

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

In the Matters of

Amendment of Part 11 of the Commission’s	)	PS Docket No. 15-94
Rules Regarding the Emergency Alert	)	
System, and	)	
Wireless Emergency Alerts	)	PS Docket No. 15-91
	)	

**COMMENTS OF CONVERGENCE SERVICES, INC.**

As a consulting firm with considerable experience in the development of alternative digital television-based alerting systems, we applaud the Commission for this *Notice of Proposed Rulemaking* (“*Notice*”). We are confining our comments to questions raised in the section “Securing the EAS Architecture.” The views expressed are solely those of Convergence Services, Inc. and its president John M. Lawson.<sup>i</sup>

In the *Notice*, the Commission poses questions about technologies and other measures to secure the architecture of the Emergency Alert System (EAS) as it moves beyond the physical route security of the legacy “daisy-chain” architecture to IP-based systems, such as the Integrated Public Alert and Warning System (IPAWS). The *Notice* asks, “What methods of securing the EAS would best maintain at least an equivalent level of redundancy and security as the legacy daisy chain presently provides?”<sup>1</sup>

Fortuitously, a significant new dual use opportunity is in development, with initial

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<sup>1</sup> See Notice of Proposed Rulemaking: In the Matters of Amendment of Part 11 of the Commission’s Rules Regarding the Emergency Alert System PS Docket No. 15-94; Wireless Emergency Alerts PS Docket No. 15-91 at ¶ 173

funding from Congress, that could provide a highly reliable diversity pathway for future EAS alerts. The current system that “interconnects” the Public Broadcasting Service (PBS) and other content distributors to local public television stations is scheduled for replacement as satellite transponder leases are set to expire and terrestrial technology approaches the end of its useful life. In the FY2016 Omnibus Appropriations Bill, Congress provided \$40 million in funding to the Corporation for Public Broadcasting (CPB) toward a projected multi-year cost of \$200 million for the planned system.<sup>2</sup>

PBS, on May 17, announced the start of a pre-qualification phase that will precede a formal Request for Proposal process for public television’s next interconnection system. The pre-qualification process for companies interested in the project is being managed by Deloitte. In a public release, PBS stated:

*The key elements of the new interconnection platform will include broadband connectivity, content storage, products and services related to content distribution and metadata, as well as service integration. The upgraded infrastructure must be able to support more than 100 sites with both local and joint master control, and make use of cloud technology.*<sup>3</sup>

At the same time, the *Notice* asks a series of questions about ensuring EAS system security, including (in part), “Given the importance of physical security in maintaining the integrity of the EAS system, what additional measures may be necessary to ensure access to EAS devices and the IP network that feeds them are protected from malicious damage or compromise? What additional levels of redundant paths, equipment, power, and other services should be required to ensure operation? Should we maintain a secondary broadcast EAS system

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<sup>2</sup> “PBS Interconnect Moves Forward Amid Technological Change, Political Turmoil,” *Current*, May 12, 2016

<sup>3</sup> See “PBS Opens Request for Prequalification Process for Public Television’s Interconnection System,” PBS press release, May 17, 2016

based on legacy EAS in addition to and separate from the IPAWS-OPEN-based system?”<sup>4</sup>

There is a strong possibility that the PBS next-generation interconnection system could play a significant role in providing a diverse pathway to ensure EAS operation. The system will be national in scope, it will interconnect terrestrial stations that are EAS Participants today, and with 100% federal funding, it has a clear public service mission. PBS already plays a role in emergency alerting by providing a backup pathway for distributing Wireless Emergency Alerts from FEMA’s IPAWS-OPEN to local wireless carriers. Established under the Warning and Response Network Act of 2006, the PBS WARN system “provides a diverse, redundant path between FEMA and cellular service providers. Using one-to-many satellite distribution and terrestrial broadcast, PBS WARN reaches cellular carriers over-the-air.”<sup>5</sup>

In addition to being EAS Participants today, local public television stations served by the PBS interconnection system are poised for an even greater role in alerting at the local level in the future. Advanced Emergency Alerting is a core capability of “Next Generation Television,” also known as “ATSC 3.0.” Public and commercial television stations alike will be positioned to leverage this powerful capability, as described in the recent *Joint Petition* that is the subject of a *Public Notice* from the Commission<sup>6</sup> and in comments filed by the AWARN Alliance to this *Notice*.<sup>7</sup> PBS stations connected to the PBS interconnection system can be a backbone for a new end-to-end EAS pathway to complement and provide diversity for the current EAS architecture.

Importantly, the next-generation PBS interconnection system will have diverse pathways

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<sup>4</sup> See Notice at ¶174

<sup>5</sup> For a description of PBS WARN, see <http://www.pbs.org/about/contact-information/warn/>

<sup>6</sup> See Media Bureau Seeks Comment on Joint Petition for Rulemaking of America’s Public Television Stations, The AWARN Alliance, The Consumer Technology Association, and The National Association of Broadcasters Seeking to Authorize Permissive Use of the “Next Generation

<sup>7</sup> See *Comments of the AWARN Alliance*, re the Advanced Warning and Response Network

within the same system. In its due diligence for the interconnection funding request to Congress, CPB contracted with the firm Cognizant Technology Solutions to review various options, including initial planning from PBS and a solution based on the the currently operational Public Media Management system from WBGH and Sony.<sup>8</sup> In a published report, Cognizant, after studying the alternatives, arrived at the following conclusion:

*It is Cognizant's primary recommendation that public television adopt a single interconnection system that is cloud-based, using enterprise class internet service to deliver non-real time (NRT) content, which is over 80% of the content delivered today. The system will have a satellite overlay for live and near-live content, and a private fiber network for stations that currently uplink national content. The new interconnection system should remain under the leadership, management and governance of PBS...<sup>9</sup>*

Synergistically, the *Notice* observed that during the 2011 national EAS test, many EAS Participants utilized the satellite-based National Public Radio (NPR) News Advisory Channel (Squawk Channel) to receive the Presidential Alert, as opposed to their regular monitoring assignment in the daisy chain.<sup>10</sup> So, not only could the enterprise class Internet service in the PBS interconnection system provide a redundant pathway for IPAWS distribution, but the proposed satellite link of the same system could build upon the pioneering work of NPR and provide even more diversity. Because of its mission, the PBS interconnection system likely will have greater bandwidth than public radio's to carry the rich-media content of future alerts.<sup>11</sup>

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<sup>8</sup> "WGBH and Sony Partner on Cloud Workflow: Pilot project could expand nationwide," *TV Technology*, May 7, 2015

<sup>9</sup> See "Consultant's Report Favors Cloud-Based System for New Public TV Interconnection," *Current*, January 11, 2016, with link to "Interconnection for Public Television: The Way Forward," Cognizant Technology Solutions, December 2015

<sup>10</sup> See Note 1 at ¶35

<sup>11</sup> Such content could include video, radar images and evacuation maps; text, photographic, or pictorial instructions; inundation maps; plume models for chemical or radiological releases; and shelter locations, treatment protocols, and other recovery information.

