

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert System)	PS Docket No. 15-94
)	
Protecting the Nation's Communications Systems from Cybersecurity Threats)	PS Docket No. 22-329
)	

PETITION FOR RULEMAKING

Pursuant to Section 1.401 of the Commission's rules,¹ the National Association of Broadcasters (NAB)² hereby requests certain clarifications or amendments of the Commission's rules, as necessary, to allow, but not require, Emergency Alert System (EAS) participants to use software-based EAS encoder/decoder (endec) technology instead of a legacy physical hardware device to process EAS messages. As discussed below, modernizing the EAS rules to permit this voluntary approach would enhance the reliability and security of EAS, without compromising the system's effectiveness.

I. BACKGROUND

NAB developed this proposal with the advice of chief technology officers and senior engineers from many of the nation's leading radio and television groups, as well as small and medium-sized broadcast companies, and noncommercial broadcasters. We first proposed this EAS option in December 2022 in comments on a Notice of Proposed

¹ 47 C.F.R. § 1.401.

² The National Association of Broadcasters (NAB) is a nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

Rulemaking regarding the cybersecurity of EAS and wireless emergency alerts.³ There, we noted that the current rules require use of a legacy physical endec device (sometimes referred to as a “box”) and explained that permitting NAB’s approach will allow stations to align their EAS technology with the advanced software-based systems that support nearly all other broadcast operations.⁴ We also described the many efficiencies and other benefits that our proposal will produce.

NAB subsequently pressed our request in multiple meetings with Commission staff,⁵ including one which took place at the headquarters of station WTOP-FM where we demonstrated how a software-based EAS solution could be efficiently integrated into a station’s facilities without affecting EAS performance.⁶ Numerous broadcasters have expressed support for NAB’s proposal in this proceeding,⁷ and most importantly, we have noted that the Federal Emergency Management Office (FEMA) Integrated Public Alert and

³ *Amendment of Part 11 of the Commission’s Rules Regarding the Emergency Alert System, Wireless Emergency Alerts, Protecting the Nation’s Communications Systems from Cybersecurity Threats*, PS Docket Nos. 15-94, 15-91, and 22-329, Notice of Proposed Rulemaking, 37 FCC Rcd 12932 (2022) (Alerting Security NPRM).

⁴ Comments of National Association of Broadcasters, PS Docket Nos. 15-94, 15-91, and 22-329 (Dec. 23, 2022), at 24-25 (NAB Alerting Security Comments).

⁵ Letter from Larry Walke, NAB, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 15-94, 15-91, and 22-329 (April 13, 2023) (NAB April 2023 Letter) (meeting with PSHSB); Letter from Larry Walke, NAB, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 15-94, 15-91, and 22-329 (June 2, 2023) (meeting with Chairwoman Rosenworcel’s Legal Advisor); Letter from Larry Walke, NAB, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 15-94, 15-91, and 22-329 (Dec. 13, 2024) (NAB December 2024 Letter) (meeting with PSHSB).

⁶ Letter from Larry Walke, NAB, to Marlene H. Dortch, Secretary, FCC, PS Docket Nos. 15-94, 15-91, and 22-329 (Oct. 18, 2024, 2023).

⁷ Reply Comments of REC Networks, PS Docket Nos. 15-94, 15-91, and 22-329 (Jan. 23, 2023), at 2; Reply Comments of CMG Media Corporation, PS Docket Nos. 15-94, 15-91, and 22-329 (Oct. 18, 2024, 2023), at 2; Reply Comments of National Public Radio, Inc., PS Docket Nos. 15-94, 15-91, and 22-329 (Oct. 18, 2024, 2023), at 5; Gray Television, Inc., PS Docket Nos. 15-94, 15-91, and 22-329 (Oct. 18, 2024, 2023), at 5.

Warning Systems (IPAWS) office has offered a clear endorsement and encouraged NAB to make the FCC aware of its view.⁸

Given that our proposal has been pending now for over two years, NAB respectfully requests expedited consideration of this Petition. Underscoring the urgency of this request is the recent decision of Sage Alerting Systems, one of the two remaining EAS device vendors, to cease production of its endec device due in large part to supply-chain problems acquiring legacy parts for original EAS hardware-only designs. With Sage's exit, many EAS Participants, especially radio stations, will face significant challenges when they need to replace or upgrade an EAS device. Sage's exit is a clear indicator that the current legacy ecosystem is not sustainable and that the Commission needs to permit more modern approaches to support a long-term, robust emergency alerting system.

Under NAB's proposed approach, such manufacturing issues will not be a significant concern because the software will be able to operate on multiple existing hardware appliances or software processes already in use within broadcasting. However, time is of the essence because legacy EAS devices have a certain shelf-life, and the FCC has several pending rulemakings that could demand device replacements or upgrades that Sage may no longer be able to provide.

II. NAB's Proposal can be Seamlessly Integrated into EAS Systems

NAB followed three guiding principles in creating this proposal. First, any products or systems used to implement this option must function seamlessly within the legacy EAS system, as well as existing broadcasting systems and equipment. Second, baseline EAS functionality must not be impacted. Finally, use of any resulting products or systems must

⁸ NAB April 2023 Letter at 1-2.

not be mandatory, only voluntary, and only implemented pursuant to the good faith judgment of each EAS Participant.

On this foundation, NAB, working with broadcaster partners, has developed a high-level description of a virtualized EAS design and shared this with the FCC's Public Safety and Homeland Security Bureau in a number of meetings, describing how the proposed software-based approach could be integrated into a station's operations.⁹ Essentially, the software for encoding and decoding of EAS messages, which at present is required by FCC rules to exist in dedicated, purpose-built EAS devices, is freed from this physical requirement and can instead, at a broadcaster's discretion, reside elsewhere within a broadcaster's plant, running on trusted and certified hardware platforms. The approach contemplates autonomous software-based EAS functions located at the edge of a broadcaster's operation, similar to other resilient, secure software systems used in modern broadcast frameworks. Like today's legacy hardware EAS devices, a software-based mechanism at the broadcaster's edge would not be directly exposed to the internet and would still operate if internet connectivity is disrupted. It should be noted that NAB is not seeking an off-premises, fully cloud-based approach. The software-based EAS functions of decoding, logging, encoding, and relaying alerts will act autonomously as in legacy EAS hardware devices. Under our proposal, EAS functionality would be no more vulnerable to unwanted internet disruptions (e.g., hacking) than are existing hardware encoder/decoder boxes.

In this context, we anticipate that certain parties may raise regulatory or operational concerns regarding audio-over-IP and virtual architectures, and offer alternative approaches

⁹ See, e.g., NAB April 2023 Letter at note 5.

to address those challenges.¹⁰ For example, Digital Alert Systems (DAS) has described a “hybrid virtual” approach it has designed using currently deployable architecture that would purportedly simplify “issues for broadcasters in terms of cost, complexity, and FCC compliance.”¹¹

NAB has previously explained that our approach recognizes the concerns raised by DAS and is structured in alignment with DAS’s approach to a certain extent. Like DAS’s approach, our proposal would allow broadcasters to insert EAS processing in the modern AV-over-IP air chain, simplify reception and playback of EAS messages, and allow autonomous EAS processing at either the local studio or the local transmission site. At bottom, however, DAS’s approach still involves a dedicated hardware EAS device, while NAB’s proposal aims to provide stations the flexibility not to rely on a physical legacy device, and certainly not on a particular brand of device.¹²

NAB is agnostic regarding the development of software for this option. Broadcasters have indicated no plans to undertake this task on their own, and NAB presumes that a consensus approach would be most efficient given the fairly small market for such a system. In general, we believe that most broadcasters and other EAS Participants would prefer to rely on the existing trusted vendors of EAS equipment to lead the development of such solutions. We also note that broadcasters are familiar with using software-based solutions for many parts of their operation, including the playout of video and audio programming. The industry also has a track record of creating partnerships with manufacturers for replacing

¹⁰ Letter from Edward Czarnecki, Digital Alert Systems, to Ms. Marlene H. Dortch, Secretary, FCC, PS Dockets Nos. 22-329, 15-91, and 15-94 (Nov. 5, 2024), at 1.

¹¹ *Id.* at 2.

¹² NAB December 2024 Letter at 2.

external legacy hardware systems with modernized software-based solutions. A recent example of such a partnership is the development and use of software embedded into existing broadcast hardware for portable people meter (PPM) encoding (using Nielsen's Critical Band Encoding Technology) for radio. We envision a similar development cycle that would include testing and certification of an integrated software solution for EAS.

Finally, broadcasters' EAS systems would remain subject to weekly, monthly, and annual nationwide tests that will detect problems and help ensure functionality.¹³

III. Permitting Use of a Software-Based Encoder/Decoder Would Enhance EAS and Produce Numerous Benefits for EAS Participants and the Public

Allowing the use of a software-based EAS solution would free EAS Participants from the constraints of a required hardware device. Doing so would not only preserve the existing functionality of EAS, but improve the system's effectiveness. A software-based approach would improve the resiliency, operational readiness, and security of EAS. Specifically, routine maintenance of a station's EAS system and the time needed to recover from a hardware component malfunction would be greatly reduced because a system repair could now be implemented through a software update, patch, or other remote fix, eliminating the down-time needed to ship the legacy physical device to a manufacturer for factory repair. Stations would also be able to more efficiently implement a software update in response to a security vulnerability instead of doing so through on-site visits to all of their EAS boxes or by shipping legacy devices to the manufacturer. In addition, NAB's approach could improve EAS continuity by enabling development of an immediate fail-over of functionality using multiple instances of EAS software in redundant, remotely-operated systems in diverse geographic locations (e.g., main and auxiliary studios and transmitter sites), thereby eliminating single

¹³ 47 C.F.R. §§ 11.35, 11.61.

points of failure common to many legacy hardware EAS installations today. This feature is critical as many broadcasters have been forced to evacuate facilities due to environmental disasters and relocate to auxiliary facilities, abandoning their hardware-based EAS equipment when the public needs emergency messaging the most.

Moreover, EAS Participants would be able to better facilitate system upgrades required by new Commission or FEMA mandates without the necessity of accessing individual physical EAS devices, or as is occasionally the case, the returning of legacy hardware equipment to the factory for updating. Other efficiencies could include facilitating the routing and targeting of EAS messages to separate broadcast streams (e.g., Television and HD Radio multicast channels), expanded system monitoring and potential development of near real-time, automated collection of activity data to provide operational readiness status, as well as improved clock synchronization to the national standard.

Simply put, allowing EAS Participants to adopt NAB's approach would improve the reliability, resiliency, security, and efficiency of EAS, without compromising functionality.

IV. NAB's Proposal Could Be Implemented Through Minor Rules Changes

Certain of the current Part 11 rules allude to a legacy physical, hardware encoder/decoder device, presumably due to the long-standing implementation of historical policies that pre-date the use of software. However, NAB believes that our request could be implemented through a fairly minor, global update to the definitions section in Part 11 that would accommodate the option to use a software-based approach by the addition of:

47 C.F.R. § 11.2 Definitions.

...

(e) *EAS Equipment*. EAS equipment, and equipment capable of generating the EAS codes, as those terms may be used in this part, may refer to a physical, hardware device or a virtualized, software-based system that carries out the functions of monitoring for, receiving and/or acquiring, decoding and encoding EAS messages.

NAB would defer to the Commission's expertise regarding additional rule changes that may be required to implement our proposal.

We also note that NAB's proposal is consistent with the Commission's recent request for public input on FCC rules that may stand in the way of technological innovation. In addition, modifying the EAS rules to allow a software-based approach would provide significant benefits, as described above, without imposing any mandatory costs on EAS Participants or reducing the effectiveness of EAS.¹⁴

V. Conclusion

For the reasons stated above, NAB respectfully submits that the Commission should grant NAB's proposal to allow EAS Participants to use a software-based solution in place of a physical, hardware EAS encoder and/or decoder to process EAS messages.

Respectfully submitted,



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¹⁴ Public Notice, *Delete, Delete, Delete*, GN Docket No. 25-133 (Mar. 12, 2025), at 1-2.