



June 8, 2016
Marlene H. Dortch, Office of the Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

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

FCC Alerting Paradigm Notice of Proposed Rulemaking (NPRM)
Comment period closing 06/08/2016, as extended

The Federal Emergency Management Agency (FEMA) Integrated Public Alert and Warning System (IPAWS) Program Management Office (PMO) offers the following comments.

The FEMA IPAWS PMO comments address the Emergency Alert System (EAS) components of the Notice of Proposed Rulemaking (NPRM) document in the order in which items were presented in the NPRM:

FEMA encourages the FCC to add definitions of "State Emergency Communications Committees (SECCs)", "live" code, and "test" code to the list of defined terms appearing in Rules Section 11.2. (Footnotes 3 & 4)

Paragraph 8 of the NPRM discusses SECCs involvement in development of State EAS Plans. Likewise, paragraph 21 states that "each SECC must create a State EAS Plan..." Rules Section 11.21 discusses State and Local Area plans but does not address the creation of such plans.

Paragraph 17 states "we propose to continue to designate the primary entry point for a Presidential Alert as a PEP [Primary Entry Point]..." Currently the originator code used for a Presidential Alert is "PEP" whereas alerts from civil authorities use the originator code "CIV" and messages from the National Weather Service bear a "WXR" originator code. FEMA points out that "PEP" and the now defunct Emergency Activation Network (officially decommissioned following the release of the 1995 Presidential Statement of Requirements) are distribution systems not originators. FEMA recommends that the FCC adopt national level/federal level originator codes that better reflect the actual message originators by instituting codes such as "EXC" for the President or his/her designee on behalf of the Executive Branch, "DHS" for the Secretary of the Department of Homeland Security or their designee, and "FMA" for FEMA's

use when originating test messages or other messages at the request of alerting officials temporarily without operational access to their message origination equipment or system.

Paragraph 19 discusses the role of a PEP and a NP (National Primary) station. FEMA defines a PEP as a national level dissemination node provided with a direct connection from the FEMA Operating Center (FOC) and the FEMA Alternate Operating Center (FAOC). Most, but not all, PEPs provide an RF signal directly receivable by the public. Some PEPs are program distribution systems with significantly large numbers of receive points located at broadcast facilities throughout the country. Thus not all FEMA PEPs are stations but every PEP is a primary, or first generation, source of a national EAS message.

While on the subject of PEP stations FEMA wishes to point out that any use of the PEP system for an actual alert will most likely occur under the direst of circumstances when broadcast networks and other means of widespread communication may not be available to the President. FEMA has made significant efforts to assure PEP stations have resilient transmission facilities and that they will be available if called upon even if the power grid and most of the country's broadband infrastructure are not functioning properly. Under these circumstances it will be critically important that there is as little interference to PEP station's signals as possible. With the power grid down most man-made electrical noise will be at a minimum. Twenty five PEP stations are Class A AM stations with significant nighttime skywave service beyond the normally reported groundwave signal. In MB Docket No. 13-249 *Revitalization of the AM Radio Service* the Commission is currently evaluating a proposal to lower co-channel skywave protection to Class A AM stations. This proposal, if enacted, will have the effect of creating extended areas where stations with which FEMA does not have direct communications pathways may cause interference to currently protected skywave service areas. These stations, while serving their local area with their own commercially robust facilities, may or may not receive a Presidential message for relay as they most likely depend on a relay of the Presidential message through one or more stations from a PEP source. Thus, due to this newly proposed interference, the reach of a Presidential message at a critical time would be diminished. FEMA urges the FCC not to authorize reduced protection to Class A AM skywave service.

Regarding EAS Designations: FEMA recommends that the Commission consider implementing additional event codes for use in situations such as the unlikely instance of widespread dispersal of radioactive material which might result from an improvised nuclear device. Response to such an event includes a strong recommendation for immediate sheltering in place to prevent/reduce possible exposure to airborne hazardous materials. See recommendations set forth in:

“Improvised Nuclear Device Response and Recovery Communicating in the Immediate Aftermath” which may be found at:

http://www.fema.gov/media-library-data/20130726-1919-25045-0618/communicating_in_the_immediate_aftermath_final_june_2013_508_ok.pdf

Paragraph 29 discusses how the State EAS Plan contents should “quickly, clearly and efficiently identify the dissemination path of the Presidential Alert through each state.” FEMA recommends that the FCC adopt a process whereby both FEMA and the FCC jointly review State EAS Plan

proposed dissemination pathways for the Presidential Alert to ensure that the proposed dissemination pathways are suitably resilient for delivery of the Presidential Alert.

Paragraph 39 suggests that a State EAS Plan may include a list of “all entities authorized to activate the EAS...” While this may appear to be a simple, fixed goal FEMA points out that a list of entities with authority to activate EAS may be as few as a single entity in some states or a list of multiple entities which changes dynamically under the guidance of a State Emergency Management Agency. Access to EAS via IPAWS is closely controlled and grows through an established multi-level authorization system.

Paragraph 41 discusses Local Emergency Communication Committees (LECCs) and Local Area EAS Plans. FEMA supports continuation of existing LECCs as local committees are more likely to support and maintain open communications with local first responders and the local emergency management community.

Paragraph 42 proposes that State EAS Plans should include “emergency alerting procedures for EAS alerts transmitted via all available alert distribution mechanisms...” FEMA has assisted several states with the development of State IPAWS Plans each of which includes the State EAS Plan as an element of the state’s overall alerting plan. We recommend that State EAS Plan focus remain centered on FCC regulated broadcast and cable industries.

Paragraph 44 discusses non-broadcast PEPs. As previously mentioned, FEMA defines a PEP as a national level dissemination node provided with a direct connections from the FEMA Operating Center (FOC) and the FEMA Alternate Operating Center (FAOC). Most, but not all, PEPs provide an RF signal directly receivable by the public. Some PEPs are program distribution systems with significantly large numbers of receive points located at broadcast facilities throughout the country. Thus not all FEMA PEPs are stations but every PEP is a primary, or first generation source of a national EAS message. As a first generation source a satellite distribution system may deliver a national message to a Participating National station before the same message is relayed via one or more terrestrial stations. FEMA cautions the Commission and reminds them that not all satellite distribution systems, including some of those specifically designed for dissemination of alert and warning messages, are capable of delivering a near real-time open ended message as is the current requirement for an EAN event code Presidential message.

Paragraph 51 discusses the relationship between monitoring assignments and delivery of a Presidential Alert. While there now exist multiple distribution pathways for a Presidential Alert including IPAWS, program distribution systems, and traditional EAS relay from a PEP station, under certain circumstances one or more of these distribution pathways may not be available. For example following Hurricane Sandy much of the last mile broadband or internet connectivity was simply not available. Likewise, in case of an EMP event it is likely that internet and broadband services will not be available; similarly microwave backbones and other terrestrial distribution plans may fail. The broadcast industry has demonstrated time and time again that there is a significant level of resiliency incorporated into many broadcast facilities.

Paragraph 58 briefly discusses security in relation to EAS and State EAS Plans. FEMA is concerned that the Commission continues to focus exclusively on cybersecurity aspects of protecting EAS while little or no attention is paid to improving the security of over the air or audio bandpass security for EAS. As outlined in paragraph 102, the single greatest EAS breach occurred when a syndicated program accidentally included a recorded EAS header from the November 2011 National Test in a live network broadcast. While inclusion of a “Year” value in the header data may prevent future identical occurrences involving recorded headers, the instructions for producing a valid header are published in the FCC Rules and will continue to be readily available. FEMA’s position is that further research and testing may yield a solution which will allow inclusion of an additional element similar to the digital certificate used to provide assurance that CAP messages distributed by IPAWS have not been tampered with. (Further addressed below in comments on paragraph 137.)

Paragraph 101 contains an inaccurate description of the June 26, 2007 incident. The contractor did incorrectly leave a satellite downlink connected, operational and powered up, however the satellite contractor had nothing to do with creation of the EAS message. This was a scheduled closed circuit live code test of what was supposed to be an isolated distribution system. The Emergency Action Notification (EAN) message was originated by FEMA as a test message, then input into a satellite distribution system which split the message into two messages: one for private distribution to PEP facilities (if they were connected) and a second for distribution to state Emergency Operations Centers. FEMA had not yet accepted the distribution system and it was not approved for external connections. Since the test message was a valid EAS EAN event code message, message originator authentication would have had no effect on message propagation once the message breached containment of the satellite system.

Paragraph 105 discusses the work of the CSRIC IV Working Group 3 on EAS Security. This working group produced a set of *Best Practices* related to physical and cyber security of EAS devices. WG3 did not specifically address the security of audio bandpass over-the-air EAS transmission. The *CSRIC IV Best Practices* would have no effect on the *Bobby Bones Show Incident*. Paragraph 114 incorrectly states “Had all equipment been updated to the latest version and in the correct configuration, it is highly likely the alert would not have been rebroadcast.” The alert was rebroadcast because some EAS devices did not check the incoming EAN message header data for the correct date and proceeded to relay the alert. Some devices did check for the correct date and failed the message due to incorrect date. Other devices accepted the incoming message and proceeded to save it with in preparation for releasing it on November 11th. The patch referred to in the footnote would have prevented the last situation where some EAS devices held the message for later transmission.

Paragraphs 137 and 138 discuss possible implementation of the TDX solution or the Virtual Red Envelope system. FEMA recommends that the Commission allow sufficient time for full evaluation of these and other such systems as may be proposed by FEMA’s IPAWS Lab/test facility prior to taking regulatory action.

Paragraph 141 addresses the lack of a year parameter in the EAS header data. FEMA concurs that inclusion of a year parameter “YYYY” is recommended. FEMA recommends that the FCC consider continued compatibility and industry recommendations regarding how to best add a

“YYYY” element to the header data string. It may be less disruptive to append YYYY later in the data string or at the end than to force it into the apparent logical location immediately preceding the current Julian calendar day. FEMA reminds the FCC that any changes to EAS which may require a synchronized “flash cut” or synchronized software update will, in reality, not occur in the requested time frame. In the meantime EAS will truly be broken. Again we recommend that any proposed solutions be tested by the FEMA IPAWS Lab test facility prior to taking regulatory action.

Paragraph 142 discusses possible use of the Station identification header code (“LLLLLLLL”) as a possible additional validation parameter. FEMA sees this as an interesting option and looks forward to industry comments regarding this option.

Regarding the method of identifying a warning area for EAS: FEMA recommends that the FCC consider and solicit comments regarding replacing FIPS location codes with a geographic coordinate descriptor. Wireless Emergency Alerts (WEA) currently support geographic polygons as a primary target area descriptor.

Regarding Wireless Emergency Alerts (WEA) FEMA supports expanding WEA character length from 90 to an optional 360 characters. Further FEMA offers the following discussion: An issue arises in which Carrier A chooses to support 90 characters whereas Carrier B chooses to support 360 characters. Truncating messages or requiring Alert Originators to craft separate 90 and 360 character messages is not desirable, therefore the following scheme is proposed. This scheme is consistent with the current ATIS/TIA C-Interface Specification, and requires no modifications to the standard.

The Federal Alert Gateway will evaluate the Alert Originator’s WEA text in the CAP message. For messages 90 characters or less, the Fed Gateway will process the message as normal and send the 90 character message to the CMSP Gateway. The Fed Gateway will also include a CMAC_note element indicating that there is no “long text” available for retrieval. This will accommodate both Carrier A and Carrier B.

For messages greater than 90 characters, the Fed Gateway will automatically create a 90 character version of the message based on the CAP fields as described in the current ATIS/TIA standard (Appendix A, Generation of CMAC_text_alert_message from CAP Parameters). The Fed Gateway will send this 90 character message to the CMSP Gateway. This will accommodate carrier A. The Fed Gateway will also include a CMAC_note element indicating that there is “long text” available for retrieval, and provide a URI to retrieve the 360 character message. This will accommodate Carrier B.

From the CMSP Gateway perspective, this methodology is identical to the working proposal for Spanish language message retrieval.

Although not specifically addressed the instant rulemaking FEMA wishes to remind the FCC of the importance of establishing an open testing methodology for WEA. FEMA notes that many state and local alerting authorities continue to be reluctant to use WEA because of a lack of specific information regarding how WEA alerts would be disseminated in their jurisdiction. The

ability to conduct occasional open testing of WEA could provide those alerting authorities with the information they need regard where will WEA messages be delivered (area over-alerting/under-alerting) and when will WEA messages appear on handsets in their jurisdiction (message latency and duration). FEMA believes that a well-designed open testing methodology will result in better service to the public through improved use of WEA by approved alerting authorities.