Mobile EAS Coalition
Statement For The Record

Senate Committee on Commerce, Science, and Transportation's Subcommittee on Communications, Technology, and the Internet

Hearing On
"Preserving Public Safety and Network Reliability in the IP Transition," June 5, 2014

The Subcommittee on Communications, Technology and the Internet's hearing on June 5, 2014 raised many issues relative to emergency communications and the need to ensure that public safety remains paramount during any transition to IP technology. As the Members of the Subcommittee noted, citizen access to networks and life-saving information during emergencies must be guaranteed.

While many existing networks and alert mechanisms were discussed during the hearing, additional measures and a more holistic and integrated approach to improving notifications during times of emergencies must be embraced. Particularly as our communications become increasingly mobile, we urge the Subcommittee and other policymakers to consider the importance of mobile television in providing robust, data-rich, and reliable information to citizens.

Mobile EAS: Available Now Without Additional Spectrum

Mobile Emergency Alerting System (Mobile EAS or M-EAS) is a next-generation, dual-use, public alert and warning system for a mobile, 21st Century America. It utilizes the backbone of the nation's existing television broadcasting infrastructure and the powerful new technology of Mobile DTV. By using terrestrial broadcasting, M-EAS delivers rich media content to an unlimited number of mobile phones or other devices without overloading the cellular network. It thus ensures high reliability and the mass, instantaneous distribution of life-saving information, which is especially crucial in emergency events when cellular networks may be unavailable.

M-EAS is built to the Common Alerting Protocol (CAP) and is designed for seamless incorporation into the U.S. Integrated Public Alert and Warning System (IPAWS) established after September 11, 2001. M-EAS technology was developed through a collaboration of LG Electronics and its Zenith R&D Lab, PBS, Harris Broadcast (recently renamed GatesAir), Triveni Digital, and Monroe Electronics. Other companies, including, RoundBox, Expway, Elgato, and Siano Silicon, also have contributed to its development, as have NAB Labs, the Corporation for Public Broadcasting, Fisher Media (now Sinclair), Capitol Broadcasting Company, Inc. and other commercial and public broadcasters.

M-EAS was successfully tested by public and commercial television stations in different regions of the country. WRAL (owned by Capitol Broadcasting Company, Raleigh, NC) was the first station to move to actual M-EAS deployment and has a memorandum of agreement in place with the Federal Emergency Management Agency (FEMA) to receive and distribute IPAWS alerts. The Advanced Television Systems Committee adopted Mobile EAS, field-tested and proven, as an open industry standard in March 2013. Several other stations are deploying elements of M-EAS in West Palm Beach and Orlando, Florida, for the current hurricane season.

Lifeline to the Public Even When Cellular Is Disrupted or Jammed

M-EAS—using existing spectrum and commercial off-the-shelf technology—is highly complementary to, but not dependent upon, the cellular network before, during, and after disasters. M-EAS presents a rare opportunity to dramatically improve America's public safety communications capability, requires no additional spectrum, and can be deployed through marginal investments in existing and planned infrastructures. It leverages the one-to-many architecture of broadcasting to overcome the chronic congestion of other networks.

Utilizing the backbone of the nation's existing television broadcasting transmission capacity and the new technology of Mobile DTV, M-EAS delivers rich media content to an unlimited number of mobile phones or other television receiving devices. M-EAS alerts are carried seamlessly by the Mobile DTV (MDTV) service from the nation's broadcasters. More than 150 U.S. television stations already are broadcasting MDTV signals. MDTV requires no additional spectrum, but does require special encoding equipment at television stations, as well as MDTV receivers in mobile phones, tablets and other hand-held TVs. As more broadcasters nationwide deploy MDTV along with their regular broadcast services, M-EAS capability can be included at a relatively small incremental investment.

With an M-EAS alert, users are given the option to select specific and timely rich-media information pertaining specifically to that alert. This rich-media information could include video, radar images and evacuation maps; local news and weather coverage; text, photographic, or pictorial instructions in a given emergency; and shelter location information and more. All of these additional information assets are

sent as packetized files via the broadcast signal, a one-to-many application that is not susceptible to overload.

Because it transmits multi-media content, M-EAS also provides accessibility for people with disabilities. It can deliver information through audio, video, images, vibrations, text, text-to-speech, and simultaneous translation. The alert can also "wake up" devices from standby mode whether or not it's being used for mobile TV viewing.

Hardened Infrastructure Makes M-EAS Non-Grid-Dependent

As the Public Telephone Switched Network (PTSN) is decommissioned, members of the Subcommittee expressed concern, rightly, about the vulnerability of all-IP systems to power interruptions at both cell towers and end-user locations. Because of the resiliency of broadcasting facilities when the grid is down, M-EAS can provide amelioration in this area as well.

Under "best practices" recommended by the Commission's Media Security and Reliability Councils I & II after the 9/11 attacks of 2001, most all broadcast facilities have back-up power with large reserves of fuel for generators. Additionally, the Warning, Alert and Response Network (WARN) Act of 2006 provided funding to noncommercial television licensees to, in part, install or upgrade back-up power, and those stations are now completing their backup power projects. This funding, from 2008 spectrum auction revenue, significantly added to the number of stations in a given market that are able to ride out electric power disruptions.

For these and other reasons (and unlike many cell towers), nearly all television broadcast transmitters stayed on the air before, during and after Superstorm Sandy, regardless of whether their transmitters continued to receive power from the grid.[1] As M-EAS utilizes the broadcast infrastructure, it reaps the benefits of this "hardened" system. Because cellphone and tablet batteries can be recharged from cars and other resources, M-EAS can be classified as "non-grid-dependent" from transmission to reception. This offers flexibility and resilience in emergency communications that other alerting avenues are unable to provide

Emergency Communications for the Public and First Responders

Very importantly, M-EAS can also deliver rich media content specifically to first responders in the field. Surveillance video, photos of suspects, plume models or medical treatment protocols, for example, can be delivered to field units without encumbering public safety networks needed for two-way communication. In this way, M-EAS can provide a secure overlay network that can preserve and extend the capabilities of the planned FirstNet and existing first responder communications systems.

[1] *NYC TV Broadcasters Stay On-Air During Sandy,* TV Technology, November 11, 2012

Future-Proofed for Next-Generation Broadcast Technologies

Consensus is building among leading U.S. broadcasters for the next-generation TV broadcasting standard known as ATSC 3.0, and mobile TV will be a centerpiece. In addition to other services such as 4K Ultra HD, *advance*d emergency alerting is planned to be an important component of the new standard as well. In fact, the Advanced Television Systems Committee (the international body conducting the standard-setting process for next-generation TV) already has established basic system requirements that will leverage the already-available M-EAS standard, workflows and architecture for advanced EAS in the new broadcast system.

In addition to its mobile applications, ATSC 3.0 can significantly enhance the nation's legacy Emergency Alert System (EAS), which traces its roots to the earliest stages of the Cold War. In combination with NG9-1-1 and other services provided by wireless carriers, cable and satellite providers, radio broadcasters, and federal, state, and local public safety agencies, broadcasters' provision of ATSC 3.0 can play a major role in realizing the national aspiration for a robust, modern, emergency communications system for the mobile, connected America of the 21st Century.

Specifically, ATSC 3.0 alerting has the potential to become a backbone of the IPAWS interoperable "network of networks." In the years ahead, because of ATSC 3.0, broadcast television will reach millions of viewers on tablets and smartphones as well as living room TV sets. Today's proven Mobile EAS technology can be the foundation for a new era for public alerting to a wide range of fixed and mobile consumer devices.

We Urge the Subcommittee to Examine Holistic Solutions for Emergency Communications

As the discussion about public safety and the IP transition of the carriers from the current PTSN to a hybrid fiber/fixed-wireless moves forward, we urge active consideration of a holistic approach that includes Mobile TV (including M-EAS) as available now, as well as what broadcasters envision for the emerging ATSC 3.0 standard. M-EAS and its evolution into ATSC 3.0 cannot solve all of the public safety requirements of the all-IP telecom systems of the future, but it can provide a reliable, secure pathway for citizens anywhere to access critical information when they need it most.

For a general overview, please visit www.MobileEAS.org.

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