14 August 2014

Via FCC ECFS
Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

In the Matter of: *Review of the Emergency Alert System*, **EB Docket No. 04-296**
Notice of Proposed Rulemaking FCC 14-93

Comments of Monroe Electronics, Inc.

Monroe Electronics, Inc., and its Digital Alert System subsidiary, ("Monroe") hereby provide the following comments in regards to the Commission's Notice of Proposed Rulemaking in the above-captioned proceeding.

1 Regarding use of a National Location Code

Monroe Electronics re-confirms to the Commission all of its EAS/CAP products (including the Digital Alert Systems DASDEC and DASDEC-II and the Monroe Electronics R189 One-Net and R189 One-Net SE) currently provide the capability to receive and process a national location code, specifically the "six zeroes" proposed code for both the EAN and NPT event codes.

Monroe agrees that that the utilization of this national location code will bring additional consistency to the operation of EAS equipment in both national and local activations. As stated in Monroe's previous filings and reply comments to the Commission, use of a national location code would provide improved geo-targeting of an EAN should the President wish to address a particular part of the country rather than the nation as a whole.

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While Monroe's EAS equipment already supports this proposed national location code capability, we are mindful that various EAS participants, including cable and other MVPD operations, may have to upgrade certain systems downstream of the Monroe equipment to accommodate the new location code. These upgrades are separate and distinct from the EAS devices, and therefore we defer further comment to our cable and MVPD customers, as well as the various manufacturers of those downstream systems.

This capability (000000 national location code) is already supported in v2.0-0 and later software for all Digital Alert Systems (DAS) DASDEC and DASDEC-II and the Monroe Electronics R189 One-Net and R189 One-Net SE EAS equipment. There has been no charge for this capability to date, so the additional cost directly related to our EAS/CAP systems would be negligible. However, we must defer to the cable TV and MVPV providers to define their additional operational and system costs (if any) and timelines associated with the updating and programming of middleware, STBs and other downstream equipment to accommodate a national location code.

2 Regarding Use of the National Periodic Test Code (NPT)

Monroe supports the use of the NPT event code for purposes of testing the national EAS. We recommend that the NPT be afforded the same geo-targeting capability as the EAN (capable of utilizing either FIPS or the proposed "six zeroes" national location code).

However, we suggest that the NPT should not emulate an EAN in two key areas:

2.1 NPT Priority

The NPT event code is a test code, and as such should not pre-empt or terminate an actual emergency code. For example, if a tornado warning (TOE) or Amber alert (CAE) is being forwarded at the same time an NPT is received, the NPT would currently cue up for forwarding as soon as the TOE or CAE emergency alert is finished playing out. Giving NPT the same priority as an EAN would mean that a TOE, CAE or other critical alert could be delayed or interrupted by a test message. We are concerned over any possibility that a test code could delay or impede the issuance of an alert intended to safeguard the lives and property of citizens.

2.2 NPT Message Duration

Effort by EAS manufacturers would need to be invested to update CAP EAS devices to allow the NPT to support unlimited duration audio messaging. This can be implemented by development and fielding of a software update to Monroe CAP EAS devices. However, as to the impact of such a change to interconnected downstream systems in cable and MVPD users, we must defer to the findings of these users, as discussed further below.

3 Regarding Cost Implications of the Proposed NPT rules.

We concur with the Commission that the costs associated with implementation of the proposed rules regarding the NPT could vary significantly, depending on whether the NPT is deployed as a "conventional" EAS alert, or fully emulates an EAN.

3.1 NPT as a "Conventional" EAS Alert

If the NPT is utilized as a "conventional" EAS alert, we suggest that the costs may not be significant. The NPT code is already supported by the DASDEC and One-Net, and presumably all other FCC-certified EAS devices. Adding the NPT to the list of event codes to be forwarded and provisioning automatic forwarding would take some additional effort on the part of users, but this is a matter of configuration settings on the existing DASDEC/OneNet platforms.

The Company's EAS solutions are utilized in the large majority of U.S. television and cable television operations. Therefore, there adoption of the "six zeroes" national location code would mean no additional equipment or software costs for the majority of the TV and cable TV market segments, nor to broadcast radio users of the DASDEC. No further software update would be required, and thus no further cost would be required relating to our EAS equipment.

We have no specific comment on NCTA estimates of cable TV industry costs, although we do note that a relatively small minority of broadcast TV stations also uses similar middleware to cable/IPTV industry. Therefore the NCTA estimates may also be extrapolated to apply to the middleware used by these particular broadcast TV operations.

3.2 NPT Emulating an EAN

However, if the NPT event code is to fully emulate an EAN, EAS device software would need to be more substantially reprogrammed, most specifically in regards to an unlimited duration. To the best of our knowledge, the NPT is supported by all EAS manufacturers as an event with a duration limited to 2-minutes, as well all other EAS codes (excluding the EAN). Modifying an NPT to support unlimited audio duration would require a change in the software or firmware of all EAS manufacturers. The development costs incurred by EAS manufacturers could potentially be passed down to EAS Participants, which is a fairly standard practice in most other industries.

This amount, whatever it may turn out to be, would be additional to the estimates that NCTA asserts for the cable TV industry. We also note that a minority of broadcast TV stations use similar middleware to cable/IPTV industry, so the NCTA estimates may apply at least in regards to middleware to this minority of broadcast TV operations. We also note that requiring the NPT to emulate the EAN impacts not only the SCTE-18 standard. SCTE-18 is one standard in use in a large portion of the cable TV industry. However, there are other standards, including proprietary protocols, used in the rest of the cable TV and IPTV industries that may be similarly impacted. Therefore, both the SCTE 18 standard *and* a range of proprietary standards and protocols would

need to be to be revised, EAS and MVPD downstream equipment reprogrammed, and significant testing to be undertaken.

4 Audio Accessibility

The Commission has stated its belief that the audio and visual (textual) elements should convey the same message for an EAS alert to be fully accessible. This may present several challenges and potential solutions, discussed below.

4.1 Alert originators control the audio content of EAS alerts via the conventional EAS system, or via the CAP-based EAS if they include an audio resource.

For conventional broadcast EAS, the alert originator maintains control over the audio content of the alert message. For CAP-based EAS, where audio file resources are included, the alert originator similarly controls the audio content of the message. As such, the ability to synchronize the audio and textual content of the message will remain partly in the alert originators' hands. For this reason, there may be a need for the development of additional best practices for alert originators in the composition of the audio portion of EAS messages, although the adherence of alert originators to such best practices likely will continue to be voluntary in nature.

4.2 Conventional EAS is inherently limited in the amount of textual information that is provided, although there is a potential technical solution to that limitation.

Conventional broadcast EAS messages are inherently limited by the EAS protocol in the textual content they may convey. That is, a conventional EAS message will render only the basic and minimal textual information that is contained in the EAS header.

By comparison, a CAP-based EAS message will enable the more expansive textual information contained in the header, as well as the <description> and <information> elements of the CAP message. CAP-based EAS messages can contain expanded textual content, better enabling the synchronization of the visual and audio messages.

Monroe Electronics/Digital Alert Systems developed an EAS Textual Data Exchange ("TDX") capability that could play a role in narrowing the gap between the textual information contained in a CAP and conventional broadcast EAS message.[1] TDX allows extra details to be encoded into conventional broadcast EAS alert messages, without modification of the EAS protocol. TDX is a text transmission technique that allows event specific details to be included in the EAS message.

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[1] TDX was initially presented to the Commission by Digital Alert Systems in 2004. Please see ex parte of 22 October 2007 (http://apps.fcc.gov/ecfs/document/view?id=6519744155) and comments of Digital Alert Systems, 18 October 2004 (http://apps.fcc.gov/ecfs/document/view?id=6516743468).

The TDX process places a data packet within the audio envelope of the EAS protocol. TDX does not change the existing EAS protocol. The TDX packet, placed before, during, or after any associated audio message, is of short enough duration so as not to be objectionable when added to the normal EAS tones and will not limit the event related audio.

Example of a conventional EAS message, as generated from EAS header information.

> *A CHILD ABDUCTION HAS BEEN ISSUED FOR THE FOLLOWING COUNTIES/AREAS: Sweetwater, WY at 10:14 AM on Aug 10, 2014, EFFECTIVE UNTIL 11:14 AM. MESSAGE FROM EAS.*

Example of an EAS message, with a TDX data packet.

> *A CHILD ABDUCTION HAS BEEN ISSUED FOR THE FOLLOWING COUNTIES/AREAS: Sweetwater, WY at 10:14 AM on Aug 10, 2014, EFFECTIVE UNTIL 11:14 AM. MESSAGE FROM EAS. Jane Doe was abducted at Fourth and Main at about 7:45 AM. Jane is 10 years old, blond, brown eyes, 70 pounds and wearing a blue jacket with yellow pants. The abductor was male about 6'3" driving a Ford pickup license plate ABC123. They were last seen going north on Fifth Street. Please call 888-5555 if you have any information.*

As can be readily be seen in the above examples, use of the TDX protocol can (1) close the gap between the textual and audio portions of a conventional EAS message, and (2) can also harmonize both CAP-based EAS and conventional broadcast EAS messages.

4.3 While TTS technology has its limitations, it offers the simplest solution to synchronizing the audio and visual portions of a CAP-based EAS message.

Text to speech technology offers a capability to ensure that the audio and visual elements of an EAS alert convey the identical text. Some of the issues, limitations and recommended best practices for text-to-speech usage have already been discussed in the FCC's Communications Security, Reliability and Interoperability Council (CSRIC III).[2] Many issues related to text-to-speech technology can be addressed via best practices, such as those also identified by CSRIC.[3]

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[2] See, for example, the March 2013 Final Report – Part 4, of CSRIC III's Working Group 9 (CAP Implementation), section 6.4 "Usability of CAP Message Text for Direct-to-Broadcast Use". (http://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRIC_III_WG9_Report_March_%202013.pdf).

[3] See CSRIC III Working Group 9 September 2012 Final Report – Part III, Section 9.1 "Best Practices for Text-to-Speech", and Section 9.2 "Best Practices for EAS Audio". (http://transition.fcc.gov/bureaus/pshs/advisory/csric3/CSRICIII_9-12-12_WG9-Final-Report.pdf) Also see CSRIC III WG 9 March 2014 Final Report – Part 4, section 7.1 "Best Practices for Message Origination."

While we cannot definitively state the extent to which all EAS Participants are actively using TTS technology to generate EAS audio, we do note – as an example – that 100% of DASDECs that have been deployed in the field include a basic TTS capability. With this TTS software already onboard the DASDEC, all users already have a capability to automatically translate the textual CAP message into audio.

Text to speech can also be utilized by alert originators. Encouragement of alert originators to rely on TTS capability could help the Commission ensure that the public is able to receive the same, *i.e.,* comparable, information. The visual display of extended CAP information, accompanied by TTS translation of that same information, would synchronize the content of both the audio and visual portions of the message.

As a point of comparison, Monroe Electronics has furnished several states and counties with a CAP/EAS solution for alert originators, which simultaneously originates CAP and conventional EAS messages from the same platform. In this manner, first generation text-to-speech is generated at the source for audio transmission over the legacy EAS, as a TTS audio file available for download by EAS/CAP devices, and/or relay a text-only CAP message for TTS conversion by remote EAS/CAP devices. In each of these three paths, the audio message would contain exactly the same content as the text portion of the EAS message.

5 Proposed Effective Dates

Six months should be sufficient to support an NPT of limited audio duration (up to two minutes), that also supports a national location code, assuming the NPT retains all other characteristics of a "standard" EAS message.

Extending NPT audio duration would take significantly more time than six months to accommodate software development, fielding, test and acceptance by users, and updating/reconfiguring interconnected downstream systems. We would advise an additional 9-12 months for the development and fielding of that software update for EAS/CAP devices. We would defer to broadcast, cable and MPVD operators to advise the commission on any additional time requirements to accommodate the update and/or reconfiguration of downstream systems.

Respectfully Submitted,

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