

IPAWS Strategic Outreach Plan

2016 - 2018



FEMA

MESSAGE FROM THE DIRECTOR

I am pleased to present the “Integrated Public Alert and Warning System (IPAWS) 2016-2018 Strategic Outreach Plan.” This is the IPAWS Program Management Office’s (PMO) road map to increase the awareness and understanding of IPAWS, promote adoption and usage of IPAWS, strengthen existing partner relations, and develop new partnerships and interests.

Our mission requires the energy, effort, and expertise of numerous individuals and organizations that have vested interests in public alert and warning. It is imperative that our public and private sector partners are informed, fully engaged, and committed to advancing alert and warning capabilities across the nation. Implementing IPAWS is a collaborative effort requiring the right resources – people, skills, and technologies – to ensure the end result is an integrated and interoperable system allowing our nation’s leaders to alert and warn the American people of impending danger.

Success in this endeavor depends on a strong network of relationships between the IPAWS PMO and all of our partners. Each partner plays a critical role in achieving the mission, goals, and objectives that are laid out in this plan. The IPAWS PMO is dedicated to fostering, maintaining, and creating enduring relationships to ensure that together we can achieve our shared mission and best serve the nation.

The American public is the foundation of all of our partnerships and the primary reason we work to create an effective, reliable, integrated, flexible, and comprehensive public alert and warning system. In times of crisis, the American public demonstrates resilience. Therefore, it is essential that the American public has timely information to allow them to take the necessary actions to ensure their safety and minimize damage to property.



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1.0 EXECUTIVE SUMMARY

The “Integrated Public Alert and Warning System (IPAWS) 2016-2018 Strategic Outreach Plan” details the strategic outreach goals and objectives for the IPAWS Program Management Office (PMO). The IPAWS PMO engages in efforts and activities that are designed to assist all IPAWS partners with the adoption, use, and incorporation of IPAWS into their governance structures, strategies, policies, business models, and standard operating procedures. The IPAWS PMO, in partnership with alerting authorities, public and private sector partners, Federal, non-profit and advocacy organizations, will use every opportunity and available venue to strengthen the nation’s alert and warning capabilities. This will help to ensure all segments of the American public understand the functions of IPAWS and how to respond to alerts and warnings from public safety officials. The IPAWS PMO’s 2016-2018 strategic outreach goals include:

- Increase the awareness and understanding of IPAWS by all partners and the American public
- Increase the adoption and use of IPAWS by all partners
- Strengthen existing partner relationships and develop new partnerships and interests

The strategic goals of IPAWS cannot be realized without support and engagement from all partners involved in public alerts and warnings. Consequently, strategic communications, outreach activities, and partner engagements must be targeted and effective for IPAWS to continue to mature into the capability envisioned by Executive Order (EO) 13407. The IPAWS PMO remains committed to and actively engaged with partners, as we strive to achieve the IPAWS goals and objectives, ensuring that timely alerts and warnings are delivered to the American public to allow them to take the necessary actions to ensure their safety and minimize damage to property.

2.0 INTRODUCTION

IPAWS facilitates timely and reliable delivery of alert and warning information over multiple communication channels, and provides authorized alerting authorities with the capability to modernize and integrate their existing alert and warning systems with the national alert and warning infrastructure. To fulfill EO 13407, IPAWS incorporates existing and future technologies in order to provide public safety officials at all levels of government with a broad range of emergency message options and communication pathways to effectively reach the American public.

Promoting IPAWS capabilities and expanding the IPAWS PMO’s outreach efforts to existing and new partners will tremendously benefit the American public by ensuring the whole community understands the functions of IPAWS and how to respond to alerts and warnings from public safety officials. It is important to understand the benefits of IPAWS which include:

- Increased impact of public alerts and warnings
- Information sharing capabilities via Collaborative Operating Groups (COG-to-COG)
- Situational awareness
- Ability to incorporate new technologies
- Most resilient, redundant, secure, and accessible form of public alert and warning

- One input, multiple outputs allowing public safety officials to reach the American people through numerous communication pathways including: radio and television stations via the Emergency Alert System (EAS), cellular phones via Wireless Emergency Alerts (WEA), National Oceanic and Atmospheric Administration’s (NOAA) All-Hazards National Weather Radio (NWR) via the IPAWS-NOAA gateway, as well as internet applications and websites via the IPAWS All-Hazards Information Feed
- Free and non-subscription based
- Geo-targeted alerts from local, state, tribal, and territorial officials during emergencies
- Standardized messaging format and the ability to develop content that can be used by individuals with disabilities and others with access and functional needs to receive emergency alerts
- Rich content (multimedia)
- The only system offering the creation and transmission of WEA messages to enhance public safety
- Interactive data exchange with the Canadian Multi-Agency Situation Awareness System (MASAS)

The “IPAWS 2016-2018 Strategic Outreach Plan” establishes a strategy and framework for achieving the directives set forth in EO 13407. The plan establishes a methodology and approach for identifying mediums and opportunities to reach key audiences from all partner groups, continually gauging results, and when needed, tailoring the IPAWS message for improved communication.

3.0 UNITED STATES POLICY ON PUBLIC ALERTS AND WARNINGS

“It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people in situations of war, terrorist attack, natural disaster, or other hazards to public safety and well-being (public alert and warning system), taking appropriate account of the functions, capabilities, and needs of the private sector and of all levels of government in our Federal system, and to ensure that under all conditions the President can communicate with the American people.”¹

EO 13407 “Public Alert and Warning System”, signed by President Bush on June 26, 2006, is the principle authority for the IPAWS PMO. Under EO 13407, the IPAWS PMO has clear directives to:

- Consult, coordinate, and cooperate with the private sector, including communications media organizations, and Federal, State, territorial, tribal, and local governmental authorities, including emergency response providers;
- Ensure the conduct of public education efforts so that State, territorial, tribal, and local governments, the private sector, and the American people understand the functions of

¹ Executive Order 13407 “Public Alert and Warning System”, June 26, 2006

the public alert and warning system and how to access, use, and respond to information from the public alert and warning system;

- Ensure the conduct of training, tests, and exercises for the public alert and warning system.²

Other documents providing guidance for the IPAWS PMO include:

- The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Section 611(d) and (e), 42 USC. 5196(d) and (e), November 23, 1988
- Presidential Memorandum, “Emergency Alert System Statement of Requirements”, September 15, 1995
- The Federal Response to Hurricane Katrina: Lessons Learned, February 23, 2006
- Warning, Alert, and Response Network (WARN) Act, October 13, 2006
- National Security Presidential Directive- 51(NSPD-51)/Homeland Security Presidential Directive-20 (HSPD-20), “National Continuity Policy”, May 9, 2007
- National Incident Management System, December 2008
- Government Accountability Office (GAO) Report, Emergency Preparedness: Improved Planning and Coordination Necessary for Development of Integrated Public Alert and Warning System, GAO-09-1044-T, September 2009
- Presidential Policy Directive (PPD) 8: National Preparedness, March 30, 2011
- National Disaster Recovery Framework, “Strengthening Disaster Recovery for the Nation”, September 2011
- National Infrastructure Protection Plan (NIPP) “Partnering for Critical Infrastructure Security and Resilience”, February 2013
- Presidential Policy Directive/PPD-21 “Critical Infrastructure Security and Resilience”, February 12, 2013
- Executive Order “Improving Critical Infrastructure Cybersecurity”, February 12, 2013
- GAO Report, Emergency Alerting: Capabilities Have Improved, but Additional Guidance and Testing Are Needed, GAO-13-375, March 2013
- National Mitigation Framework, May 2013
- National Prevention Framework, May 2013
- National Response Framework, Second Edition, May 2013
- National Preparedness Report, March 30, 2014

The IPAWS PMO will continue to establish and execute communication and partner engagement strategies to effectively accomplish the strategic goals and objectives identified in the Strategic Outreach Plan. The IPAWS PMO will meet EO 13407 directives, implement recommendations from GAO reports, adhere to legislative directives, and incorporate IPAWS into the Communications Sector and the Critical Infrastructure and Key Resources (CIKR) community.

² Presidential Executive Order 13407, Sec 2(a)(vi-viii); June 26, 2006

3.1 GOVERNMENT ACCOUNTABILITY OFFICE (GAO) REPORTS

In the 2009 General Accountability Office (GAO) report, “Improved Planning and Coordination Necessary for Modernization and Integration of Public Alert and Warning System”³, the GAO recommended “increased coordination and consultation with partners.”⁴ The IPAWS PMO enthusiastically accepted the challenge as evidenced by its “Integrated Public Alert and Warning System (IPAWS) Strategic Plan: Fiscal Year 2014-2018” and the “Integrated Public Alert and Warning System (IPAWS) Strategic Outreach Plan: 2016-2018” [hereafter referred to as the Strategic Outreach Plan]. These strategic programmatic plans replace the “Integrated Public Alert and Warning System (IPAWS) Program – June 2010” and strategic outreach plans for 2010, 2011, 2012, and 2013-2014.

In March of 2013, the GAO released a second report on IPAWS, “Emergency Alerting: Capabilities Have Improved, but Additional Guidance and Testing Are Needed.” The recommendations contained therein will be addressed by the IPAWS PMO and outreach initiatives. The GAO’s recommendations for executive action include:

“To ensure that IPAWS is fully functional and capable of distributing alerts through multiple pathways as intended, we recommend that the Secretary of Homeland Security direct the Administrator of FEMA to take the following four actions:

- In conjunction with FCC, establish guidance (e.g., procedures, best practices) that will assist participating State and local alerting authorities to fully implement and test IPAWS components and ensure integration and interoperability.
- In conjunction with FCC and NOAA, conduct coordinated outreach to educate the American public on IPAWS capabilities, especially CMAS.
- Develop a plan to disseminate a national-level alert via IPAWS to increase redundancy and communicate presidential alerts through multiple pathways.
- In conjunction with FCC, develop and implement a strategy for regularly testing the national-level EAS, including examining the need for a national test code, developing milestones and time frames, improving data collection efforts, and reporting on after-action plants.

To ensure that CMAS is effectively used and that the EAS relay distribution network is capable of reliably communicating national-level alerts, we recommend that the Chairman of FCC, in conjunction with FEMA, take the following two actions:

- Review and update rules governing CMAS, including those related to geo-targeting, character limitations, and testing procedures.
- Provide states with additional guidance (e.g., templates of EAS plan) to facilitate completion of updated state EAS plans that include IPAWS-compatible equipment.”⁵

³ GAO, Emergency Preparedness: Improved Planning and Coordination Necessary for Development of Integrated Public Alert and Warning System, GAO-09-1044-T.

⁴ Ibid.

⁵ GAO, Emergency Alerting: Capabilities Have Improved, but Additional Guidance and Testing Are Needed, GAO-13-375.

4.0 STRATEGIC OUTREACH GOALS

The IPAWS PMO continues to support three primary strategic outreach goals. These goals and objectives are designed to guide a focused prioritization of efforts and activities that are intended to support all partners as they incorporate IPAWS into governance structures, strategies and policies, business models, standard operating procedures, and in educating the American public about IPAWS' capabilities, and what they need to do when they receive an emergency alert or warning.

The 2016-2018 IPAWS PMO strategic outreach goals and objectives include:

Outreach Goal 1: Increase the awareness and understanding of IPAWS by all partners and the American people

Objective 1.1: Ensure the American people understand the functions of IPAWS and how to respond to alerts and warnings from public safety officials

Objective 1.2: Build understanding and communicate the value of IPAWS to all partners

Objective 1.3: Facilitate the development of strong, collaborative private/public partnerships within the alerting community

Outreach Goal 2: Increase the adoption and use of IPAWS by all partners

Objective 2.1 Empower all partners to adopt and use IPAWS

Objective 2.2 Develop and promote resources designed to encourage, assist, and enable partners to incorporate IPAWS into governance structures, strategies and policies, business models, and standard operating procedures

Objective 2.3: Ensure the American people are directly covered by an IPAWS State, territorial, tribal, or local public alerting authority

Outreach Goal 3: Strengthen existing partner relationships and develop new partnerships and interests

Objective 3.1: Identify and pursue new avenues for IPAWS implementation

Objective 3.2: Standardize and expand the discipline of public alerts and warnings through cooperation with Federal partners, State and local alerting authorities, the private sector, advocacy and non-profit organizations, and the American people

Objective 3.3: Incorporate IPAWS into the nation's critical infrastructure protection policies and programs

4.1 INCREASE THE AWARENESS AND UNDERSTANDING OF IPAWS BY ALL PARTNERS AND THE AMERICAN PEOPLE

To ensure the American people understand the functions of IPAWS and how to respond to alerts and warnings from public safety officials, the IPAWS PMO works with partners through numerous communication mediums, to engage and educate the American people. Efforts include releasing Public Service Announcements (PSAs) on radio and TV, a 15-minute online course "IPAWS and the American People," and incorporating IPAWS and Wireless Emergency Alerts (WEA) information on Ready.gov. The IPAWS PMO continuously collaborates with

Federal partners, State and local alerting authorities, non-profit and advocacy organizations, the public and private sector, and the media, to accelerate efforts to reach the American people.

The IPAWS PMO facilitates the development of strong, collaborative private/public partnerships by executing tactical engagements involving multiple partner groups; engagements include, but are not limited to: webinars, roundtables, panel sessions, and interactive technical demonstrations. These engagements build consensus, highlight the interdependencies between partners, and emphasize that IPAWS is beneficial across the entire spectrum of the alerting community and to the American people. It is in the best interest of both the private and public sector to achieve the IPAWS goals and objectives, ensuring that timely alerts and warnings are delivered to citizens to allow them to take the necessary actions to ensure their safety and minimize damage to property.

4.2 INCREASE THE ADOPTION AND USE OF IPAWS BY ALL PARTNERS

The IPAWS PMO continually strives to promote broad adoption and use of IPAWS by all partners and is working to ensure the American people are directly covered by an IPAWS public alerting authority. The IPAWS PMO works closely with partners and provides them with the information and authorization they need to adopt and use IPAWS and serves as a resource on all aspects of public alerts and warnings.

The IPAWS PMO selects and participates in the most impactful state emergency management agency, private sector, and non-profit and advocacy conferences and events. The IPAWS PMO leverages these opportunities to clearly and frequently communicate with partners, invite partners to participate in IPAWS related activities, strengthen relationships with public and private sector partners, and collaborate with partners to find solutions to challenges in public alert and warning.

Additionally, the IPAWS PMO conducts frequent demonstrations of IPAWS' proof of concept end-to-end operations, including alert origination, alert aggregation using the IPAWS Open Platform for Emergency Networks (IPAWS-OPEN), and alert dissemination technologies for partners. During these demonstrations, IPAWS collaborates with numerous public and private sector partners to increase the impact and scope of the demonstrations.

4.3 STRENGTHEN EXISTING PARTNER RELATIONSHIPS AND DEVELOP NEW PARTNERSHIPS AND INTERESTS

Identifying and pursuing new avenues for IPAWS implementation involves the IPAWS PMO working with: the nuclear, chemical, and radiological community; organizations representing children, older Americans, and people with limited English proficiency; the Centers for Disease Control and Prevention (CDC); the Department of Defense (DOD), universities, et al. Promoting

IPAWS capabilities and expanding the IPAWS PMO's outreach efforts to existing and new partners will tremendously benefit the American people.

Standardizing and expanding the discipline of public alerts and warnings through cooperation with Federal partners, State and local alerting authorities, the private sector, advocacy and non-profit organizations, and the American people, involves promoting best practices, updating emergency communication plans, and developing consistent alerting codes and symbology for alerts and warnings, among other important activities.

Incorporating IPAWS into the nation's critical infrastructure protection plans, policies, and programs necessitates that the IPAWS PMO work with Federal partners to advance the goals of: the National Infrastructure Protection Plan (NIPP)⁶, specifically within the Communications and Emergency Services sectors; the National Response Framework (NRF)⁷; the National Incident Management System (NIMS)⁸ training program; and the National Protection and Programs Directorate/Office of Infrastructure Protection's (NPPD/OIP) Infrastructure Information Collection Division (IICD).⁹

5.0 IPAWS PARTNERS

The full potential of IPAWS cannot be realized without the many partners involved in public alerts and warnings. The IPAWS PMO conducts outreach to all partner groups in order to: (1) detail what the partner needs to know about IPAWS and how IPAWS affects and benefits them; (2) openly and collegially discuss program benefits, limitations, and solutions for emerging

⁶ The National Infrastructure Protection Plan (NIPP) "provides a unifying framework that integrates a range of efforts designed to enhance the safety of our nation's critical infrastructure. The overarching goal of the NIPP is to build a safer, more secure, and more resilient America by preventing, deterring, neutralizing, or mitigating the effects of a terrorist attack or natural disaster, and to strengthen national preparedness, response, and recovery in the event of an emergency." <http://www.dhs.gov/national-infrastructure-protection-plan>

⁷ The National Response Framework "presents the guiding principles that enable all response partners to prepare for and provide a unified national response to disasters and emergencies - from the smallest incident to the largest catastrophe. The *Framework* establishes a comprehensive, national, all-hazards approach to domestic incident response." <http://www.fema.gov/national-preparedness/national-response-framework>

⁸ The National Incident Management System (NIMS) "identifies concepts and principles that answer how to manage emergencies from preparedness to recovery regardless of their cause, size, location or complexity. NIMS provides a consistent, nationwide approach and vocabulary for multiple agencies or jurisdictions to work together to build, sustain and deliver the core capabilities needed to achieve a secure and resilient nation." <http://www.fema.gov/national-preparedness/national-incident-management-system>

⁹ IICD, in collaboration with [Homeland Infrastructure Threat and Risk Analysis Center \(HITRAC\)](#), manages the National Critical Infrastructure Prioritization Program's (NCIPP) Data Call process. The NCIPP Data Call is the primary method used by the Department to collect, identify, and prioritize critical infrastructure information from states, the 18 critical infrastructure sectors, and other homeland security partners across the nation. The NCIP Data Call uses an enhanced Infrastructure Data Collection Application, which provides the ability to input data throughout the year. <http://www.dhs.gov/about-infrastructure-information-collection-division>

technologies; (3) create opportunities to solicit authentic feedback; and (4) provide partners with opportunities, training, guidance, and tools to enable them to collaborate with and participate in IPAWS, for the purpose of accomplishing our shared goal of creating “an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people.”¹⁰

Outreach activities, strategic communications, and partner engagement become increasingly targeted and robust as IPAWS matures and achieves important milestones. The IPAWS PMO remains focused on collaborating and engaging with partner groups, ensuring specific educational and messaging requirements are achieved, to ensure all segments of the American population understand the functions of IPAWS, and how to appropriately respond to alerts and warnings from public safety officials.

The American People			
FEDERAL GOVERNANCE	ALERTING AUTHORITIES	PRIVATE SECTOR INDUSTRY	NON-PROFIT AND ADVOCACY
Executive	Local	Alert Origination Service Providers	Intergovernmental Organizations
	State	Wireless Emergency Alerts (WEA)	Access and Functional Needs
Legislative	Territorial	Emergency Alert System (EAS)	Older Americans
	Tribal	National Weather Service	Children
	Federal	Internet	Charities and Health
		Existing Systems	Limited English Proficiency
		Future Systems	

Figure 1 – IPAWS Partner Groups

Figure 1 illustrates how the IPAWS 2016-2018 Strategic Outreach Plan organizes the IPAWS PMO’s partners into groups based on: (1) commonality of roles and responsibilities in public alerts and warnings; and (2) the types of activities the IPAWS PMO uses to uniquely engage each partner group.

¹⁰ Executive Order 13407, Sec 1

5.1 THE AMERICAN PUBLIC

Ultimately, it is the American public who benefit most from IPAWS. The American public is the foundation of all partner groups, and the primary reason the IPAWS PMO works to create an effective, reliable, integrated, flexible, and comprehensive public alert and warning system. The IPAWS PMO, in partnership with state and local alerting authorities, public and private sector partners, Federal partners, and non-profit and advocacy organizations, remains dedicated to using every opportunity and available venue to provide educational and actionable information to the American public. Moving forward, the IPAWS PMO is accelerating efforts to reach the American public to ensure they understand how IPAWS functions and how to respond to alerts and warnings from public safety officials.

5.1.1 Key messages for the American Public

- It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American public.
- No matter where you are -- at home, at school, at work, or even on vacation, you can get life-saving alerts.
- IPAWS is designed to ensure the President of the United States can reach the American public within 10 minutes of a national emergency.
- The IPAWS Program Management Office (PMO) recognizes that most disasters occur at a local level; therefore, authorized state and local public safety officials can leverage IPAWS capabilities to best meet the needs of their community.
- When disaster strikes, IPAWS allows emergency managers and alerting authorities at all levels to send one message to more people over more devices, to save lives and protect property.
- A single message can be received simultaneously through multiple communication technologies:
 - Broadcast (Emergency Alert System)
 - Radio / Wireline Radio
 - TV / Cable
 - Satellite
 - Mobile devices
 - via Wireless Emergency Alerts (WEA)
 - Internet services
 - via the IPAWS All-Hazards Information Feed
 - Unique systems (adhering to the Common Alerting Protocol)
 - Sirens
 - Digital road signs
 - Text-to-Braille translators
 - Subscription mass notification systems, etc.
 - Emerging technologies that adhere to the CAP standard
 - National Weather Service (NWS) can also send messages through NOAA's All Hazards Weather Radio (NWR) via the IPAWS-NOAA gateway
- Wireless Emergency Alerts (WEA) can be issued by alerting authorities in these

scenarios:

- Extreme weather, and other threatening emergencies in your area
- AMBER alerts
- Presidential alerts during a national emergency
- Wireless Emergency Alerts (WEA) will look like a text message and will display the type and time of the alert, any action you should take, and the agency issuing the alert. The message will be no more than 90 characters. You will know the difference between a WEA and a regular text message because WEAs include a special tone and vibration, both repeated twice.

5.1.2 Helpful resources created by the IPAWS PMO for the American Public

- IPAWS public service announcement (PSA) about Wireless Emergency Alerts (WEA)
- Educational training videos
- Online training courses
- Fact sheets for kids and the American public
- Digital library of resources available at www.fema.gov/ipaws

5.2 FEDERAL EXECUTIVE GOVERNANCE AND LEGISLATIVE OVERSIGHT PARTNERS

Federal governance partners are Federal authorities who are responsible for national policies and regulations affecting public alerts and warnings. Government partner organizations are important to the success of IPAWS and they represent a large and unique segment of the emergency management community and the American public.

Because legislative support is vital to continuing the IPAWS mission, the IPAWS PMO ensures that White House and Congressional staff are kept well-informed of the latest IPAWS developments, and provides timely answers to their queries. Quarterly reports are provided to congressional committees that have legislative oversight of IPAWS, and IPAWS PMO leadership regularly delivers updates on IPAWS implementation to members on these committees.

5.2.1 Key messages for Federal and legislative partners

- The IPAWS Program Management Office (PMO) works to promote and adhere to policies, regulations, and guidelines which will facilitate the development, implementation, and adoption of an effective, reliable, integrated, flexible, and comprehensive alert and warning system.
- The IPAWS Program Management Office (PMO) continues to judiciously dedicate resources to support and sustain IPAWS components including the National Public Warning System (NPWS) and the future of IPAWS Open Platform for Emergency Networks (IPAWS-OPEN).
- IPAWS ensures that under all conditions the President of the United States can alert and warn the American people.

5.2.2 Helpful resources created by the IPAWS PMO for Federal and legislative partners

- Qualitative and quantitative data reflecting how IPAWS is being used across the country by public safety officials at all levels of government to save lives and protect property
- Working groups
- Reports and briefings to members of Congress and congressional staff

5.3 FEDERAL, STATE, TERRITORIAL, TRIBAL, AND LOCAL ALERTING AUTHORITIES

In addition to the President of the United States, alerting authorities include Federal, State, territorial, tribal, and local public safety officials who are designated within their level of government as an authority responsible for communicating emergency alerts and warnings to the American public.

The IPAWS PMO goes to great lengths to ensure that public safety officials authorized to use IPAWS to send public alerts, and those authorized to access IPAWS for information sharing only, receive the timeliest information available. Because IPAWS is the nation's alerting system and all disasters are local, the IPAWS PMO works to provide non-federal alerting authorities with the resiliency that IPAWS offers. The IPAWS PMO dedicates a significant portion of its resources to assisting state and local public safety officials adopt, implement, and use IPAWS to send life-saving alerts to their communities.

Indian tribal governments and communities are essential components of our nation's emergency management team. The IPAWS PMO, in addition to FEMA's National Tribal Affairs Advisor, supports nation-to-nation tribal relationships and recognizes the unique cross-jurisdictional challenges they face with emergency management and public alerting. To enhance the preparedness of Indian tribal governments and their working relationship with FEMA, the IPAWS PMO collaborates with the National Tribal Affairs Advisor to work with tribal emergency management on outreach through tribal conferences and tribal associations to provide outreach and training opportunities to stakeholders.

The IPAWS PMO collaborates with tribal governments to further develop tribal education and curriculum which includes implementation guidance and technical support, as requested. Supplemental Federal grant guidance regarding eligible public alert and warning activity expenses through the Tribal Homeland Security Grant Program is also provided by the IPAWS PMO. Additionally, the IPAWS PMO works with the Emergency Management Institute (EMI) to provide education and training on IPAWS to tribal emergency management through webinars demonstrating the system's capabilities.

The IPAWS PMO also engages Federal alerting partners, including the National Oceanic and Atmospheric Administration's (NOAA) NWS and the Department of Justice's (DOJ) National Center of Missing and Exploited Children (NCMEC), keeping them well-informed on IPAWS developments, and working with them as they disseminate imminent threat alerts and AMBER alerts. Additionally, the Chemical Stockpile Emergency Preparedness Program (CSEPP) and Radiological Emergency Preparedness Program (REPP) communities have unique alerting needs

due to the congressional mandate to provide “maximum protection” to the public. The CSEPP and REPP communities constantly explore technology that can improve the process of protecting the public, and the IPAWS PMO works closely with them to integrate IPAWS capabilities into their suite of public alerting tools.

5.3.1 Key messages for alerting authorities

- IPAWS offers alerting authorities the capability to create location-specific public alerts and warnings that are scaled to cover areas as big as their entire jurisdiction or a much smaller, targeted area within their jurisdiction.
- IPAWS will simultaneously distribute alerts across multiple communication pathways, increasing the likelihood that the message will successfully reach the public through:
 - Cable television systems, wireless cable systems, satellite digital audio radio service, and direct broadcast satellite through the Emergency Alert System (EAS)
 - Mobile devices through Wireless Emergency Alerts (WEA)
 - National Weather Service (NWS) NOAA All Hazards Weather Radio (NWR)
 - Internet services through the IPAWS All-Hazards Information Feed
 - Unique systems, such as sirens, digital road signs, text-to-Braille translators, subscription mass notification systems, and other communication devices that adhere to the Common Alerting Protocol (CAP)
 - Emerging technologies
- IPAWS is the only way to send Wireless Emergency Alerts (WEA); WEAs are great alerting tools because WEAs are geo-targeted, non-subscription based, free, not affected by network congestion, and used for imminent threats, AMBER alerts, and Presidential alerts.
- IPAWS can be used when public safety officials determine there is a threat to public safety (e.g. tornados, evacuations, earthquakes, child abductions/AMBER, water contamination, gridlock, water and relief supply distribution, large power outages, toxic plumes, volcano eruptions, shelter-in-place, Presidential alerts, wildfires, dam brakes, chemical spills, law enforcement situations, nuclear accidents, road outages/closures, flash flooding, snowstorms, etc.).
- IPAWS offers flexible and integrated communications capabilities to increase the impact of public alerts and warnings including:
 - Information sharing capabilities (COG-to-COG)
 - Situational awareness
 - Ability to incorporate new technologies
 - Most resilient, redundant, secure, and accessible form of public alert and warning
 - One input, multiple outputs
 - Non-subscription based
 - Geo-targeted
 - Standardized messaging format
 - Rich content (multimedia)
 - Free to use

- Interactive data exchange with the Canadian Multi-Agency Situation Awareness System (MASAS)
- When implementing IPAWS:
 - Document a plan, policy, and procedures for sending alerts and warnings to the public
 - Consider current messaging technology limitations (e.g. the 90 character limitation for Wireless Emergency Alerts (WEAs)) and develop message templates that can be easily adapted to local events in public warning situations
 - Clearly identify and document the likely threats and draft warning messages to use when needed
 - Regularly review and update alert and warning plans, procedures, and related documents
 - Train, test, and exercise regularly to ensure the people and systems for effectively alerting your community are ready when disaster strikes
 - Educate the public about your alerting plans, methods, likely threats, and the protective measures they may be asked to take in the event of a real disaster
 - Use the IPAWS Program Management Office (PMO) as a resource

5.3.2 Helpful resources created by the IPAWS PMO for alerting authorities

- Online training for alerting authorities (IS-247a and IS-251)
- PSAs with customizable taglines
- Testing with the IPAWS Lab at JITC (assisted on-site, virtual, and independent testing)
- Toolkit for alerting authorities
- Templates for governance plans
- Checklists for adopting IPAWS
- Digital library of resources
- Online forum for “Communicators in Emergency Management”
- Grant guidance
- Webinars
- Technical demonstrations and workshops

5.4 PRIVATE SECTOR PARTNERS

Private sector industry partners are comprised of representatives from private sector companies with recognized equities in the alert and warning field. Because the majority of the infrastructure needed to accomplish the IPAWS mission is owned and operated by the private sector, the private sector is a key partner in the development and implementation of IPAWS.

Effective public-private partnerships are necessary to ensure IPAWS is interoperable with existing and emerging technologies. As the IPAWS PMO continues to articulate the benefits of full participation in the implementation of IPAWS to public and private sector partners through webinars, working groups, roundtables, forums, and conferences, IPAWS’ effect on the American public will increasingly result in reduced risk to public safety. In partnership with the Federal Communications Commission (FCC), FEMA’s Regional Emergency Communication

Coordination Working Groups (RECCWG), and local, state, and regional emergency communication committees, the IPAWS PMO works with individual EAS participants to extend and improve EAS as an alert dissemination mechanism and to encourage development and refinement of local, state, and regional emergency communications plans.

The IPAWS PMO, in partnership with FEMA's Private Sector and Business Operations offices, conducts outreach designed to strengthen cooperation and encourage compliance with CAP standards by private sector software and hardware developers and manufacturers, the broadcast community, commercial mobile service providers, and internet service providers. It is important that these partners understand the value of being CAP-compliant, both from a business and public relations standpoint. IPAWS PMO outreach efforts include providing communication tools for vendors to ensure they understand the FEMA CAP compliance process for IPAWS integration.

5.4.1 Key messages for private sector partners

- All interoperation with IPAWS is based upon the Common Alerting Protocol (CAP) message exchange data standard, an open and internationally recognized Extensible Markup Language (XML). Technologies that can communicate through internet channels and use CAP can be programmed to interoperate with IPAWS.
- Many unique systems may already be or can be upgraded to become CAP-compliant, allowing public safety officials to use IPAWS to streamline and increase available alerting channels to improve alerting reach and resilience of local alerting capabilities.
- To ensure interoperability with IPAWS Open Platform for Emergency Networks (IPAWS-OPEN), current and emerging alert and warning technologies need to meet certain standards and accommodate protocols (e.g. Common Alerting Protocol (CAP)).
- In addition to distributing alerts and warnings through radio, TV, mobile devices, NOAA Weather Radios, sirens, reverse 9-1-1, and digital road signs, etc., IPAWS can be used to send alerts and warnings to the public via internet-connected services and systems. Companies can monitor the IPAWS All-Hazards Information Feed over an Internet connection.
- The All-Hazards Information Feed supports an interface for public messages and is a simple to implement, PIN-controlled interface that includes messages intended for public consumption (such as the Emergency Alert System (EAS) and Wireless Emergency Alert (WEA) messages).

5.4.2 Helpful resources created by the IPAWS PMO for private sector partners

- Webinars
- Online forum for "Communicators in Emergency Management"
- Roundtables and workshops
- Testing at The IPAWS Lab at JITC

5.5 NON-PROFIT AND ADVOCACY PARTNERS

IPAWS allows public safety officials, at all levels of government, to send effective and reliable alerts and warnings to the whole community, including individuals with access and functional needs, Americans with disabilities, older Americans, children, and those with limited English proficiency, before, during, and after an emergency. Providing alerts to the whole community presents a very complex technical challenge. To ensure the American public is best served by IPAWS, the IPAWS PMO continues to engage in collaborative working relationships with numerous non-profit and advocacy organizations to: (1) shape policy and standards that effectively deliver accessible public alerts and warnings; (2) help communicate access and functional needs requirements to industry and other alert and warning partners; (3) promote CAP and the IPAWS Profile, a supplemental technical requirements specification developed to ensure compatibility with existing warning systems used in the United States, to increase the number of proprietary alert technologies capable of accessible communication; and (4) develop and promote standard iconography and symbology for alerts and warnings.

Specifically through outreach efforts to youth, the IPAWS PMO partners with non-profit and advocacy organizations to inform citizens of features of mainstream technologies that can be used in emergency communications. The IPAWS PMO develops informational materials to educate the youth demographic, and collaborates with public and non-profit stakeholders to leverage and promote resources and share best practices for alerting the whole community. The IPAWS PMO continues to identify opportunities to partner with relevant organizations, including, but not limited to, the American Red Cross (Pillowcase Project), Target stores, National Crime Prevention Council (NCPC), Points of Light, and the Department of Education's Office of Safe and Healthy Students to educate the youth of America about alerts and warnings.

In addition to participating in numerous events, technical demonstrations, speaking opportunities, and expert panel discussions, the IPAWS PMO, in cooperation with FEMA's Office of Disability and Integration Coordination (ODIC), hosts an annual roundtable for industry experts, Federal partners, universities, and advocacy organizations to discuss alerting the whole community and removing barriers to alerting accessibility. Additionally, FEMA's IPAWS Alert and Warning Symbology Working Group was created to identify and build consensus for a uniform set of symbols to convey alerts and warnings to enhance the ability of the American public to understand alerts and take the necessary actions to ensure their safety. Using a standard set of symbols will increase comprehension, break down language barriers, and reinforce alert or warning messages, which will assist the American public, including people with disabilities and others with access and functional needs, to understand and respond appropriately to emergency communications.

5.5.1 Key messages for non-profit and advocacy organizations

- Executive Order 13407 requires that IPAWS "include in the public alert and warning system the capability to alert and warn all Americans, including those with disabilities and those without an understanding of the English language."¹¹

¹¹ Executive Order 13407, Section 2.a.iv

- FEMA recognizes that organizations supporting people with disabilities and others with access and functional needs are a critical part of the nation’s emergency management team.
- Use of the Common Alerting Protocol (CAP) standard allows industry partners to develop tools and technologies that can be seamlessly incorporated with IPAWS to assist individuals with disabilities and others with access and functional needs in receiving emergency alerts.

5.5.2 Helpful resources created by the IPAWS PMO for non-profit and advocacy organizations

- Research and white papers on alerting the whole community and removing barriers to alerting accessibility
- Multi-lingual informational materials
- Fact sheets and other informational materials about current and emerging accessible communication technologies for the whole community
- IPAWS/ODIC Roundtable
- Alert and Warning Symbolology Working Group

6.0 OUTREACH PRODUCTS AND METHODS

The IPAWS PMO continually strives to better communicate with partners by identifying mediums and opportunities to reach key audiences from all partner groups, continually gauging results, and when needed, tailoring the IPAWS message for improved communication. The IPAWS PMO has built a coordinated and comprehensive outreach approach focused on promoting and encouraging cross collaboration of the following resources.

6.1 DIGITAL COMMUNICATIONS

6.1.1 www.fema.gov/ipaws & www.ready.gov/alerts

The IPAWS PMO uses www.fema.gov/ipaws and www.ready.gov/alerts to share up-to-date information with the public to increase the understanding and awareness of IPAWS. Both websites host helpful resources for all partner groups.

6.1.2 Digital Library of Resources

The IPAWS PMO offers a broad scope of informational materials online at www.fema.gov/ipaws. The free, downloadable materials are updated as new information becomes available, and are organized by relevance to partner group.

6.1.3 Communicators in Emergency Management Online Forum

The Communicators in Emergency Management Online Forum provides individuals who have a role in emergency management with a digital environment which offers more information sharing than ever before. The digital message board discussions are an opportunity for public safety officials and other emergency management professionals to connect with colleagues

across the country in an environment created to enhance collaboration and provide solutions to local alert and warning issues.

6.1.4 Vignettes, Videos, and PSA

The IPAWS PMO relies on digital communication tools such as training vignettes, videos, and PSAs to assist with the education necessary to ensure the American public understands how to access, use, and respond to public alert and warning information.

The IPAWS PMO offers five short training vignettes to educate the American public about the variety of alert and warning tools and technologies public safety officials can use to send life-saving alerts. Additionally, programmatic overview videos and media clips are updated and shared with audiences through numerous venues and speaking engagements.

PSAs for TV and radio, in English and Spanish, are available to the public and were created as a means to draw the public's attention to WEAs and how they are an important life-saving tool. The PSAs educate the public on what a WEA is, how to recognize when a message is received, to heed the warning and take the prescribed protective action in the message, and direct viewers to learn more about life-saving alerts on www.fema.gov/ipaws and www.ready.gov/alerts. Public safety officials are encouraged to work with local broadcasters to make the WEA PSAs a part of local public education campaigns by individualizing the PSA tagline.

6.1.5 Social Media

The IPAWS PMO routinely develops content for distribution through numerous social media channels hosted by FEMA's Office of External Affairs (FEMA EA). Messaging shared via social media is focused on preparedness-related themes and directly aligns with monthly preparedness themes established by FEMA EA. The IPAWS PMO also uses the Mention application to monitor social media activity in an effort to identify, customize, and communicate content and messaging needs required by all partner groups.

6.2 MEDIA RELATIONS

The IPAWS PMO strategically plans and targets messages for media opportunities, interviews, trade publications, etc., with the goal of communicating important information to partners through trade, industry, and other media publications. FEMA EA is responsible for establishing and maintaining relationships with local and national media; the IPAWS PMO works closely with the office to provide the technical expertise required to create appropriate language tailored for improved communication to specific partner groups.

6.3 MARKETING AND COLLATERAL MATERIALS

6.3.1 IPAWS Toolkit for Alerting Authorities

The IPAWS PMO actively distributes the "IPAWS Toolkit for Alerting Authorities" to public safety officials across the county. The Toolkit is designed to help all alerting authorities adopt and use

IPAWS, as well as educate the American public about public alerts and warnings and appropriate responses when an alert is issued.

6.3.2 IPAWS in Action

IPAWS in Action stories showcase the successes and real-life impact WEAs have on the American people, and provide alerting authorities with best practice context for issuing alert and warning messages.

6.3.3 Fact Sheets

The IPAWS PMO develops fact sheets about IPAWS to increase the understanding and awareness of this unique program and its components. Fact sheets are periodically updated and made available for the American public on the IPAWS website as components of IPAWS mature and new information becomes available.

6.3.4 Youth Initiative

It is important that children, as well as adults, understand the functions of IPAWS and how to appropriately respond to alerts and warnings. The IPAWS PMO partners with organizations in an effort to create and distribute materials designed specifically to teach children about emergency preparedness. Resources include a WEA Fact Sheet and Word Search for Kids with accompanying instructional materials for parents, teachers, and other educators.

6.4 WORKING GROUPS AND ROUNDTABLES

6.4.1 IPAWS/ODIC Roundtable

The IPAWS PMO and FEMA's Office of Disability Integration and Coordination (ODIC) host a semi-annual roundtable event for industry experts and Federal partners. Each IPAWS/ODIC Roundtable has a theme focused on the integration of access and functional needs requirements into IPAWS-compliant alert and warning tools and technologies.

6.4.2 WEA Outreach Working Group

The IPAWS PMO hosts the WEA Outreach Working Group Meeting, a bimonthly multi-agency strategic outreach discussion to identify and leverage best practices in educating the American public about WEAs. Working group members – NOAA, FCC, CTIA-The Wireless Association, commercial mobile service providers, emergency managers, and federal partners – collaborate to share best practices and initiatives, and find solutions related to public education and awareness about WEA.

6.5 EVENTS, DEMONSTRATIONS, AND WORKSHOPS

The IPAWS PMO selects the most impactful, advantageous conferences and events, and leverages these opportunities to clearly and frequently communicate with partners, invite partners to participate in IPAWS related activities, and strengthen relationships with public and private sector partners. The PMO collaborates and supports partner groups through: (1) technical demonstrations; (2) workshops and onsite trainings; and (3) speaking engagements.

The IPAWS PMO conducts frequent demonstrations of IPAWS’ proof of concept end-to-end operations; including alert origination, alert aggregation using IPAWS-OPEN, and alert dissemination technologies for partners. Additionally, the PMO leadership team is frequently invited to speak at events across the country, and regularly participates in workshop and onsite training opportunities to engage attendees and partners on the most relevant topics.

The IPAWS PMO protects limited resources by managing events efficiently and ensures each carefully chosen event, demonstration, and workshop opportunity aligns with the PMO’s three strategic goals for 2016-2018: (1) increase the awareness and understanding of IPAWS by all partners; (2) increase the adoption and use of IPAWS by all partners; and (3) strengthen existing partner relationships and develop new partnerships and interests.

6.6 TRAINING

6.6.1 Web-based EMI Training Courses

The IPAWS PMO engages in efforts and activities that are designed to assist all IPAWS partners with the adoption, use, and incorporation of IPAWS into their governance structures, strategies, policies, business models, and standard operating procedures. Effective, institutionalized, and continual training is vital to maximizing the potential of the successful execution and adoption of IPAWS by alerting authorities, the private sector, non-profit and advocacy organizations, Federal governance partners, and the American public.

The IPAWS PMO, in partnership with FEMA’s Emergency Management Institute (EMI), developed three online training courses: IS-247a “Integrated Public Alert and Warning System,” IS-248 “IPAWS for the American People,” and IS-251 “IPAWS for Alerting Authorities.” IS-247a is one of four requirements for becoming an alerting authority authorized to use IPAWS. IS-248 is designed to educate the American public about the variety of IPAWS alert and warning tools and technologies available to them and their public safety officials and how to respond to information from the public alert and warning system. IS-251 provides advance alert and warning training to public safety officials. All three courses are available and downloadable from the EMI website. The IPAWS PMO is also working with the National Incident Management System (NIMS) program and the National Training and Education Division (NTED) to ensure IPAWS training courses are incorporated with more mainstream training requirements.

6.6.2 Webinars

In an effort to be good stewards of resources and maximize message reach, the IPAWS PMO regularly hosts webinars to address best practices, educate partners about the variety of alert and warning tools and technologies public safety officials can use to send alerts, and provide solutions to common alert and warning issues. Webinars are always recorded and made available on the IPAWS website, www.fema.gov/ipaws.

6.6.3 Templates & Checklists

The IPAWS PMO solicits feedback from partner groups and creates templates and checklists to assist state, local, territorial, and tribal public safety officials in the creation of public alert and

warning plans. Additionally, when requested, the PMO also works with individual states to review and provide feedback to their draft EAS plans.

6.7 EXERCISES & TESTS

Since 2010, the IPAWS PMO has supported numerous tests of public alert and warning capabilities at the local, county, state, regional, and territorial level and, in 2011, the PMO conducted the first-ever nationwide EAS test across the United States and its territories. The purpose of the test was to assess the functionality of the legacy system for the President of the United States to address the public during times of extreme national emergency.

Under EO 13407, the IPAWS PMO is entrusted to evaluate capabilities, close gaps, and implement a standard methodology for regularly testing the nation's emergency alert and warning infrastructure. The IPAWS PMO, along with the FCC, employs an incremental approach to periodically test IPAWS' emergency communications pathways. The testing process is designed to evaluate the interoperability of IPAWS-OPEN with state and local communications infrastructure and assess the operational readiness of the system's architecture to ensure an effective and reliable system exists to provide timely and accurate alerts to the American public. Lessons learned from each test are shared with IPAWS alerting partners and are incorporated into future tests and alerts.

The IPAWS PMO's effort to implement a standard methodology for testing will improve alerting authorities' ability to send effective, geo-targeted, actionable alerts and warnings before, during, and after an actual emergency. To conduct regular and comprehensive assessments of the capabilities and operational readiness of the nation's alert and warning system, the IPAWS PMO developed a three-phase testing approach, referred to as the IPAWS National Test (INT).

- Phase I – Controlled test in the Joint Interoperability Test Command (JITC) laboratory (Complete)
- Phase II – Series of IPAWS Supported State and Regional Tests (ISSRT) using the National Periodic Test (NPT) message event code
- Phase III – Live end-to-end INT

In 2014, the IPAWS PMO began organizing Phase II, or ISSRTs, in voluntary coordination with state broadcasting associations and emergency management agencies to assess the operational readiness of the alert and warning system for delivery of a national-level message from origination to reception by the American public. The main objectives for the ISSRTs are to assess the functionality of IPAWS' communications pathways, institute test findings to serve as a standard methodology for future tests development, and facilitate relationships between state emergency management, state emergency communications chairs, Primary Entry Point (PEP) station engineers, tribal leaders, and the broadcast community.

Another testing benefit for private sector alert and warning partners is that tests are conducted in a no-fault environment, meaning there is no enforcement action from the FCC based on distribution success or failure at the ISSRT level. Ultimately, the information obtained from

these sequential assessments will increase awareness, understanding, and adoption of IPAWS by all partners.

6.7.1 The IPAWS Lab at JITC

The IPAWS Lab at JITC in Indian Head, Maryland, allows the IPAWS PMO to provide public safety officials with a controlled IPAWS testing environment where alert and warning technologies can be exercised to assess capabilities and effectiveness with IPAWS. The closed IPAWS environment is capable of demonstrating alert dissemination to all IPAWS pathways including EAS, WEA, Non-Weather Emergency Messages (NWEM), the IPAWS All-Hazards Information Feed, and COGs. The IPAWS Lab supports on-site testing, off-site testing via webinars, and independent testing through the IPAWS Message Viewer.

The primary purpose for testing within the IPAWS Lab environment is for public safety officials to gain confidence using IPAWS in a safe/closed environment, ensuring that if they need to send an actual alert to the public, they will be able to do so quickly and effectively. Additional purposes include functional assessment, alert dissemination validation, training, procedural and process evaluation, and the establishment of functional requirements – all in a safe IPAWS environment.

7.0 SUMMARY

The IPAWS PMO works diligently to create and maintain an effective, reliable, integrated, flexible, and comprehensive public alert and warning system designed to distribute life-saving information to all segments of the American population as quickly as possible.

The IPAWS PMO develops and maintains strong, collaborative private/public relationships with all partner groups, while engaging through numerous communication mediums, to ensure the American public understands the functions of IPAWS and how to respond to alerts and warnings from public safety officials. Additionally, the IPAWS PMO continually strives to promote broad adoption and use of IPAWS by all partners and is working to ensure the American public is directly covered by an IPAWS public alerting authority.

The IPAWS infrastructure is only effective if supported by private sector developers, and understood and trusted by alerting authorities and the American public. The PMO works closely with partners and provides them with the information and tools they need to adopt and use IPAWS, as well as resources to incorporate IPAWS into existing governance structures and ensure approved alerting authorities can use the system to alert and warn the American public before, during, and after a disaster.

APPENDIX A: OUTREACH CALENDAR OF EVENTS (2016-2018)

The IPAWS PMO leverages conferences, webinars, roundtables, technical demonstrations, working groups, and other events to communicate with partners, invite partners to participate in IPAWS related activities, strengthen relationships with public and private sector partners, and collaborate with partners to find solutions to challenges in public alert and warning. Public safety officials at all levels of government, private sector partners, and non-profit and advocacy organizations bring unique capabilities and perspectives to the table; it is through these engagements that the IPAWS PMO is able to leverage the best-of-the-best, share lessons learned, and establish consensus for what needs to be done to accomplish our shared mission of reducing risk to public safety and protecting property. Moving forward, the IPAWS PMO will continue to engage partners through conferences, webinars, roundtables, technical demonstrations, working groups, and other events. The activities listed below are current and projected events.

CURRENT AND PROJECTED EVENTS

Year	Event/Activity	Partner Group
2016	National Congress of Native Americans (NCAI) Conference	Alerting Authorities
	National Association of Counties (NACo) Annual Conference	Alerting Authorities
	Association of Public Safety Communications Officials (APCO) Conference and Expo	Alerting Authorities/Private Sector Industry
	Big City Emergency Managers Fall Conference	Alerting Authorities
	IAEM Annual Conference and EMEX	Alerting Authorities
	National Emergency Managers Association (NEMA) Mid-Year Policy and Leadership Forum and Annual Conference	Alerting Authorities
	National Association of Broadcasters (NAB) Show	Private Sector Industry
	Georgia Tech Emergency Life Lines Disabilities Conference	Private Sector Industry/Non-Profit Advocacy
	National Radiological Emergency Preparedness (NREP) Conference	Alerting Authorities/Federal Governance
	Regional Radiological Emergency Preparedness (REP) Conference	Alerting Authorities/Federal Governance
IPAWS/ODIC Roundtable for Federal Partners and Industry Experts: Americans with Access and Functional Needs	Federal Governance/Private Sector Industry/Non-Profit and Advocacy	

	Annual International Technology and Persons with Disabilities Conference (CSUN)	Non-Profit and Advocacy/Private Sector Industry
	National Hurricane Conference	Alerting Authorities
	IPAWS Webinar Series	Private Sector Industry/Alerting Authorities
2017	National Congress of Native Americans (NCAI) Conference	Alerting Authorities
	National Association of Counties (NACo) Annual Conference	Alerting Authorities
	Association of Public Safety Communications Officials (APCO) Conference and Expo	Alerting Authorities/Private Sector Industry
	Big City Emergency Managers Fall Conference	Alerting Authorities
	IAEM Annual Conference and EMEX	Alerting Authorities
	National Emergency Managers Association (NEMA) Mid-Year Policy and Leadership Forum and Annual Conference	Alerting Authorities
	National Association of Broadcasters (NAB) Show	Private Sector Industry
	National Radiological Emergency Preparedness (NREP) Conference	Alerting Authorities/Federal Governance
	IPAWS/ODIC Roundtable for Federal Partners and Industry Experts: Americans with Access and Functional Needs	Federal Governance/Private Sector Industry/Non-Profit and Advocacy
	Annual International Technology and Persons with Disabilities Conference (CSUN)	Non-Profit and Advocacy/Private Sector Industry
	National Hurricane Conference	Alerting Authorities
IPAWS Webinar Series	Private Sector Industry/Alerting Authorities	
2018	National Congress of Native Americans (NCAI) Conference	Alerting Authorities
	National Association of Counties (NACo) Annual Conference	Alerting Authorities
	Association of Public Safety Communications Officials (APCO) Conference and Expo	Alerting Authorities/Private Sector Industry
	Big City Emergency Managers Fall Conference	Alerting Authorities
	IAEM Annual Conference and EMEX	Alerting Authorities
	National Emergency Managers Association (NEMA) Mid-Year Policy and Leadership Forum and Annual Conference	Alerting Authorities

	National Association of Broadcasters (NAB) Show	Private Sector Industry
	National Radiological Emergency Preparedness (NREP) Conference	Alerting Authorities/Federal Governance
	IPAWS/ODIC Roundtable for Federal Partners and Industry Experts: Americans with Access and Functional Needs	Federal Governance/Private Sector Industry/Non-Profit and Advocacy
	Annual International Technology and Persons with Disabilities Conference (CSUN)	Non-Profit and Advocacy/Private Sector Industry
	National Hurricane Conference	Alerting Authorities
	IPAWS Webinar Series	Private Sector Industry/Alerting Authorities

