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

In the Matter of	)	
	)	
Modernizing of the Nation's Alerting Systems	)	PS Docket No. 25-224
	)	

COMMENTS OF
CONSUMER TECHNOLOGY ASSOCIATION

I. INTRODUCTION

Consumer Technology Association (CTA)[1] respectfully submits these comments in response to the Federal Communications Commission's (Commission's or FCC's) Notice of Proposed Rulemaking in the above-captioned proceeding.[2] CTA members sit at the intersection of traditional Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA) devices as well as other devices that connect online, and it is with that perspective that CTA aims to aid the Commission as it pursues a "ground up" examination of the nation's alerting systems.[3]

Since the advent of EAS and WEA, the consumer technology industry has been the final step in the alerting chain, developing and manufacturing the radios, televisions, wireless phones and other end-user devices on which Americans rely when the government transmits life- and property-saving information. Because of this, CTA members have firsthand knowledge of how consumers benefit from the widespread transmission of reliable safety alerts, as well as how consumers have grown to expect their devices and services (i.e., broadcast, satellite, and cable

[1] As North America's largest technology trade association, CTA® is the tech sector. Our members are the world's leading innovators—from startups to global brands—helping support more than 18 million American jobs. CTA owns and produces CES®—the most powerful tech event in the world.

[2] *Modernization of the Nation's Alerting Systems*, Notice of Proposed Rulemaking, PS Docket No. 25-224, FCC 25-50 (rel. Aug. 8, 2025) (*NPRM*).

[3] *Id*. ¶ 1.

television, radio, and cellphones) to provide them with critical information whenever there is an emergency.

CTA appreciates the Commission's examination of first principles and goals relating to the nation's alert and warning systems because it is a consequential undertaking. The alerting systems have a vast reach, and potential changes to policies may have similarly broad effects. In particular, WEA is an important and extremely successful tool for sharing important and timely emergency information with the public. Research data demonstrates that these alerts are reaching consumers, delivering potentially life-saving information to them. Expanding EAS and WEA beyond the media and devices they reach now would require overcoming resource-intensive and complicated technical hurdles, while duplicating the alerting that the public already receives. Because the public safety community has expressed concern with alert fatigue, avoiding unintended consequences also requires the careful evaluation of any new requirements and guidelines.

II. NEARLY ALL AMERICANS ARE ABLE TO RECEIVE EMERGENCY AND PUBLIC SAFETY INFORMATION THROUGH WEA ON MOBILE DEVICES

The nation's alerting system is successfully and reliably reaching Americans as they incorporate more and more wireless devices into their everyday lives. The integration of wireless phones into consumers' lives means that the shift in behavior from traditional television and radio to online media and connected devices does not frustrate the alerting "systems' objectives of widespread public notification about emergencies."[4] As of 2024, nearly all Americans—98%—owned a cellphone of some kind, and 97% of the U.S. population had access to 5G.[5]

[4] *Id*. ¶ 18.

[5] *Mobile Fact Sheet – Fact Sheets: Tech Adoption Trends*, Pew Research Center (Nov. 13, 2024), https://www.pewresearch.org/internet/fact-sheet/mobile/; *Communications Market Place Report*, 2024

Americans also use their cellphones more frequently than ever before.[6] Consumers carry their phones on them at nearly all times,[7] meaning that they receive alerts on these devices while doing everyday activities, including interacting with other media and connected devices.[8] And when an alert is received, smartphones contain numerous accessibility features as well as other settings customizable to the individual (rather than the household or whole office place) that support the goals of widespread public notification about emergencies.[9]

CTA's data demonstrates that most Americans receive emergency and public safety information through WEA to mobile devices, not terrestrial radio or broadcast television. In 2023, the Federal Emergency Management Agency (FEMA) and FCC conducted a nationwide EAS and WEA test with the goal of ensuring that the system continues to be a successful means of communicating emergency information to the public. As recounted in the FCC *Report: October 4, 2023 Nationwide Emergency Alert Test*, to reach all mobile devices the WEA portion

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Communications Marketplace Report, 39 FCC Rcd 14116, 14214 ¶ 128 (2024) (*2024 Communications Marketplace Report*) (In 2024, the FCC found that approximately 97% of the U.S. population, approximately 75% of U.S. road miles, and approximately 47% of the U.S. land area were covered by at least one 5G-NR service provider at minimum speeds of 7/1 Mbps.).

[6] On average, people spend over four and a half hours on their phones each day, and check their phones an average of 58 times each day. Fabio Duarte, *Time Spent Using Smartphones (2025 Statistics)*, Exploding Topics (June 5, 2025), https://explodingtopics.com/blog/smartphone-usage-stats.

[7] *See* Lee Rainie & Kathryn Zickhur, *Americans' Views on Mobile Etiquette – Chapter 1: Always on Connectivity*, Pew Research Center (Aug. 26, 2015), https://www.pewresearch.org/internet/2015/08/26/chapter-1-always-on-connectivity; Lydia Saad, *Americans Have Close but Wary Bond With Their Smartphone*, Gallup (June 20, 2022), https://news.gallup.com/poll/393785/americans-close-wary-bond-smartphone.aspx.

[8] Additionally, many wearable devices are already capable of receiving emergency alerts because they are tethered to users' smartphones. *See, e.g.*, *About government and emergency alerts on Apple Watch*, Apple (July 10, 2024), https://support.apple.com/en-us/111817.

[9] For example, emergency alerts could incorporate visual alerts, sound and vibration to ensure people are able to receive the emergency alert in a format that is accessible to them. *See How Accessible Tech Helps People with Disabilities in Emergencies*, AT&T (Apr. 24, 2025), https://about.att.com/sites/accessibility/stories/how-accessbile-tech-helps-disabilities.html; *Wireless Emergency Alerts (WEAs) Device Features*, Verizon, https://www.verizon.com/support/wireless-emergency-alerts-compatible-devices/ (last visited Sept. 25, 2025).

of the test was sent as a National Alert, which subscribers cannot opt out of receiving, and the test message was sent to all consumer cellphones in the United States and its territories.[10]

In the days immediately following this test, CTA Market Research conducted a survey to understand the method for how U.S. adults received/heard the emergency alert on October 4, 2023.[11] The survey indicates that approximately 245 million U.S. adults (95%) received/heard the October 4 emergency alert via their phone. Specifically, 92% of U.S. adults (approximately 237 million) indicated they received the alert through their smartphone. The results of this survey illustrate the ubiquity of cellphones and smartphones and the effectiveness of the WEA system in reaching device users.[12]

Consistent with CTA's 2023 nationwide test survey findings, other data also indicate that most people watch television while engaging with a second screen such as a phone or tablet.[13] Thus, even if a person streams television content or other forms of entertainment not capable of receiving EAS, WEA could still successfully notify the individual of an emergency using a nearby cellphone or cellular-connected/paired wearable.[14] Given these usage patterns, a new

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[10] *Report: October 4, 2023 Nationwide Emergency Alert Test*, FCC, Public Safety and Homeland Security Bureau (June 2024), https://docs.fcc.gov/public/attachments/DOC-403500A1.pdf.

[11] *CTA U.S. Adult Emergency Alert Survey 2023*, CTA (Oct. 2023), https://shop.cta.tech/collections/research/products/cta-u-s-adult-emergency-alert-survey-2023; *see also Research*, CTA, https://shop.cta.tech/collections/research (last visited Sept. 25, 2025).

[12] Although independent from the WEA and EAS programs, many consumers receive weather-related and other emergency alerts via third party applications and state/local government administered "opt in" text messaging programs.

[13] *See The Video Ecosystem: The Future of TV*, CTA (Dec. 2024); *Digital America: State of the U.S. Consumer Technology Industry 2019*, CTA (2019), https://cdn.cta.tech/cta/media/media/resources/i3/pdfs/digital-america-2019.pdf; *How Second Screens Create New Opportunities for Broadcasters and Brands*, Oxagile (Apr. 9, 2025), https://www.oxagile.com/article/how-second-screens-create-new-opportunities-for-broadcasters-and-brands/.

[14] *See, e.g.*, *About government and emergency alerts on Apple Watch*, Apple (July 10, 2024), https://support.apple.com/en-us/111817.

alerting system is therefore not needed to reach the public on other media and platforms, such as personal computers, tablets without commercial mobile service, wearable technology, gaming consoles, smart speakers, streaming services and social media.[15]

III. SIGNIFICANT TECHNICAL HURDLES LIMIT EXPANDING EAS

Many of the technical barriers CTA set forth in its 2021 comments regarding EAS expansion to streaming services remain challenges today and apply to connected devices such as smart TVs.[16] CTA appreciates that the *NPRM* "seek[s] comment on whether the nation's alert and warning systems would be more effective if their design placed a greater focus on the capabilities of the end-user devices that receive and present alerts, rather than solely around the communications pathways that transmit them."[17] End-user devices are a very important piece of the overall alerting systems.[18] But imposing new requirements on end-user devices alone cannot

[15] *NPRM* ¶ 18 (asking whether a new alerting system is needed). There are important questions about the FCC's authority to establish such a new system that deserve further investigation. When standing up EAS, the FCC considered the value of entities other than broadcasters and cable providers (where it had direct authority) in alerting the public of emergencies such as satellite systems, utilities and consumer devices, but having no direct authority to mandate participation, the agency chose to encourage such entities to voluntarily participate in the system. *Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System*, Report and Order and Further Notice of Proposed Rulemaking, 10 FCC Rcd 1786, 1809 ¶ 66 (1994). The WEA system is also voluntary by statute. Security and Accountability for Every Port Act of 2006, Pub. L. No. 109-347, tit. VI, 120 Stat. 1884, 1936 (2006) (codified at 47 U.S.C. § 1201 et seq.). The voluntary model strikes the right balance of maximizing the public benefit of EAS and WEA without exceeding the FCC's authority.

[16] *See* Comments of Consumer Technology Association, PS Docket Nos. 15-94, 15-91 (May 14, 2021) (CTA EAS NOI Comments).

[17] *NPRM* ¶ 19.

[18] The *NPRM* seeks comment, for example, on whether EAS would be "more effective if consumer 'smart' devices connected to the Internet (e.g., radios, TVs, and other video displays) were able to directly receive EAS messages from alerting sources, regardless of the user's choice of programming at the time that the alert is received[]." *Id*. ¶ 19.

overcome the technical barriers of expanding the alerting systems to consumer smart devices connected to the internet.[19]

The current EAS distribution model is built on a broadcast-based architecture. Over-the-top (OTT) streaming and other internet services are, however, different in fundamental ways from broadcast technologies, creating challenges to the technical feasibility of using such services to transmit EAS alerts. Many OTT services cannot broadcast real-time content, limiting their ability to transmit real-time alerts, or only allowing them to do so on a limited basis.[20] These OTT services are more accurately described as on-demand file services with content on the edge of networks or in content delivery networks. Such services are not designed to broadcast real-time or near real-time content like EAS alerts.

Effectively transmitting internet alerts would also require gathering, analyzing, targeting and parsing location information beyond the current EAS capabilities.[21] Many streaming services and internet-connected devices do not have or are not designed to transmit content based on location in the way that EAS alerts require. EAS participants and relay stations directly transmit to a specific geographic area based on the location of the participants and relevant stations, such as the relevant state or locality.[22] Many internet-connected devices, in contrast, do not readily identify their location beyond country or world region.

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[19] Consumer equipment and user interface requirements could also risk chilling innovation by locking in today's interface on tomorrow's devices.

[20] *See generally 2024 Communications Marketplace Report*, 39 FCC Rcd at 14264-78 ¶¶ 223-49 (describing different types of streaming services such as video on demand services and services that include live programming and live video streaming).

[21] *See* CTA EAS NOI Comments at 6-8.

[22] *See NPRM* ¶ 14 (noting the necessity for alerting systems to be capable of delivering alerts to specific populations that are targeted by alerting authorities, without delivering the alert to populations that are not targeted).

Multiple users on the same account in more than one location can often use a streaming service simultaneously, complicating the targeting of local and state alerts. For example, one member of the household could be watching a video-streaming app (i) on their Wi-Fi tablet while on vacation in Florida (ii) while the rest of the household is using the same account to watch movies at home in a Los Angeles suburb on a smart TV or using a connected dongle and/or (iii) while riding the bus to downtown Washington D.C. on a smartphone. Using a service in multiple, disparate locations presents a challenge to the precise location targeting of the vast majority of alerts, such as during hurricanes and other weather events.

In addition, the use of virtual private networks (VPNs) by U.S. users to securely connect to the internet further complicates reliance on the location information provided by devices used for streaming services.[23] Because VPNs, by their nature, mask an internet user's IP address and protect online privacy, they present yet another obstacle to content providers for the already difficult task of accurate geographic targeting.

Ensuring interoperability among the different streaming technologies and EAS is another obstacle to technical feasibility. Streaming companies do not have a "core technology" to use to transmit EAS alerts, unlike traditional ATSC 1.0 broadcasting or the Advance Emergency Alert in ATSC 3.0. The large variety of internet-capable end-user devices provides an additional challenge for ensuring compatibility with a uniform format for EAS transmissions.

In general, there is no mechanism or standard currently for the transmission of Integrated Public Alert and Warning System (IPAWS) data to consumer devices. Likewise, consumer

[23] *See* Dashia Milden, *CNET Survey: 47% of Americans Use VPNs for Privacy. That Number Could Rise as State Internet Bans Increase*, CNET (Sept. 19, 2025), https://www.cnet.com/tech/services-and-software/vpn-survey-2025/; Matt Jancer, *Nearly Half of Americans Are Using a VPN*, Vice (Feb. 27, 2025), https://www.vice.com/en/article/nearly-half-of-americans-are-using-a-vpn/.

devices are not designed to monitor and decode IPAWS data.[24] It is unclear how devices should monitor for IPAWS or EAS signals on a persistent basis, given that consumers regularly turn off devices such as televisions and put computers into sleep/standby modes by, for example, closing their laptops.[25] Further, it is unclear how such an alerting system would account for the robustness of most consumer-grade internet connections, which are generally considered "best efforts" systems.

Many technical barriers remain to expanding the alerting systems to all consumer smart devices connected to the internet, while WEAs today already effectively reach consumers. Without a need for such an expansion of regulatory scope, the Commission should refrain from imposing unnecessary new requirements.

IV. ANY NEW REQUIREMENTS SHOULD ACCOUNT FOR TECHNICAL REALITIES, AVOID CAUSING ALERT FATIGUE AND FOLLOW ADDITIONAL OPPORTUNITY FOR PUBLIC INPUT

Earlier this year, the Commission adopted rules allowing silent alerts and other flexibility to address the concern that WEAs currently sent with an audio attention signal and vibration cadence can sometimes be unexpected and jarring, causing some consumers to experience alert fatigue and opt out of receiving future WEA messages.[26] As Chairman Carr noted, "reduc[ing] consumer opt-out" would "increase public safety by ensuring that consumers continue to receive

[24] *See NPRM* ¶ 19 (seeking comment on introducing EAS capability into end user devices).

[25] Persistent monitoring and enabling the ability to "wake up" a device upon receiving an alert would increase energy consumption, a particular concern for battery-powered devices. Given that battery preservation is particularly important during emergency situations, this could undermine the achievement of public safety objectives.

[26] *See Wireless Emergency Alerts et al.*, Seventh Report and Order and Eleventh Further Notice of Proposed Rulemaking, 40 FCC Rcd 1818 (2025); *id.* ¶ 2 ("[W]e recognize that the WEA audio attention signal and vibration cadence ... can be unexpected and jarring and cause some subscribers to experience 'alert fatigue.' While WEA has saved lives, it can cause alert fatigue when it is used repeatedly for the same incident….") (footnote omitted).

[WEAs]."[27] Increasing the alerts that a consumer receives simultaneously or near-simultaneously may cause additional fatigue and opt-outs; the FCC should not propose any rules to expand the services required to provide emergency alerts unless it can establish that those additional alerts would be in the public interest, especially given the risk of alert fatigue, as well as over-alerting and under-alerting. Therefore, any new rules should carefully balance ensuring the public receives alerts with concerns about over-alerting. Addressing shortcomings in alert originator practices and consumer awareness is critical to mitigating the risk of alert fatigue.

CTA and the industry at large continuously conduct market research to understand consumer needs and daily technology usage patterns. Given the high-level nature of the inquiries in the *NPRM*, CTA anticipates that a Further Notice of Proposed Rulemaking would be appropriate to allow industry and other stakeholders to evaluate and comment on any specific new requirements and identify implementation challenges. If the Commission develops new proposals, CTA urges the Commission to refrain from proposing any user interface or equipment mandates, which risk both exceeding the FCC's legal authority and stifling innovation by locking in regulator-dictated design choices. In addition, any new rules should provide a sufficient implementation period, as well as provide for waivers, including class waivers, where appropriate.[28]

V. CONCLUSION

CTA stands ready to work with the Commission to increase the utility of the already successful emergency alerting systems. Americans are carrying their phones with them or

[27] *Id*. at 1898 (Statement of Chairman Brendan Carr).

[28] Given recent Commission actions in the alerting area, CTA expects that no less than three years would be appropriate—and possibly longer to the extent that any rules implicate alert originator and IPAWS upgrades, industry standards, and product development and manufacturing timetables.

consuming media with phones and connected wearables, and receiving important public safety information while doing so. If the Commission intends to pursue additional regulation, CTA requests that the Commission provide more specific proposals and consider the constraints of technologies and risks of alert fatigue. In the event of regulation, a sufficient implementation period and waiver process would be necessary to accomplish the Commission's public safety goals without imposing unnecessary regulations that would risk innovation.

Respectfully submitted,

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