Before the
Federal Communications Commission
Washington, DC 20554

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

REPLY COMMENTS OF APCO INTERNATIONAL

Respectfully submitted,

APCO INTERNATIONAL

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November 18, 2025

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I. INTRODUCTION AND SUMMARY

The Association of Public-Safety Communications Officials, International ("APCO")[1] submits these reply comments in response to the Federal Communications Commission's Notice of Proposed Rulemaking on the modernization of the nation's alerting systems.[2] APCO supports the Commission's comprehensive review of the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA) to ensure these systems are effective, reliable, and aligned with modern communication capabilities. While emergency alerts have proven to be an essential and lifesaving tool, examining EAS and WEA "from the ground up" will help ensure our nation's alert and warning systems remain relevant and effective as technology advances and public safety needs evolve.

For emergency alerts to be most effective, they must be delivered through the media platforms people most commonly use to access audio and visual content. APCO therefore encourages the Commission to modernize emergency alerts by aligning their distribution with

[1] Founded in 1935, APCO is the nation's oldest and largest organization of public safety communications professionals. APCO is a non-profit association with over 40,000 members, primarily consisting of state and local government employees who manage and operate public safety communications systems – including 9-1-1 emergency communications centers, emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.

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

modern media consumption, extending delivery to streaming audio and video services. The Commission should also further modernize emergency alerts by supporting multimedia in WEA, particularly thumbnail-sized images for AMBER alerts.

At the same time the Commission pursues the modernization of emergency alerts, APCO encourages the Commission to preserve the principles and baseline requirements that have been critical to their success. In this regard, to preserve public trust in EAS and WEA messages, emergency alerts should be issued solely by governmental entities authorized by the Federal Emergency Management Agency (FEMA) as alert originators. To avoid overuse and consumer opt out, alerts should be limited to warning the public about emergencies and providing information that promotes safety of life and property. Finally, APCO urges the Commission to actively monitor – and where appropriate, enforce – compliance with the Commission's geotargeting requirements to make sure alerts are accurately delivered only to those for whom they are relevant.

II. DISCUSSION

A. APCO Supports Commission Action to Modernize Alerting Capabilities

Ensuring that WEA and EAS capabilities keep pace with public safety and consumer needs, as well as advancements in communications technology, is critical to maintaining their effectiveness and relevance. As the Commission notes, the EAS "has operated under essentially the same distribution architecture since 1994," and while WEA "was designed for modern wireless networks," the "telecommunications landscape in which it was conceived has also evolved."[3] APCO welcomes this opportunity to work with the Commission to modernize these essential public safety tools. In doing so, APCO supports the Commission's three goals for

[3] *Id.* at para. 1.

emergency alerts: 1) alerting systems should provide authorities with the ability to rapidly notify the public of emergencies that may put the public at risk; (2) alerting systems should be capable of delivering instructions that facilitate the protection of life and property; and (3) alerting systems should provide a mechanism for government officials to provide additional authoritative communications with the public before, during, and after an emergency.[4] As the Commission works to implement these goals and considers modernization strategies, it should carefully evaluate claims from service providers regarding technical infeasibility of alerting enhancements and alternative frameworks. In doing so, the Commission should consider the substantial public safety benefits that might accrue from such improvements and require service providers to conclusively support any asserted burdens.

a. Streaming Services

To achieve its proposed goals, the Commission must maximize the audience reach by ensuring alerts are delivered through the platforms people actually use. While the rise of smartphone usage means more people can access WEA messages, access to EAS messages may be decreasing, as consumers are increasingly turning to streaming content over traditional broadcast, cable, or radio.[5] As the Commission notes, the public "increasingly engages with content through other media and platforms . . . such as personal computers, tablets without commercial mobile service, wearable technology, gaming consoles, smart speakers, streaming services, and social media."[6] Recent data shows that streaming has eclipsed traditional television consumption, growing 71 percent since 2021 and now capturing nearly 45 percent of total

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[4] *Id*. at para. 7 (seeking comment on the three goals that effective alert and warning systems should serve).

[5] APCO disagrees with comments in the record suggesting that the widespread use of cell phones renders EAS unnecessary, or that its reach should not be extended to mobile devices and streaming services. *See* CTA comments at 4-5. Even as mobile technology has become ubiquitous, maintaining and expanding EAS ensures redundancy, broad public reach, and the continued reliability of emergency alerts across all platforms.

[6] *Alerting Modernization Notice* at para. 18.

television usage.[7] Today, 83 percent of Americans say they watch streaming services, compared to just 36 percent subscribing to cable or satellite television, with more than half relying exclusively on streaming.[8] Audio streaming platforms are also seeing significant growth, especially among adults ages 18 to 34, who now devote 52 percent of their listening time to podcasts and other streaming services.[9] If the federal government were to design an alerting system from the ground up today, it stands to reason that it would be sure to include the platforms where the majority of the public consumes content. As ATIS observed in its comments, "[t]he wider the variety of systems used to disseminate the alerts, the better the chances of having the largest number of consumers receive the alert in some manner."[10] Accordingly, APCO encourages the Commission to expand the delivery of alert messages to include streaming platforms.[11]

The Commission should fully explore and leverage its jurisdictional authority to ensure that emergency alerts remain effective as media consumption habits evolve. This includes examining new approaches to structuring the alerting framework that focus on the capabilities of

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[7] Nielsen, *Streaming Reaches Historic TV Milestone, Eclipses Combined Broadcast and Cable Viewing for the First Time,* (June 2025), https://www.nielsen.com/news-center/2025/streaming-reaches-historic-tv-milestone-eclipses-combined-broadcast-and-cable-viewing-for-first-time/ (showing that, for the first time, usage of streaming services outpaced broadcast and cable usage combined in May 2025, with 44.8 percent of Americans using streaming services compared to 44.2 percent using broadcast and cable combined).

[8] Pew Research Center, *83% of U.S. adults use streaming services, far fewer subscribe to cable or satellite TV*, (Jul. 1, 2025), https://www.pewresearch.org/short-reads/2025/07/01/83-of-us-adults-use-streaming-services-far-fewer-subscribe-to-cable-or-satellite-tv/ (showing that 83 percent of U.S. adults use streaming services compared to 36 percent saying they subscribe to cable or satellite television).

[9] Nielsen, *The Record: Q4 U.S. Audio Listening Trends*, (Feb. 2025), https://www.nielsen.com/insights/2025/the-record-q4-audio-listening-trends/.

[10] ATIS comments at 13.

[11] Comments in the record similarly support expanding alerting platforms to streaming services. *See* Santa Barbara County Office of Emergency Services Comments at 3; Washington State Emergency Management Division Comments at 12; Oregon Department of Emergency Management Comments at 3; King County Office of Emergency Management Comments at 3.

end-user devices, rather than transmission mediums, to directly receive and present alerts.[12] By enabling alerts to reach consumers regardless of the platform they are using, the Commission can help close gaps in coverage and ensure that vital, time-sensitive information is accessible to the public when it matters most.[13] Such action would be consistent with the Commission's core public safety mandate to "ensure that the public is able to receive critical information regarding impending disasters and other emergencies in a timely fashion."[14]

As an alternative (or in addition) to using its jurisdictional authorities, the Commission could use its convening power to bring together relevant stakeholders, including content providers as well as device manufacturers, to collaborate and determine whether they might develop voluntary processes and protocols for delivering alerts directly to devices and across emerging platforms, including streaming services. Facilitating a dialogue could result in the development of voluntary commitments, technical standards or best practices, or pilot programs, that would represent an important step toward modernizing the alerting ecosystem. Such an effort would create a constructive pathway for ensuring that critical emergency alerts and warnings extend to the platforms where consumers increasingly devote their attention.

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[12] *Alerting Modernization Notice* at para. 19 (seeking 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).

[13] Some commenters raise concerns about the ability to geo-target alerts on mobile devices, such as laptops and tablets, as a reason not to extend alerting to streaming and other platforms. While accurately targeting alerts is critical, potential challenges to achieving it should not prevent the Commission from moving forward with requirements for connected devices to receive and present alerts. Delivering alerts through widely used streaming and connected devices can substantially increase public reach and technical solutions, such as device-based location services or industry best practices, can continue to evolve to enhance geo-targeting. *See, e.g.,* WTA - Advocates for Rural Broadband Comments at 2.

[14] 47 U.S.C. § 151; *Alerting Modernization Notice* at Appendix, para. 2.

b. Multimedia Content

APCO supports Commission action to enable multimedia content in alerts.[15] The ability to include multimedia in WEA messages, such as a photo of a missing child in an AMBER Alert, would yield significant lifesaving benefits. For years, consumers have been able to send high-quality multimedia messages to multiple recipients with near-immediate delivery, but public safety agencies cannot do the same during emergencies. APCO urges the Commission to eliminate these disparities and ensure alert originators have equivalent functionality. As the Commission has previously observed, there is a "robust record" demonstrating alert originators' desire to incorporate multimedia content in WEA messages[16] and that doing so is technically feasible.[17] The record in this proceeding similarly supports alert originators' interest in including multimedia in WEA messages.[18] While some commenters suggest that embedded multimedia content is unnecessary given recent enhancements enabling clickable links in WEA messages, such approaches are not equivalent.[19] Embedded multimedia enables faster access to critical details, reduces the risk of errors or delays associated with broken or slow-loading links, and

[15] *Alerting Modernization Notice* at paras. 10, 17 (seeking comment on incorporating multimedia capabilities into emergency alerts, including supporting video messages as well as static photos and videos).

[16] *Wireless Emergency Alerts, Amendments to Part 11 of the Commission's Rules Regarding the Emergency Alert System*, PS Docket Nos. 15-91, 15-94, Further Notice of Proposed Rulemaking, 38 FCC Rcd 3739, at paras. 21, 22 (rel. Apr. 21, 2023).

[17] *Id*. at para. 22 ("ATIS' *Feasibility Study for WEA Supplemental Text* finds that Participating CMS Providers could support the transmission of an appropriately formatted, thumbnail-sized image using 0.013 megabytes of data.").

[18] *See* New York Division of Homeland Security and Emergency Services at 3 (noting that "[t]he ability to include maps, graphics, or videos would be beneficial"); America's Public Television Stations (APTS), Public Broadcasting Service (PBS) Comments at 19 (noting that "additional information such as graphics, maps with evacuation routes, and videos could enhance alerts and improve understanding of how to stay safe");Washington State Emergency Management Division Comments at 10 (stating that alert systems should support multimedia).

[19] CTIA Comments at 16. ATIS Comments at 8.

reduces milling that can occur when users must navigate away from the link, increasing the likelihood that recipients will take swift protective action during emergencies.

B. The Commission Should Ensure Emergency Alerts are Reliable and Precisely Targeted

a. Alerts Should Be Reliable

Alerts are critical during periods of inclement weather and other hazardous conditions that could also result in service outages, particularly wireless network outages. APCO encourages the Commission to investigate what advances in communications infrastructure may be leveraged to improve the timely and reliable delivery of emergency alerts when there are disruptions in ordinary service, such as when terrestrial networks are down. APCO agrees that "not only is it reasonable to expect that alerts will be successfully delivered to all targeted members of the public during blue-sky conditions, but that alerting systems should also incorporate resilience to common causes of disruption to communications, such as power outages and physical damage to infrastructure."[20]

APCO urges the Commission to consider how additional communications services, including mobile-satellite service and supplemental coverage from space, can be leveraged to ensure alert delivery when traditional wireless networks are down, just as the Commission is doing in other public safety contexts.[21] CTIA observes that "[e]merging direct-to-cell satellite

[20] *Alerting Modernization Notice* at para. 13.

[21] *See, e.g., Single Network Future: Supplemental Coverage from Space*, *Space Innovation*, GN Docket No. 23-65, IB Docket No. 22-271, Report and Order and Further Notice of Proposed Rulemaking, 39 FCC Rcd 2622, (Mar. 14, 2024) (establishing rules to enable supplemental coverage from space to support 9-1-1 call routing when terrestrial wireless service is unavailable); Communications Security, Reliability, and Interoperability Council IX, Working Group Two: Ensuring Consumer Access to 911 on All Available Networks as Technology Evolves (examining how to ensure 9-1-1 calls can be transmitted across various networks and backup options to maintain connectivity and reliability; similar efforts should be undertaken to explore how alerts and warnings might likewise be transmitted over multiple pathways to enhance their resilience); *see also Public Safety and Homeland Security Bureau Seeks Partners to Test Expansion of Coverage for Wireless Emergency Alerts When Cell Sites Are Down, Including Through the Use of Satellite*, PS Docket No. 22-160, Public Notice, DA 23-995 (rel. Oct. 19, 2023) (explaining

technology may also have the potential to serve as an additional alerting pathway."[22] As the Colorado 9-1-1 Authorities explain, "[w]hen emergencies strike, the ability of alerts to reach people in areas with limited infrastructure can be a matter of life and death," and "[c]ommunities with unreliable power, scarce internet, or minimal cellular coverage often have fewer ways to receive timely warnings."[23] Incorporating satellite-based redundancy and other emerging technologies could help close coverage gaps, particularly in rural or disaster-affected areas where terrestrial infrastructure may be non-existent or compromised.

Furthermore, to ensure alerting equipment can reliably deliver emergency messages, the Commission should consider rules requiring EAS and WEA participants to maintain current software and replace outdated equipment in a timely manner. As the Public Safety and Homeland Security Bureau observed in its report analyzing EAS and WEA performance during the 2023 nationwide test, approximately 23 percent of EAS equipment units were either using outdated software or operating equipment that was no longer supported with regular software updates.[24] These gaps pose unnecessary risks to system reliability and could lead to failures in receiving or transmitting critical alerts. Accordingly, the Commission should move forward with recommendations from the Bureau to adopt rules to improve operational readiness of EAS participants and participating CMS providers as well as ensure that EAS participants are

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efforts by the Public Safety and Homeland Security Bureau to assess how to leverage complementary technologies to help fill in wireless coverage gaps for WEA during disasters).

[22] CTIA Comments at 22.

[23] Colorado 9-1-1 Authorities and Public Safety Agencies Comments at 2. The Colorado 9-1-1 Authorities and Public Safety Agencies further elaborate support for leveraging low Earth orbit (LEO) satellite technologies as a complementary alerting pathway, noting that LEO constellations could extend coverage to areas lacking terrestrial infrastructure, for example, delivering alerts to backcountry visitors in Colorado's mountainous regions who may be far beyond cellular range and otherwise unreachable during rapidly evolving hazards such as wildfires or flash floods. *Id.* at 7-8.

[24] Report: October 4, 2023 Nationwide Emergency Alert Test, Public Safety and Homeland Security Bureau, at 14 (June 2024) *available at* https://docs.fcc.gov/public/attachments/DOC-403500A1.pdf.

installing software updates in a timely manner and have plans for replacing equipment that is no longer supported by the manufacturer.[25]

As the Commission looks to the future and seeks to improve overall alerting reliability, it should continue to require support for EAS distribution over the legacy daisy-chain broadcast architecture as a backstop. The national EAS backbone – beginning with FEMA's National Public Warning System (NPWS) stations and continuing through the daisy-chain to local broadcast relays – provides geographically distributed, hardened transmission paths that can reach over 90 percent of the U.S. population and remain operable during disasters. For instance, NPWS stations are equipped with backup communications capabilities and generators to ensure continuous operations. These legacy paths create important physical redundancy and avoid a single point of failure when IP or cellular pathways are degraded.[26] In pursuing modernization efforts, the Commission should build upon – not replace – the proven, resilient systems that have long served as a lifeline to the public when other forms of communication are unavailable.

b. Alerts Should Be Accurately Geo-Targeted

Alert originators expect that alerts will be precisely delivered to the geographic areas they designate. APCO agrees with the Commission that it is "necessary for alerting systems to be capable of delivering alerts to specific populations that are targeted by alert originators, without delivering the alert to populations that are not targeted."[27] As the Commission observes, alert originators are less likely to use alerting systems when geographic targeting is insufficiently

[25] *Id*. at 23.

[26] In its comments, NCTA states that it "recognizes that some EAS Participants may prefer to maintain a broadcast-based transmission path as a backup for added redundancy and does not oppose that approach so long as continued use of the daisy chain is not a prerequisite for compliance with modernized EAS rules." *See* NCTA Comments at 4. APCO notes that a voluntary approach would not ensure needed reliability and redundancy in the event the Internet is not available.

[27] *Alerting Modernization Notice* at para. 14.

accurate.[28] Further, consumers may experience alert fatigue and be more likely to opt out of receiving alerts if they receive alerts that are not relevant to them.

APCO encourages the Commission to monitor and, where necessary, take action to enforce compliance with its existing geo-targeting requirements.[29] APCO particularly urges the Commission to build on past efforts to partner with authorized alert originators to conduct real-world assessments of WEA performance to determine whether messages are reaching only the intended geographic area and whether any shortcomings reflect compliance issues or potential gaps in the Commission's rules.[30] A thorough evaluation of real-world alert performance will provide the Commission and alerting stakeholders with critical information to identify improvements and strengthen confidence in WEA effectiveness. In this way, the Commission might issue additional guidance (such as working with FEMA to develop training for alert originators if warranted) and otherwise develop best practices or strengthen alerting requirements to help ensure that alerts are delivered only to intended recipients. As the Commission evaluates how best to modernize the nation's alerting systems from the ground up, APCO encourages leveraging modern and emerging technologies to improve geo-targeting even further.

Finally, as APCO has previously recommended, the Commission should consider only those devices that fully support all WEA requirements, including enhanced geo-targeting, to be "WEA capable."[31] Allowing devices that support some, but not all, WEA requirements to be

[28] *Id*.

[29] 47 U.S.C § 10.450.

[30] *See, e.g.,* September 2022 WEA Performance Exercise, Public Safety and Homeland Security Bureau (April 24, 2023), *available at* https://docs.fcc.gov/public/attachments/DOC-392829A1.pdf (providing an example of coordinating with multiple public safety stakeholders to conduct a controlled test, gather real-world data, and evaluate alert delivery outcomes).

[31] Comments of APCO International, PS Docket Nos. 15-91, 15-94, at 4 (Jul. 21, 2023) (supporting updating the definition of "WEA-capable mobile devices" to ensure that WEA-capable mobile devices offer all WEA capabilities rather than a subset).

considered "WEA capable" is confusing to consumers and alert originators alike. APCO therefore disagrees with commenters who suggest that the Commission "not require WEA participants to implement all of the features and functionalities that the FCC imposes over time."[32] Alert originators should have a reasonable expectation that if they include an embedded URL in an AMBER alert, for example, that recipients will get this information. Alert originators should not have to guess whether the public will understand and receive the full WEA message they send – such lack of uniformity and clarity will only reduce confidence in WEA across the board.[33] Ultimately, alert originators might decide not to take advantage of recent WEA enhancements (because they must send messages that can be displayed on devices with the fewest features), effectively nullifying the progress the Commission has made over the years to make WEA a more effective alerting tool.

C. The Commission's Goals for Emergency Alerting will be Advanced by Preserving Flexibility for Alert Originators

APCO supports the Commission's proposed goal that alerting systems provide a mechanism for government officials to provide additional authoritative communications with the public before, during, and after an emergency.[34] To support this goal, APCO believes, and the record supports, that all levels of government entities – federal, state, Tribal, territorial, and local – should continue to have alerting capabilities, provided they are authorized alert originators.[35]

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[32] *See* Competitive Carriers Association Comments at 9.

[33] For example, the Santa Barbara County Office of Emergency Management observes that the continued support for the legacy 90-character length WEA message format "is outdated and insufficient for modern public alerting," and "[i]ts continued existence creates inconsistency in public messaging and hampers our ability to clearly convey life-saving information during time-sensitive emergencies." Santa Barbara County Office of Emergency Management Comments at 2.

[34] *Alerting Modernization Notice* at para. 7.

[35] New York State Division of Homeland Security and Emergency Services Comments at 1; ATIS Comments at 5; NOAA/National Weather Service Comments at 1; Santa Barbara County Office of Emergency Management Comments at 1; National Association of Broadcasters Comments at 7; Washington State Emergency Management Division Comments at 3-4. Oregon Department of Emergency Management Comments at 2; King County Office of

APCO agrees with the Commission's observation that "the objectives of alerting systems are best served by all of these types of agencies having the ability to send alerts."[36] APCO further agrees with the New York State Division of Homeland Security and Emergency Services that this approach "advances the objectives of the nation's alerting system by ensuring government agencies with the appropriate authority can rapidly provide the right information to mitigate risks to the public"[37] and with ATIS that "as first responders with real-time knowledge of local threats, local officials are uniquely positioned to provide critical information during emergencies."[38] Because many emergencies often occur at the state and local level, the alerting framework should preserve flexibility for states to determine how best to utilize their resources to tailor alerting structures to the needs of their jurisdictions. For example, one community may rely on a state agency to send alerts, while another might designate a county emergency communications center or local emergency manager, therefore all of these entities should have the ability to serve as alert originators.

At the same time, however, APCO does not support extending alerting authority to non-governmental entities, such as utilities.[39] As the Commission notes, government entities have a unique role in protecting public safety,[40] and this role extends credibility and authority to any emergency alerts they issue.[41] This is particularly important now, when people already experience significant levels of alert fatigue. That alerts come only from trusted authorities is

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Emergency Management Comments at 2; Snohomish County Department of Emergency Management Comments at 2.

[36] *Alerting Modernization Notice* at para. 8.

[37] New York State Division of Homeland Security and Emergency Services Comments at 1.

[38] ATIS Comments at 9.

[39] *Alerting Modernization Notice* at para. 11.

[40] *Id*.

[41] *See* ATIS Comments at 10 (recommending limiting alerts to government agencies); CTIA Comments at 12-13 (urging the Commission to be cautious in enabling alerting by non-government entities).

even more necessary in light of the increasing number of news sources that provide competing (and, at times, inconsistent) information. APCO agrees with CTIA that "alerting by non-government entities could raise challenges related to oversight and public concerns regarding the neutrality and credibility of the entity."[42] Further, utilities like water and gas have other means of reaching affected customers, who subscribe to their services, than leveraging the nation's alert and warning systems. Ensuring that emergency alerts are targeted, relevant, and sent only by trusted government officials is especially critical should the Commission expand their reach, such as enabling the delivery of emergency alerts over streaming services. The effectiveness of emergency alerts in prompting swift protective action hinges on public attention and engagement – which could be undermined if emergency alerts are overused.

Finally, APCO supports the Commission's view that alerting systems should facilitate the transmission of key elements of WEA messages, including the type of hazard, the geographic area affected, a recommended protective action, the expiration time of the alert, and the identity of the sending agency.[43] Consistency across alerting messages is essential both for public trust and understanding and for ease of use by alert originators.

III. CONCLUSION

APCO appreciates the Commission's ongoing efforts to strengthen EAS and WEA and encourages continued action to ensure alerts are timely, accurate, actionable, and meet the evolving needs of alert originators and the public they serve. APCO looks forward to working with the Commission to further modernize and advance the nation's alerting systems, embrace

[42] CTIA comments at 12-13.

[43] *Alerting Modernization Notice* at para. 16.

innovative technologies and frameworks, and ensure emergency alerts remain trusted, effective tools for protecting life and property in an ever-evolving communications landscape.

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