

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

In the Matter of)
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Review of the Emergency Alert System;) EB Docket No. 04-296
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To The Commission:

**Comments of Sage Alerting Systems, Inc.
In Response to FCC 14-93 NPRM**

August 14, 2014

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1 Introduction

Sage Alerting Systems has been active in EAS and emergency notification and warning since 1994 when the Commission studied ways to improve the delivery of emergency messages to the public via Radio, TV and Cable. During that time, Sage developed the widely used Sage ENDEC which was the first EAS encoder/decoder to receive FCC Part 11 certification, and its follow-up CAP/EAS model. Over the years we have worked closely with the FCC, FEMA and local emergency management agencies to improve the delivery of warnings to the public.

2 Summary of Comments and Recommendations

- Sage agrees with the need for a national location code, and discusses the ramifications of the required software update.
- Sage agrees with the need for use of the NPT event code, and suggests that it be a “normal alert” with two minute timeout, but is prepared to implement NPT as EAN at the same time as the national location update.
- Sage disagrees with the characterization of user interface shortcuts as being prohibited by the current rules.
- Sage urges the FCC to address areas of the CSRIC IV WG3 recommendations that haven’t been considered by the 14-93 NPRM.
- Sage believes that one year is a more appropriate implementation deadline, especially for users that must acquire new hardware, a longer deadline will be needed for some industry segments if an NPT is to be implement as an EAN.

3 Use of a National Location Code

Sage continues to support the need to solve the problem of the 31 location code limitation in EAS in a country with more than 31 states. We endorse the selection of a PSSCCC code of six zeroes (“000000”) as that national code. We note, however, that the FCC has left open the possibility of further misinterpretation of the rules by simply

defining the SS portion of the location code as “00”. This would allow for the possibility of other uses for a non-zero P, and a non-zero CCC. To remove any possibility of mischief, we believe the FCC should add a note to its update of 11.31(f), to say “When an alert is to be sent to All U.S., the P and CCC numbers must be 0. No other values for P and CCC are permitted with an SS of “00”.

Here are the effects on Sage users of this new requirement. Sage has one model of EAS/CAP equipment, and one older EAS-only model:

- The Sage Digital ENDEC model 3644, commonly referred to as the “blue” ENDEC, has been the only unit sold since 2008. This unit supports CAP and EAS, and is updated by downloading firmware into its flash memory, by the user in the field.
- The Sage EAS ENDEC model 1822, commonly called the “gray ENDEC”, sold between 1996 and 2007. This was the first device to receive FCC part 11 certification, on January 25, 1996. Most of the units were sold prior to 2002. It supports only legacy EAS, and is only relevant now when used with a device acting as a CAP converter. The 1822 was updated by replacing a ROM chip.

Updating the model 3644. This unit will require a firmware update that can be field installed by the end user. This will allow the user’s filters to be changed to allow both the national location code and regional codes to be used for an EAN (and any other alert, such as NPT). There will be a nominal charge for this update. We are augmenting our written instructions with videos that will walk users through the simple process of acquiring and installing the update to try to reduce the other costs associated with updating software. We expect that the FCC may make other modifications to its rules, including additional recommendations made by Commission’s Communications Security, Reliability, and Interoperability Council (CSRIC), at its June 18, 2014 meeting. This would include the buffer/no buffer issue, and the additional headers issue. We urge the FCC to take action on those recommendations in a timely manner, so that those updates can be bundled together and installed at the same time, reducing the associated installation overhead costs.

Updating the model 1822. Hardware and software support officially ended in 2011, concurrent with the date the CAP rules were to have taken effect before its last deadline extension. While Sage still provides configuration support, there will be no further hardware or firmware updates made available for the 1822. Sage is not recommending that the FCC make any accommodation to allow the continued use of legacy EAS-only systems, as continuing to limit new EAS developments to what are essentially 1996 capabilities puts the entire system at risk. That said, the 1822 could continue to be used if the FCC allowed those stations to use the existing workaround for the 31 FIPS code limitation, that is, allow them to use a filter that will accept any location code for an EAN. The only downside is that those stations would send out-of-area regional EANs and NPTs if the “any” location code was used in those filters. TV crawls would incorrectly identify the areas being alerted. It should also be noted that the Sage 1822 ENDEC, even when used with a CAP converter as input, will not be able to meet the June 30, 2015 requirements to format the message as required for video by §3.6 of the ECIG recommendations as required by Part 11.51.

4 Use of the National Periodic Test Code

Sage has commented extensively on the subject of the National Periodic Test - in its November 4, 2013 Comments and November 11 Reply comments in response to Public Notice DA 13-1969, its Ex Parte filing of January 14 2014, and as Harold Price’s membership on the CISRC IV WG3 National Testing and Operational Issues Task Group. Sage believes that the use of the NPT has great value in testing distribution of alerts through FEMAs Primary Entry Point system and into state and local relay systems. This system includes those portions of the relay network called out in Figure 1, EAS Architecture in the FCC’s 14-93 NPRM that include the President, FEMA, PEP, State Primary/Public Level, and then down to the LP-1, LP-2 and lower levels. Existing RMT alerts typically test the LP-1 and lower levels, but the levels above that were tested as a complete set only once, in November 2011.

When used with a test plan that replaces one of the RMTs with a yearly NPT, individual states or groups of states, or the entire U.S. can participate in testing that audio path, without taking extraordinary steps to notify the public that anything unusual is

being done, and without the higher risk of stations not hearing the end of message and staying locked into the alert mode.

All Sage products (blue and grey) are able to carry an NPT alert, they need only to be configured by the user with a filter that specifies that this alert be carried. In addition, the alert can be tagged to play immediately, just as an EAN – the only difference is that the NPT will time out after two minutes. The only existing limitation is that the new all U.S. code won't be recognized. Regional, state, or local NPT tests can be used today. An all of U.S. NPT would require an update, as discussed above in the National Location Code section.

As we've said in previous filings, should the FCC desire to have the NPT function in every way like an EAN, rather than the user tweaking their existing configure file, Sage would need to issue a software change. As we are already making an update for the national location code, there would be no additional cost or installation time for our users, as long as the FCC adds this change to the rules at the same time as the national location code. The current blue 3644 ENDEC can be updated, the grey 1822 ENDEC can't, and there is no possible workaround for the 1822.

Sage recommends that, at a minimum, the FCC prepare the country for the future use of NPT by requiring EAS participants to carry the NPT. Part 11.61 already states that National Primary (NP) sources should participate in NPT tests as appropriate. This should be changed to require all stations to participate in NPT tests. Part 11.61(a)(4) already allows RMTs to be replaced by special tests, however the section that would require NPT should explicitly state that such alerts would replace an RMT; and that FEMA, states, and local areas should work together to assure that an RMT will not be scheduled in a month that an NPT will be performed.

5 Acknowledgement of all EAS Header Codes

Sage believes that the FCC has improperly mixed the concepts of “ignoring header code elements” and the user interface ability to specify “all” of a set, i.e., wildcards. In paragraph 54 of the NPRM, the FCC states:

“As wildcards and other shortcuts serve to ‘abridge’ the EAS protocol, they are prohibited by the FCC rules.”

Most, if not all, of the EAS system manufacturers currently use some type of user interface shortcuts to allow users to specify alert selection. Some use shortcut buttons to say “add warnings” to the list of events. Some allow the user to define filters with the effect of “log any event for Ohio, relay any event for Pennsylvania”. Some allow “log any event received for anywhere”. This is far more manageable than requiring the user to individually list each event, each location, and each originator, every time an action is defined.

Sage also allows the user to specify a list of location codes called the “local area”, what the FCC would call a “shortcut”. This allows the user to specify “local area” when building filters, e.g., “relay tornado warnings to my local area” or “Hold for 15 minutes tornado watches for my local area + Armstrong county”. If the station changes its local area, they need only add or remove the FIPS code from the local area shortcut. They do not need to make a change to every filter they have built. This makes the management of filters much easier for the user. The process is analogous to mail lists and nicknames for email.

Sage believes that wildcards and shortcuts are a common and industry standard way of making it easier to manage a user interface with 4 originator codes, 53 event codes, ~3300 state/county location codes, and nine subdivision codes. Should wildcards and shortcuts be ruled out, all users of Sage equipment, and possibly other manufacturers, would need to change their existing filter settings, which would be more time consuming and error prone than the effort of simply adding a new national location code.

Sage agrees that the equipment should not ignore any element of the EAS protocol. Allowing the user, for their convenience, to specify that their device act on a message

containing a subset of choices, or the set of all choices, for a protocol element is not the same as “ignoring”.

Sage requests that the FCC modify their commentary on wildcards and other shortcuts to state that devices must process each element of the EAS header, allowing the user to configure the device to accept some or all of the allowable contents of each element.

6 The CSRIC IV WG3 Report

Sage urges the FCC to consider and give guidance or rule making based on the June 2014 report of the National Testing and Operational Issues Task Group in the areas not addressed by the current NPRM:

- Buffering of real-time alert audio, Section 3.1.2/Annex C
- Additional Headers, Section 3.1.6/Annex B

These represent additional results of the November 2011 test that were hidden by the larger audio issues but are some of the most important technical issues uncovered by that test.

7 Implementation Deadline

A one size fits all implementation time line for updates is difficult to determine as each segment of the community has different concerns.

- Some users will only need to update their existing alert selection filters.
- Some users will need to acquire and install software updates, and then update their existing alert selection filters.
- Some users will need to acquire replacement hardware for obsolete equipment.
- If NPT as EAN is required, some users will also need to update hardware, software, or procedures in a variety of non-EAS downstream equipment.

The most important goal, with a “right now” timeline is to prepare the equipment to handle an EAN in the way it was sent in 2011. If an alert were needed tomorrow, the

2011 format will be used. Any users that still need to adjust their equipment settings to handle an alert for the Washington DC FIPS code should do so as soon as possible, using the information made available for in 2011. Sage users using the default configuration did not need to make a change to carry the 2011 EAN.

The next goal is to allow the use of the new national 000000 code for EAN. Sage ENDECs will handle that now, though the user must continue to specify the “any location” choice in the filter as a workaround to the 31 FIPS code limitation. No action is required.

Specifically allowing the new national code, and therefore enabling regional EANs, and national NPTs, will require a software update for Sage 3644 users, and replacement of obsolete hardware for 1822 users. One year is a reasonable deadline. During that time, FEMA can continue to issue EANs as they have been prepared to do since 1997, that is, to the Washington DC location code. FEMA can start to issue NPTs for regional, state, and local areas, subject to the 31 FIPS code limitation.

Redefining NPT to work as an EAN, that is, without time limit, will require a software update to the Sage 3644, and replacement of the obsolete 1822. Sage can make this change at the same time as the national location change; one year is a reasonable time limit. For users in IPTV and cable, non-EAS equipment must also be updated. Sage has no particular insight into how long that might take.

Regarding changes to video crawl rules, the Sage ENDEC sends the video crawl text to downstream equipment, but has no control over font size, crawl speed, or screen placement.¹ We have no insight into a reasonable deadline for downstream equipment to be updated, other than to say that coordination of text inserted locally by a TV station, and then possibly overlaid by MVPD systems, and then overlaid by closed caption generated by a set top box or the TV, is not a simple problem to solve.

¹ Sage supported two character generators available in the 1990s where the ENDEC did have some control over placement and crawl rate, but these devices are obsolete and no longer available.

Respectfully submitted:

/s/

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