Use of such a trusted application may alleviate the need to require CMS Providers' networks to be involved in location fixes/geo-targeting for WEA messages.

Additionally, implementation of either of the Commission's proposals would severely strain wireless networks. Unlike E911 where a small number of wireless handsets seek a location fix due to an emergency, WEA geo-targeting would require all handsets within the targeted area to use the networks to obtain such a fix in an extremely short period of time. For example, if the more than 8.5 million residents of the New York City area were within a WEA targeted area, all of the consumer devices in the market would be required to obtain a location fix to ensure that they receive a targeted WEA message. CTIA does not believe that CMS Providers networks will be able to manage such a surge in network traffic should the Commission's proposals be adopted.

Finally, any geo-targeting requirement must ensure that the solution to compliance would not be proprietary or available from a single source. CTIA notes that there will likely be third-party vendors who will assert that their particular technology can provide geo-targeting

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<sup>8</sup> FEMA has an application that is available for Apple, Android, and Blackberry mobile devices. See <https://www.fema.gov/mobile-app>. This mobile app could be modified to allow geo-targeting from within the FEMA app itself, meaning that the CMS Provider wireless network would not be responsible for managing location fixes.



technology to meet the Commission’s proposals. However, CMS Providers should not be required to be limited in their technology approaches to implementing enhanced geo-targeting capabilities. As has been true with E911 requirements, requirements for WEA geo-targeting should be technologically neutral and flexible, allowing for CMS Providers to develop a feasible solution based on their particular circumstances.

CTIA recommends that the Commission withhold any final action on geo-targeting requirements until ATIS completes its work to determine the most effective and feasible approach to improving geo-targeting. This will ensure that the benefits of geo-targeting are added to WEA Alert Messaging in the future without unnecessary or burdensome regulatory requirements that could inadvertently delay implementation.

**IV. INFRASTRUCTURE FUNCTIONALITY REQUIREMENTS SHOULD REMAIN THE SAME FOR CMS PROVIDERS.**

The current WEA rules explicitly recognize that mobile device and infrastructure functionality is dependent on “the capabilities of the delivery technologies implemented by a Participating CMS Provider.”<sup>9</sup> The Commission now proposes to delete these provisions from within Part 10 of its rules because, in the agency’s view, CMS Providers’ infrastructure has proven to be universally capable of the basic functionalities dictated by those rules.<sup>10</sup> The Commission asks if these provisions are still necessary and if they enable CMS Providers to participate in WEA that otherwise would be unable to do so.<sup>11</sup>

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<sup>9</sup> *FNPRM* ¶ 113.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* ¶ 114.

As described below, CTIA urges the Commission not to eliminate this provision which grants CMS Providers needed flexibility to develop and deploy network technologies driven by consumer demand. CMS Providers rely upon the flexibility authorized by the current rule text. CMS Providers also are not using the same technology and capabilities at the same time throughout their networks. Moreover, the Commission is currently proposing numerous new, advanced capabilities that implicate additional technologies – both in the network and device – that may have different deployment schedules, if providers even choose to deploy these technologies. For example, while some CMS Providers may be interested in utilizing Multimedia Broadcast Multicast Service (“eMBMS”), its development and deployment by wireless providers is far from clear.

The underlying purpose of the rules is to enable wireless carriers to deploy network technologies in response to consumer demand. Wireless providers need the flexibility to build out their networks and layer in additional functionalities to benefit consumers. Additional WEA capabilities should flow from and be consistent with these delivery technologies. Eliminating this flexibility in the WEA rules would inhibit CMS Providers from participating in the provision of emergency alerts, especially for legacy devices and equipment. CTIA recommends that the Commission maintain the current regulatory regime to allow CMS Providers to manage the provision of emergency alerts in an effective fashion dependent upon the capabilities of the technology deployed by the particular provider.

**V. THE COMMISSION SHOULD REFRAIN FROM ADOPTING WEA REQUIREMENTS THAT ARE INFEASIBLE, PREMATURE OR UNNECESSARILY BURDENSOME.**

There are a number of proposals in the *FNPRM* that have not been vetted by ATIS or CSRIC or are unduly burdensome for alert originators and other affected stakeholders. These include wide ranging proposals that address the use of WEA for earthquake alerts, preservation

of alerts, integration of WEA into 5G technologies, and support for reverse messaging, additional languages, and multi-media content. CTIA believes the Commission should defer consideration of these issues until additional outreach and study has been completed. Each of the problematic proposals are discussed in more detail below.

***Prioritization of Earthquake Alerts.*** The Commission proposes requiring Participating CMS Providers to deliver earthquake-related Alert Messages to the public in fewer than three seconds.<sup>12</sup> As CTIA and its member companies have previously informed the Commission,<sup>13</sup> prioritization of WEA messages was not contemplated by the existing system. WEA messages have always been a best effort process and creating a prioritization scheme will require a reworking of the system. More importantly, CMS Providers have a limited role in their ability to impact the latency of an emergency alert.<sup>14</sup> An emergency alert passes through several layers prior to a wireless carrier being able to disseminate it. For example, a shelter-in-place alert requires the relevant public safety agency to identify the information that needs to be sent and the target area that should receive the alert. Next, the agency sends an alert using the Common Alerting Protocol to a FEMA-operated Alert Aggregator.<sup>15</sup> The Alert Aggregator authenticates

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<sup>12</sup> *Id.* ¶ 120.

<sup>13</sup> See e.g., Comments of AT&T Services Inc., *Wireless Emergency Alerts; Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket No. 15-91, at 25 (filed Jan. 13, 2016).

<sup>14</sup> See Comments of CTIA, *Public Safety and Homeland Security Bureau Seeks Comment on Ways to Facilitate Earthquake-Related Emergency Alerts; Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert System; Wireless Emergency Alerts*, PS Docket Nos. 16-32, 15-94 and 15-91, at 4-6 (filed May 9, 2016) (noting that there are numerous entities involved in the transmission of each emergency alert) (“CTIA Earthquake Alert Comments”).

<sup>15</sup> *Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert*

and validates the alert to ensure the alert is legitimate and coming from an authorized alert originator, and delivers it to FEMA’s Alert Gateway.<sup>16</sup> The FEMA Alert Gateway then converts the alert to a format that is compatible with mobile devices.<sup>17</sup> These steps greatly exceed three seconds. Only then does the FEMA Alert Gateway disseminate the alert over a secure Internet-based interface to a participating mobile provider’s Alert Gateway for distribution to customers.<sup>18</sup> It is at this point that the wireless carrier first gains control over distribution of the emergency alert. Up until this point, the wireless provider has no ability to control the timing associated with each step of the delivery chain. Once the wireless provider receives the alert over its Alert Gateway, the provider distributes the shelter-in-place alert to its consumers in the target area specified by the agency using cell broadcast technology, and consumers receive the warning to shelter-in-place from their mobile devices.

The numerous steps and entities that comprise the WEA architecture preclude CMS Providers’ ability to guarantee a performance benchmark. Even if CMS Providers were able to prioritize earthquake alerts, there is no way to ensure that a WEA Alert Message will be passed through the entire process in anywhere close to less than 3 seconds. Finally, the Commission ignores that ATIS has recently adopted a finding that the WEA system is not the appropriate platform for delivery of earthquake alerts.<sup>19</sup> Instead, ATIS has envisioned an alternative

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*System, Wireless Emergency Alerts*, Notice of Proposed Rulemaking, FCC 16-5 at n. 31 (Jan. 28, 2016).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> Alliance for Telecommunications Industry Solutions, *Feasibility Study for Earthquake Early Warning System*, at 17 (2015) (“*ATIS Study*”).

architecture for earthquake alerts that still would result in warnings being delivered within 20 seconds.<sup>20</sup> In sum, the Commission’s proposal to require earthquake alert delivery in under 3 seconds has no technical basis – the WEA platform was not designed to provide the three-second latency proposed nor is it capable of achieving this benchmark. As CTIA has noted previously, there currently exists *no* emergency alerting platform with the type of WEA architecture this Commission requires that provides or can be expected to provide three-second latency for an alert message.<sup>21</sup>

***Alert Message Preservation.*** The Commission proposes to require WEA-capable mobile devices to preserve Alert Messages in an easily accessible format and location until the Alert Message expires.<sup>22</sup> Implementation of such a requirement would necessitate uniform changes at the device level for all WEA-capable mobile devices. Each individual WEA-capable mobile device (along with the operating software within the device) generally already has a methodology of retaining notifications of this type. Consumers who desire to revisit WEA messages already have a capability – specific to the type of device and operating system – that captures notifications for future reference. Thus, no additional rule requirement is necessary. To the extent the Commission’s seeks to ensure that retrieval of past alerts be “consistent among all devices and providers,”<sup>23</sup> CTIA opposes such a rule as unnecessary and overly prescriptive, as there is no documented evidence of a need to preserve Alert Messages in a uniform fashion in addition to the methods already deployed by device manufacturers.

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<sup>20</sup> *Id.* at 20-22.

<sup>21</sup> CTIA Earthquake Alert Comments at 6-9.

<sup>22</sup> *Id.* ¶ 115.

<sup>23</sup> *Id.* ¶ 117.

**Reverse Messaging.** The Commission seeks comment on the potential for WEA to serve as a secondary messaging tool for emergency managers during disaster relief efforts.<sup>24</sup> Importantly, the WEA system as constructed does not have a “crowdsourcing” functionality or any bidirectional capabilities that could be utilized to effectuate this proposal. Additionally, while CTIA is not in the position to comment on the resources available to public safety agencies that would be required to deal with the public “crowdsourcing” of alert information to alert originators, it should be clear that any Commission proposal to develop such functionality will require significant assets to be deployed by emergency managers. Indeed, this kind of resource strain would very likely occur during disaster relief efforts, where emergency managers are already significantly constrained in responding to the ongoing event. CTIA suggests that directing the public towards relevant, authoritative sources of information rather than attempting to retrofit a reverse messaging function into the WEA, would be more effective.<sup>25</sup>

**Multimedia.** The Commission proposes to require support for certain multimedia content, including thumbnail-sized images and hazard symbols, in Public Safety Messages on 4G LTE and future networks.<sup>26</sup> CTIA believes this proposal is premature. CMS Providers remain concerned about the network congestion effects associated with embedded references<sup>27</sup> and implementation of multimedia Alert Messages would further exacerbate congestion. CTIA

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<sup>24</sup> *FNPRM* ¶ 124.

<sup>25</sup> For example, the existing FEMA application could be revised to develop a crowdsourcing function so that the public could report issues to FEMA that could be verified by FEMA prior to sending a WEA Alert Message about the new report.

<sup>26</sup> *Id.* ¶ 126.

<sup>27</sup> See e.g., CTIA Petition for Reconsideration, PS Docket Nos. 15-91 and 15-94, at 2 (filed Dec. 1, 2016) (“CTIA Petition”).

recommends that the Commission await the result of feasibility testing of embedded references before promulgating any requirements for multimedia content. Additionally, the technological platform necessary to deliver multimedia messaging has not yet been deployed by CMS Providers. Until eMBMS has been implemented, CMS Providers would have no reasonable method to comply with any multimedia requirements without risking harmful congestion impacts to their networks.

***Additional Language Support.*** The Commission seeks comment on the potential benefits of requiring Participating CMS Providers to support Alert Messages in languages other than English and Spanish.<sup>28</sup> Support for additional languages is a complex issue. Translating alerts from English to other languages is a time and resource intensive activity and may violate the character limits associated with WEA messages. Prior to implementing additional language requirements, CTIA suggests that the existing Spanish-language requirement (as amended by the current CTIA Petition for Reconsideration)<sup>29</sup> be deployed prior to supplementing the WEA with additional languages. At that point, Participating CMS Providers and alert originators will have the benefit of lessons learned associated with the rollout of a translation requirement prior to multiplying the requirement with additional languages.

***Alerts in 5G Technologies.*** The Commission seeks comment on how to best incorporate alerts and warnings into the development of 5G technologies and how 5G technologies may enable further enhancements to WEA.<sup>30</sup> 5G wireless network standards have not yet been finalized and it is still unclear what use cases will be deployed by wireless providers. CTIA

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<sup>28</sup> *FNPRM* ¶ 134.

<sup>29</sup> CTIA Petition at 9.

<sup>30</sup> *Id.* ¶ 147.

strongly opposes any suggestion that the voluntary WEA program should be forcing the development and deployment of new technology that may or may not have been required for providing 5G services.

Additionally, not all 5G use cases will be amenable to supporting WEA functionality. For example, medical devices that are implanted in the human body would not be configured to receive broadcast alerts, and Internet of Things (“IoT”) devices will have limited battery and data capabilities and may have no need to receive WEA messages. 5G standards development and use cases are still in a nascent state and will require several more years before they are stable enough to determine the efficacy of providing WEA messaging. CTIA therefore believes that any WEA requirements for 5G systems are premature.

## **VI. CMS PROVIDERS SHOULD BE PROVIDED FLEXIBILITY IN THEIR WEA PARTICIPATION.**

The Commission proposes to adopt definitions for participation in WEA “in whole” and “in part.”<sup>31</sup> Under the Commission’s approach, CMS Providers participating in WEA “in whole” will agree to transmit WEA Alert Messages consistent with the technical standards, protocols, procedures, and other technical requirements promulgated by the Commission to all mobile devices on their network in the entirety of their geographic service area.<sup>32</sup> CMS Providers participating “in part” will do the same but only in some, if not all, of their geographic service area and to some, if not all, of the mobile devices on their network.<sup>33</sup>

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<sup>31</sup> *FNPRM* ¶ 106.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*



CTIA urges the Commission to modify these proposals to provide CMS Providers greater flexibility in WEA participation. CMS Providers will address and deploy functionality for WEA where technically and economically feasible but may be unable to support all of the WEA requirements in certain circumstances. However, that should not prevent participation by a willing CMS Provider if they are able to support WEA in a meaningful fashion. Unfortunately, the Commission is, in effect, forcing a choice on CMS Providers that risks undermining the public interest: support all technical features of WEA or opt out of the program in its entirety. The mode of participation should not be limited to elections that solely affect the geographic area or mobile devices for the provider, as the Commission has proposed. The Commission should instead allow CMS Providers the ability to support in part or elect in part particular WEA capabilities, so long as those capabilities are delivered in accordance with standards requirements.

## **VII. CONCLUSION.**

The WEA system has proven to be a highly successful, voluntary public-private partnership and CTIA supports the Commission's efforts to enhance the system through feasible improvements. The system risks breakdown, however, if burdened by infeasible requirements.

CTIA supports the Commission's efforts to enhance the voluntary WEA system consistent with the comments above.

Respectfully Submitted

*/s/ Brian M. Josef*

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