

The background of the top half of the page features a composite image. On the left, a close-up of a person's face with a hand to their chin in a thoughtful pose. On the right, a police officer in uniform. In the center, a globe with silhouettes of people working together. The entire scene is overlaid with a grid of blue and red lines, creating a high-tech, emergency atmosphere.

IPAWS

Integrated Public Alert and Warning System

*Template: Emergency
Communication Plans and IPAWS*



FEMA

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TEMPLATE: EMERGENCY COMMUNICATIONS PLANS AND IPAWS

This document was created by the Federal Emergency Management Agency’s (FEMA) Integrated Public Alert and Warning System (IPAWS) Program Management Office (PMO) to assist Federal, State, territorial, tribal, and local public safety officials in the creation of public alert and warning plans. This template can be used in part or in its entirety to support public safety efforts.

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TEMPLATE

Executive Summary

In times of crisis, the people of {State} continually demonstrate resilience. Timely and effective emergency alert and warning messages can add to that resilience by providing information that citizens can use to make informed decisions and take action to save lives and reduce property losses, effectively reducing the impact of disaster and speeding community recovery. Effective alerts and warnings can help prevent hazards from becoming disasters.

{State} strives to improve public safety through the rapid dissemination of emergency messages to as many people as possible over as many communication devices as possible before, during, and after a disaster. To accomplish this, {State} has adopted the Integrated Public Alert and Warning System (IPAWS) to augment existing public alert and warning technologies. The purpose of the “{State} Integrated Public Alert and Warning System (IPAWS) Plan” is to formalize {State} processes for communicating with the general public during local and state disasters or emergencies.

Since 2006, FEMA’s Integrated Public Alert and Warning System (IPAWS) allows public safety officials, at all levels of government, to send one message, over multiple devices, to more people, to save lives and protect property. IPAWS supports efforts to prepare for, protect against, respond to, recover from, and mitigate against the risk of natural disasters, acts of terrorism, and other man-made disasters, including catastrophic incidents. IPAWS can be used to send life-saving information through existing communication technologies, including: radio and television stations via the Emergency Alert System (EAS), cellular phones via Wireless Emergency Alerts (WEA), NOAA All-Hazards National Weather Radio (NWR) via the IPAWS-NOAA gateway, internet applications and websites via the IPAWS All-Hazards Information Feed, and unique and local systems (e.g. digital road signs, sirens).

IPAWS integrates new and existing public alert and warning systems and technologies to provide alert and warning authorities a range of capabilities and dissemination channels, thereby increasing the likelihood that a given message will reach people in an affected area. IPAWS provides Federal, State, territorial, tribal, and local governments with the capability to integrate their alert and warning systems with the national alert and warning infrastructure. {State} continues to leverage IPAWS’ capabilities to expand the delivery of alert and warning information, increase resilience of local systems, and support protection, prevention, mitigation, response, and recovery efforts.

The “{State} IPAWS Plan” details the roles and responsibilities of alerting authorities and public safety officials at the Federal, State, territorial, tribal, and local level. It also documents the criteria for issuing public alert and warnings, types of alerts and warnings, governance, training, and technical requirements for activating alerts. This plan also addresses best practices for writing effective alert and warning messages, alerting technology, system security and testing, and public education to ensure the people of {State} understand how to access, use, and respond to information from public safety officials.

Letter from the {State} Director

The people of {State} are the foundation of all our partnerships and the primary reason we work to integrate an effective, reliable, flexible, and comprehensive public alert and warning system. In times of crisis, the people of {State} continually demonstrate resilience. Therefore, it is essential that the public receives timely information to allow them to take the necessary actions to ensure their safety and minimize damage to property.

The Integrated Public Alert and Warning System (IPAWS) is designed to improve public safety through the rapid dissemination of emergency messages to as many people as possible over as many communications devices as possible, including: radio and television stations via the Emergency Alert System (EAS), cellular phones via Wireless Emergency Alerts (WEA), NOAA All-Hazards National Weather Radio (NWR) via the IPAWS-NOAA gateway, internet applications and websites via the IPAWS All-Hazards Information Feed, and unique and local systems (e.g. digital road signs, sirens). To enhance alert and warning capabilities, {State} has adopted and implemented IPAWS to serve as a complementary alerting system, and ensure alert and warning infrastructure in {State} is resilient, so that no matter what the crisis, the public will receive life-saving information.

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 leaders and public safety officials to alert and warn {people from the state of} of impending danger.

Each partner plays a critical role in achieving the mission, goals, and objectives that are laid out in the “{State} Integrated Public Alert and Warning System (IPAWS) Plan.” {State} is dedicated to fostering, maintaining, and creating enduring relationships to ensure that together we can achieve our shared mission and best serve the people of {State}.

Effective this date, the “{State} IPAWS Plan” is hereby approved.

Name, Title
Organization

Date

Record of Changes

All changes are to be annotated on the master copy of the “{State} Integrated Public Alert and Warning System (IPAWS) Plan.” Should the change be significant in nature, updates shall be made to applicable web pages. If not, changes will be reviewed and incorporated into the plan during the next scheduled update.

This plan shall be maintained and kept current by all parties on the following schedule:

- ✓ Updates can occur at any time based upon the change of state or federal guidance.
- ✓ A cursory review of the plan will be performed on an annual basis. Changes will be annotated on the Record of Change sheet.
- ✓ A complete review and update of the plan will occur every four years, at a minimum. This review will consist of all partners having the opportunity to comment on all elements of the plan.

The review and revision of procedures will follow critiques of actual emergency or disaster operations and/or exercises where deficiencies were noted.

Date Posted	Change	Page / Paragraph / Line	Recommending Agency / Individual

Purpose

This document provides policy and procedures agreed upon by the {State} Office of Emergency Management and will permit designated public safety officials to issue emergency information, instructions, and warnings to the general public of {State} by activating the alert and warning systems within {State}.

Authority

Authoritative information for this plan is garnered from the following policies and legislations:

- ✓ {State Statutes related to alert and warning}
- ✓ {State Emergency Operations Plan (EOP)}
- ✓ {State/local governance authorities}
- ✓ Presidential Memorandum, “Emergency Alert System Statement of Requirements”, September 15, 1995;
- ✓ Executive Order 13407, Public Alert and Warning System, June 26, 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
- ✓ Presidential Policy Directive/PPD-21 “Critical Infrastructure Security and Resilience”, February 12, 2013¹
- ✓ Executive Order “Improving Critical Infrastructure Cybersecurity”, February 12, 2013
- ✓ National Mitigation Framework, May 2013
- ✓ National Prevention Framework, May 2013
- ✓ National Response Framework, Second Edition, May 2013
- ✓ National Preparedness Report, March 30, 2014

Integrating Public Alert and Warning Systems

The Integrated Public Alert and Warning System (IPAWS) allows public safety officials, at all levels of government, to send effective and reliable alerts and warnings over multiple communication pathways to the entire community, including Americans with disabilities, the elderly, children, individuals with access and functional needs, and limited English proficiency, before, during, and after an emergency. Providing alerts to the entire community presents a very complex technical challenge, which is a key reason {State} has adopted and implemented IPAWS as one of its primary alerting tools. The {State} incorporates IPAWS into the {State’s} existing structure through a Memorandum of Agreement (MOA), which governs the relationship between the state-level Collaborative Operating Groups (COG)² and FEMA. IPAWS provides {State} with the capability to integrate alert and warning systems with the national alert and

¹ Presidential Policy Directive/PPD-21, Implementation of the Directive (6); PPD-21 “revokes Homeland Security Presidential Directive/HSPD-7, Critical Infrastructure Identification, Prioritization, and Protection, issued December 17, 2003. Plans developed pursuant to HSPD-7 shall remain in effect until specifically revoked or superseded.”

² IPAWS is structured around Collaborative Operating Groups (COG). A COG is a virtual organization of alerting authorities that holds membership in IPAWS-OPEN and manages system access within that organization. When the application process is complete, FEMA will assign each agency a COG Identification number and Digital Certificate.

warning infrastructure. Consequently, IPAWS increases the capability and options available to state and local officials, by which life-saving information can be distributed during a crisis, providing people with the information they need to protect themselves, their families, their communities, and their property.

In {State}, Emergency Alert System (EAS) responsibilities have been shared by the {State} emergency management organization, Emergency Operations Center (EOC), National Weather Service (NWS), and {State} Broadcasters Association since the inception of EAS in the 1990s. NWS has been the most prominent EAS user for severe weather warnings.

{State} authorities have chosen to use IPAWS and integrate local alerting and emergency response systems that use Common Alerting Protocol (CAP) standard, an international technical data specification developed by the Organization for the Advancement of Structured Information Standards (OASIS), with the IPAWS infrastructure. Beginning in 2011, the initial IPAWS capabilities were deployed providing public safety authorities at all levels of government with integrated access to send alerts through EAS, Wireless Emergency Alerts (WEA), NOAA Weather Radio All Hazards, internet applications, sirens, road signs, and other unique local technologies, as well as being able to seamlessly incorporate emerging and future alerting channels and communications technologies.

The State of {State} may provide public safety officials with resources to assist them as they adopt CAP, incorporate IPAWS, and ensure their communities understand how to access, use, and respond to public alert and warning information. New alert and warning technologies, particularly alerts to personal cellphones, will only be effective if the public understands the avenues over which alerts are delivered and trusts the emergency messages being sent. State public safety officials strive to ensure emergency communication plans and tools incorporate the latest technologies, can be leveraged to strengthen communication infrastructure, enhance information sharing and situational awareness, and provide the public with critical information.

Roles and Responsibilities

State

Recognizing that all disasters are local, the primary responsibility of the state will be to facilitate the implementation of IPAWS into the emergency notification network. In the case of a catastrophic local, state, or regionally-defined event, the state will provide a resilient and comprehensive alert and notification capability.

- ✓ {State-level authority} will be designated the COG point of contact as per the signed Memorandum of Agreement (MOA) with FEMA.
- ✓ Per {State-level policy}, {POC} shall be the alternate state agency to provide statewide IPAWS warnings and alerts.
- ✓ {State-level authority} will form a working group comprised of applicable statewide stakeholders to bring together the necessary technical and operational expertise from the private sector, non-profits, local jurisdictions, state, territorial and/or tribal agencies, and the federal government with the goal of defining policy and procedures leading to the

implementation of IPAWS across the state. The working group shall be comprised of, but not limited to, the following agencies:

- {State} emergency management office
- {State} broadcasters association
- NWS Local Weather Forecast Office
- Representative from the Commercial Mobile Radio Service (CMRS) Emergency Telecommunications Board
- Representatives from Commercial Mobile Service Providers (CMSP)
- Representatives from local emergency management offices
- Representative from the State Emergency Response Commission
- ✓ {State-level authority} will sign all COGs for all local and State Agency Alerting Authorities.
- ✓ {State-level authority} will conduct coordinated periodic tests of the system to ensure functionality of equipment and the network.
- ✓ {State-level authority} will provide a backup capability for local jurisdictions' alerting authorities to issue emergency broadcasts on behalf of the local jurisdiction.

Local

All disasters and emergencies are locally oriented. While first responders are gearing up to respond to the initial aftereffects of an incident, it is an inherent responsibility of local officials to keep the public informed of what actions the public needs to take to protect themselves. These could include: evacuation orders, location of points of distribution (for food, water, medicine, etc.), move to higher ground, shelter in place guidance, etc. Communicating these instructions to the public is the primary purpose of IPAWS. Because local officials have a better understanding of the situation, the immediate actions that are being taken, and potential adverse impacts of the incident, it is incumbent upon these officials to rapidly and effectively communicate to the public what is going on and what needs to be done.

In order to successfully accomplish this task, local jurisdictions will have a structure in place to provide for rapid alert and warning. Many of the tasks leading to this structure will include:

- ✓ Submitting to the state a request/plan that identifies emergency notification providers/systems for inclusion into the IPAWS network.
- ✓ Designating in writing, in accordance with jurisdictional procedures, no fewer than three individuals who will be the jurisdiction's alerting authorities for issuing emergency broadcasts with IPAWS following their successful completion of IS-247.A "Integrated Public Alert and Warning System (IPAWS)" course. (Typically, this would be the jurisdiction's emergency manager and staff.)
- ✓ Incorporating IPAWS into existing and future response plans and procedures as well as training and exercise events.

Each established COG will maintain a list of all individuals who have successfully completed FEMA's IPAWS IS-247.A course and other required courses as directed by federal and state guidance. This list will contain copies of completed course certificates, individual names/contact information, and copies of memorandum/resolutions officially designating these

individuals as alerting authorities. A copy of each jurisdiction's signed Rules of Behavior will also be included.

COG-level permissions are detailed in the Application for IPAWS Public Alerting Authority and describe the geographic boundaries for alerting, the types of alerts that can be issued, and the dissemination systems that can be used to distribute the alerts. COG-level permissions help to define the area of responsibility and the capabilities the alerting authority has. Additional COG-level permissions must be obtained from NWS to submit non-weather emergency messages, or NWEM, via NOAA Weather Radio.

Immediately after broadcast, a copy of the alert must be faxed or emailed to {Point of Contact and email address} and the {alternative POC} must be notified.

Federal

FEMA is the lead federal agency for IPAWS coordination and implementation. FEMA ensures that the system is maintained and is operational to achieve the following:

- ✓ Build and maintain an effective, reliable, integrated, flexible, and comprehensive alert and warning system.
- ✓ Enable federal, state, local, tribal, and territorial alert and warning emergency communication officials to access multiple broadcast and other communications pathways for the purpose of creating and activating alert and warning messages related to hazards impacting public safety and well-being.
- ✓ Reach the American people before, during, and after a disaster through as many means as possible.
- ✓ Diversify and modernize the EAS.
- ✓ Create an interoperability framework by establishing or adopting standards such as CAP.
- ✓ Enable alert and warning to those with disabilities and others with access and functional needs and to those without an understanding of the English language.
- ✓ Partner with NOAA for seamless integration of message transmission through national networks.
- ✓ Receive and authenticate alert messages, then simultaneously deliver to all IPAWS-compliant public alerting systems.
- ✓ Continue to engage the media, internet service providers, unique and local alerting system providers as well as future alert technology developers on the implementation of IPAWS.
- ✓ Ensure the required Emergency Management Institute (EMI) courses are available and updated periodically.

{STATE} State Emergency Communications Committee

{Insert language on committee composition, purpose, roles, responsibilities, authorities, limitations, etc.}

Authorized Use of IPAWS

IPAWS may be used to alert the public to events that pose a threat to life and/or property. Presidential messages are issued by the President of the United States. AMBER Alerts are

issued by the National Center for Missing and Exploited Children (NCMEC) in consultation with state and local AMBER coordinators. Critical weather warnings (e.g. tornados, flash floods, hurricanes, blizzards or ice storms, and dust storms) are issued by NWS. IPAWS will not be used by NWS for other watches and warnings.

Alerts issued by an authorized public safety agency using IPAWS may be disseminated to: broadcast media (EAS), weather radios (non-weather emergency messages, or NWEM), cellphones and other mobile devices via Wireless Emergency Alerts (WEA), internet services, road signs, sirens, etc. Some alerts may be selected to broadcast to one alerting technology, while other alerts may be selected to go to numerous alerting technologies.

The primary capability of a WEA (cellphone message) is to quickly announce that an event is occurring or is imminent in the geographic area in which the recipient is located. WEA messages are limited to 90 characters.

EAS (broadcasters) and NWEM (weather radio) alerts can provide more information. For example, the “Headline” element of a NWEM message may be 160 characters and the “Description plus instruction” elements may be up to 160 words total.

Types of IPAWS Messages

There are several types of alert messages for which {authorized alerting authorities} will use IPAWS.

- ✓ **Warning messages:** Warning messages are issued for those events that alone pose a significant threat to public safety and/or property, probability of occurrence and location is high, and the onset time is relatively short.
- ✓ **Emergency messages:** Emergency messages are issued for those events that by themselves would not kill, injure, or damage property, but indirectly may cause other things to happen that result in a hazard.

{Selected, authorized departments/positions} are authorized to send the following event codes through IPAWS:

- ✓ {Authorized department/positions}
- ✓ {Authorized department/positions}
- ✓ {Authorized department/positions}

Event Codes that can be sent via all three primary (EAS, WEA, NWS) dissemination channels

AVW:	Avalanche Warning
CAE:	Child Abduction Emergency
CDW:	Civil Danger Warning
CEM:	Civil Emergency Message
EQW:	Earthquake Warning
EVI:	Evacuation Immediate
FRW:	Fire Warning
HMW:	Hazardous Materials Warning
LAE:	Local Area Emergency
LEW:	Law Enforcement Warning

NUW: Nuclear Power Plant Warning
RHW: Radiological Hazard Warning
SPW: Shelter in Place Warning
VOW: Volcano Warning

Additional Event Codes with restricted dissemination channels

ADR: Administrative Message (Will NOT go to WEA)
AVA: Avalanche Watch (Will NOT go to WEA)
TOE: 911 Telephone Outage Emergency (Will NOT go to WEA)
RMT: Required Monthly Test (Will NOT go to NWEM or WEA)
RWT: Required Weekly Test (Will NOT go to NWEM or WEA)

Training Requirements

Prior to accessing the system and posting alerts, training requirements for IPAWS are as follows:

- ✓ Computer Security Awareness training prior to initial access and annually thereafter, either a locally delivered course or, if not available locally, Domestic Preparedness Campus online course, CYBER 175-W (175-W) — Information Security for Everyone (http://www.teexwmdcampus.com/wbtClass_info.k2?wbtClassID=108)
- ✓ IS-247.A course for COG point of contact (POC) and any user with alerting authority for IPAWS public alerts (<http://training.fema.gov/EMIWeb/IS/is247a.asp>)
 - The COG POC must complete IS-247.A and submit a copy of his/her training certificate as part of the application process. All other training records are maintained locally.

Software for Sending Alerts

The [IPAWS-OPEN Developer List](#) includes the names of third-party organizations that have executed a Memorandum of Agreement (MOA) with FEMA for the purpose of gaining access to the IPAWS-OPEN Test Environment to support interoperable software development.

Activating Alerts

When issuing a Wireless Emergency Alert (WEA), the four free-text fields of an alert (Headline, Description, Instruction, and Commercial Mobile Alert Message (CMAM) text) must be reviewed before posting. Rushed alerts with poor wording can have disastrous effects. To avoid errors, pre-script messages with as much information as possible prior to an event.

System Security

To ensure the joint security of the systems and the message data they store, process, and transmit, all parties participating in IPAWS agree to the terms and conditions as stated in their MOAs and the IPAWS Rules of Behavior, which can be found at www.fema.gov/alerting-authorities.

System Tests

At the local, county, and state level, quarterly tests or exercises of IPAWS will be conducted to ensure the ability to send emergency notification information across the entire network. Testing should be coordinated prior to execution to ensure appropriate rules and regulations are followed. Any impediments will be immediately identified and a resolution at the lowest jurisdictional level possible will be ascertained. It is pertinent to define which test codes will/should work for each dissemination channel because these may be slightly different for each state, depending on their existing EAS Plan.

The following test codes are defined for IPAWS dissemination:

- ✓ The Required Weekly Test (RWT) message is logged by TV and radio stations for EAS and does not interrupt broadcasting. RWT will not be carried over NOAA Weather Radio or cellphones for WEA.
- ✓ The Required Monthly Test (RMT) message will interrupt TV and radio broadcasting for EAS, but will not be carried over NOAA Weather Radio or cellphones for WEA.
- ✓ The practice/demonstration message (DMO)³ is carried over NOAA Weather Radio, and in some cases a DMO will interrupt TV and radio broadcasting for EAS (because broadcasters also monitor NOAA Weather Radio). DMO will not be carried over cellphones for WEA.
- ✓ There is currently no authorized test message for WEA.

It is anticipated that the FEMA IPAWS Program Management Office (PMO) will conduct tabletop, scenario-based, and full-scale exercises of the public alert and warning communication systems. Where applicable, all jurisdictions will be encouraged to participate in these exercises. Additionally, the state and/or local jurisdictions may find it necessary to conduct IPAWS-only exercises to test the connectivity of the network. Even though these exercises may involve a small portion of the response community, they do need to be included in the state regionally defined Training and Exercise Planning Workshop (TEPW) calendars. If an IPAWS component is to be part of a larger exercise, then it does not need to be included on a TEPW calendar.

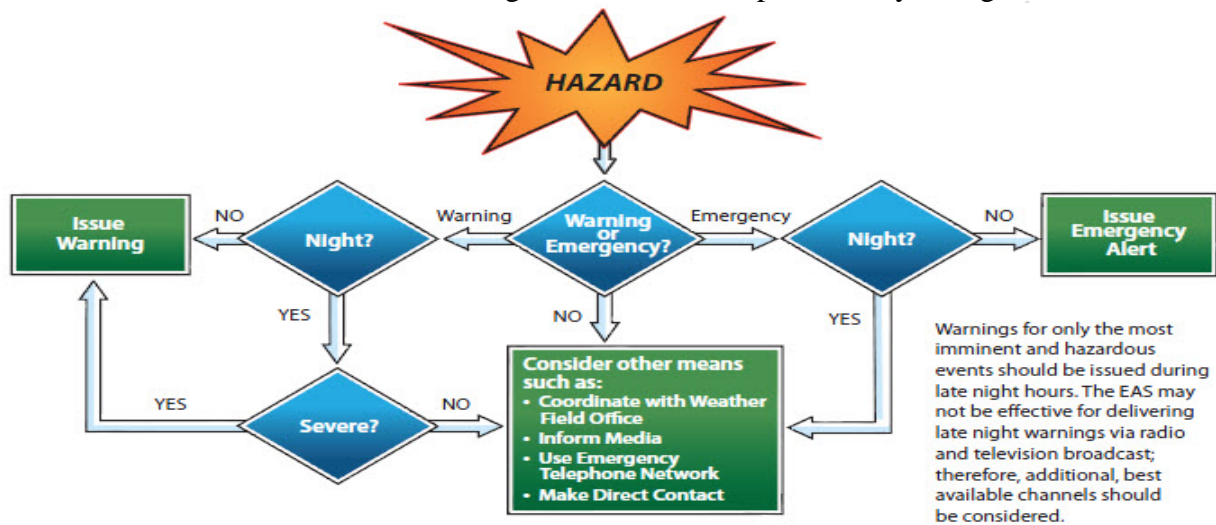
Additionally, the {State} coordinates regular on-site, virtual, and/or independent testing with the IPAWS Lab at the Joint Interoperability Test Command (JITC) in Indian Head, Maryland. The IPAWS Lab at JITC provides {State} public safety officials with a controlled IPAWS testing environment where alert 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 Collaborative Operating Groups (COG). The {State} 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 {State} needs to send an actual alert to the public, {State} 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.

³ DMO is the three-letter code signifying a practice/demonstration message.

Criteria for Issuing IPAWS Messages

When circumstances arise and the need for a public warning becomes necessary, the decision to send a message will ultimately be a matter of local judgment. To assist in the decision making process the following criteria can be applied:

- ✓ Does the hazardous situation require the public to take immediate action?
- ✓ Does the hazardous situation pose a serious threat to life or property?
- ✓ Is there a high degree of probability the hazardous situation will occur?
- ✓ Do other means of disseminating the alert ensure rapid delivery of urgent information?



Writing Effective Alert and Warning Messages

How an alert/warning message is written is as important as what is written. Poorly written warnings can undermine both understanding and credibility. "Style" refers to how you write. Considerations when writing accessible and usable alert and warning messages should include:

- ✓ **Specificity:** If the message is not specific enough about the "Who? What? When? Where? Why? How?" the public will spend more time seeking specific information to confirm the risk. If necessary, be specific about what is or is not known about the hazard.
- ✓ **Consistency:** An alert/warning should be internally consistent; that is, one part of the message should not contradict another part. It should be consistent with messages that are distributed via other channels. To the extent possible, alerts/warnings should be consistent from event to event, to the degree that the hazard is similar.
- ✓ **Certainty:** Avoid conveying a sense of uncertainty, either in content or in tone. Confine the message to what is known, or if necessary, describe what is unknown in certain terms. Do not guess or speculate.
- ✓ **Clarity:** Use common words that can easily be understood. Do not use technical terminology or jargon. If protective instructions are precautionary, state so clearly. Make it clear if protective instructions pertain to particular at risk populations (e.g., elderly). If the probability of occurrence of the hazard event is less than 100 percent, try to convey in simple terms what the likelihood of occurrence is.
- ✓ **Accuracy:** Do not overstate or understate the facts. Do not omit important information. Convey respect for the intelligence and judgment of the public.

To this end, only those individuals who have successfully completed FEMA’s IPAWS IS-247.A course and have been officially designated by their jurisdiction as an alerting authority will be provided access to the system. FEMA approves the state designated POC; this POC will then be responsible for verifying and certifying applicable state agency, local jurisdiction, and tribal government alerting authorities within the state.

Public Outreach

Ultimately, it is the people of {State} who benefit most from alerts and warnings and are the primary reason the {State} works to create an effective, reliable, integrated, flexible, and comprehensive public alert and warning system. The {State}, in partnership with {other 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 people of {State}. Moving forward, the {State} is accelerating efforts to reach the people of {State} to ensure they understand how they can receive, and how to respond to, alerts and warnings from public safety officials.

Additionally, coordination with local media outlets is essential for the successful implementation of the “{State} IPAWS Plan.” By making use of media’s desire to inform its audience, public safety officials in {State} have and will continue to establish relationships with the media for the passage of critical, time-sensitive, information to the public. In many cases, a television or radio broadcast station that covers multiple counties/parishes or state-defined regions may be physically located in a neighboring state.

Periodically, especially after an incident occurs, {State} will conduct outreach to the public to collect feedback on the clarity and effectiveness of the messages that were broadcast. The responses should be reviewed to determine if any changes to the message content need to take place. The results should also be passed to the applicable state agency in order to share them for the benefit of other jurisdictions.

APPENDIX A: ACRONYMS

CAP	Common Alerting Protocol
CDW	Civil Danger Warning
CEM	Civil Emergency Message
CMAS	Commercial Mobile Alert System
CMRS	Commercial Mobile Radio Service
COG	Collaborative Operating Group
CMRS	Commercial Mobile Radio Service Emergency
EAS	Emergency Alert System
EMA	Emergency Management Agency
EMI	Emergency Management Institute
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
FIPS	Federal Information Processing Standard
ICS	Incident Command System
IPAWS	Integrated Public Alert and Warning System
LAE	Local Area Emergency
LEW	Law Enforcement Warning
MOA	Memorandum of Agreement
NAWAS	National Warning System
NCMEC	National Center for Missing and Exploited Children
NOAA	National Oceanic and Atmospheric Administration
NWEM	Non Weather Emergency Message
NWR	National Weather Radio
NWS	National Weather Services
OEM	Office of Emergency Management
OPEN	Open Platform for Emergency Networks
P2P	Peer-to-Peer
PKI	Public Key Infrastructure
PMO	Program Management Office
POC	Point of Contact
RMT	Required Monthly Test
RWT	Required Weekly Test
TEPW	Training and Exercise Planning Workshop
WEA	Wireless Emergency Alert

APPENDIX B: GLOSSARY

Agency Representative – A person assigned by a primary, assisting, or cooperating federal, state, local, tribal, or territorial government agency or private entity that has been delegated authority to make decisions affecting that agency's or organization's participation in incident management activities following appropriate consultation with the leadership of that agency.

Agency – A division of government with a specific function offering a particular kind of assistance. In the Incident Command System (ICS), agencies are defined either as jurisdictional (having statutory responsibility for incident management) or as assisting or cooperating (providing resources or other assistance).

Alerting Authority – Designated jurisdictional individual who is authorized to write and distribute an alert or warning.

Civil Danger Warning (CDW) – A warning of an event that presents a danger to a significant civilian population. The CDW, which usually warns of a specific hazard and gives specific protective action, has a higher priority than the Local Area Emergency (LAE) (e.g. contaminated water supply, terrorist attack). Public protective actions could include evacuation, shelter in place, or other actions (such as boiling contaminated water or seeking medical treatment).

Civil Emergency Message (CEM) – An emergency message regarding an in-progress or imminent significant threat(s) to public safety and/or property. The CEM is a higher priority message than the Local Area Emergency (LAE), but the hazard is less specific than the Civil Danger Warning (CDW).

Collaborative Operating Group – IPAWS is structured around Collaborative Operating Groups (COG). A COG is a virtual organization of alerting authorities that holds membership in IPAWS-OPEN and manages system access within that organization. When the application process is complete, FEMA will assign each agency a COG Identification number and Digital Certificate.

Disaster – The occurrence or imminent threat of widespread or severe damage, injury, or loss of life or property, or significant adverse impact on the environment, resulting from any natural or technological hazards, or a terrorist act, including but not limited to fire, flood, earthquake, wind, storm, hazardous substance incident, water contamination requiring emergency action to avert danger or damage, epidemic, air contamination, blight, drought, infestation, explosion, civil disturbance, or hostile military or paramilitary action. For the purpose of state or federal disaster declarations, the term disaster generally falls into one of two categories relative to the level of severity and impact on local and state resources. They are: Major - likely to require immediate state assistance supplemented by limited federal resources, if necessary, to supplement intra-state efforts and resources; and Catastrophic - will require immediate and massive state and federal assistance in both the response and recovery aspects. Local government's adaptation of the definition of a disaster denotes an event which threatens or actually does inflict damage to people or property, and is, or is likely to be, beyond the capability of the services, personnel, equipment, and facilities of a local jurisdiction, thereby requiring the augmentation of resources through state-directed assistance.

Emergency – A suddenly occurring and often unforeseen situation which is determined by the Governor to require state response or mitigation actions to immediately supplement local government in protecting lives and property, to provide for public health and safety, or to avert or lessen the threat of a disaster. Local government's adaptation of this definition connotes an event that threatens or actually does inflict damage to people or property, exceeds the daily routine type of response, and still can be dealt with using local internal and mutual aid resources.

Integrated Public Alert and Warning System (IPAWS) – In the event of a national emergency, the President will be able to use IPAWS to send a message to the American people quickly and simultaneously through multiple communications pathways. IPAWS is available to United States government officials as a way to alert the public via the Emergency Alert System (EAS), Wireless Emergency Alerts (WEA), NOAA Weather Radio and other National Weather Service dissemination channels, the internet, existing unique warning systems, and emerging distribution technologies.

Jurisdiction – A range or sphere of authority. Public agencies have jurisdiction at an incident related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political or geographical (e.g., city, county, state or federal boundary lines) or functional (e.g., police department, health department).

Law Enforcement Warning (LEW) - A warning of a bomb explosion, riot, or other criminal event (e.g. a jailbreak). An authorized law enforcement agency may blockade roads, waterways, or facilities, evacuate or deny access to affected areas, and arrest violators or suspicious persons.

Local Area Emergency (LAE) - An emergency message that defines an event that, by itself, does not pose a significant threat to public safety and/or property. However, the event could escalate, contribute to other more serious events, or disrupt critical public safety services. Instructions, other than public protective actions, may be provided by authorized officials. Examples include a disruption in water, electric or natural gas service, or a potential terrorist threat where the public is asked to remain alert.

Memorandum of Agreement (MOA) – An agreement document between two or more agencies establishing reciprocal assistance to be provided upon request (and if available from the supplying agency) and laying out the guidelines under which this assistance will operate.

Mutual-Aid Agreement – Written agreement between agencies and/or jurisdictions that they will assist one another upon request, by furnishing personnel, equipment, and/or expertise in a specified manner.

National Warning System (NAWAS) – A communication system of the federal government which provides warning to the population of an attack or other national emergency. Reception is at local and state warning points.

National Weather Services (NWS) – Federal government agencies charged with weather-related reporting and projections.

Shelter in place – Take immediate shelter where you are—at home, work, school, or wherever you can take protective cover. It may also mean "seal the room"; in other words, take steps to prevent outside air from coming in.

State – When capitalized, refers to any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any possession of the United States. See Section 2 (14), Homeland Security Act of 2002, Pub. L. 107-296, 116 Stat. 2135 (2002).

TEMPLATE

APPENDIX C: MESSAGING TEMPLATES

Emergency Alert System (EAS) message	
Event Code (required) – ADR, AVA, AVW, CAE, CDW, CEM, EQW, EVI, FRW, HMW, LAE, LEW, NUW, RHW, RMT, RWT, SPW, TOE, VOW	
	<i>This is the <eventCode> CAP element</i>
County Code(s)⁴ (required) – 6-digit extended FIPS code(s) not to exceed 31 codes	
	<i>This is the <geocode> CAP element with a valueName of “SAME” and value of a SAME 6-digit location</i>
Sent Time (required) – Must be within +/- 5 minutes of current time	
	<i>This is the <sent> CAP element</i>
Expires Time (required) – Must not exceed Sent Time by 99.5 hours	
	<i>This is the <expires> CAP element</i>
Sender Name (required) – Human-readable name of agency or authority issuing alert	
	<i>This is the <senderName> CAP element</i>
Description (required) – Human readable description of the hazard or event	
	<i>This is the <description> CAP element</i>
Instruction (optional) – Human readable instruction to targeted recipients	
	<i>This is the <instruction> CAP element</i>
EAS message⁵ – (FCC required text + description + instruction) 1800 characters or less	
<i>A CIVIL AUTHORITY HAS ISSUED A [text from Event Code] FOR THE FOLLOWING COUNTIES/AREAS: [text from County Code(s)] AT [h:mm AM/PM formatted time from Sent Time] ON [mmm dd, yyyy formatted date from Sent]</i>	

⁴ The County Code (aka FIPS code) will be rendered based on the textual equivalent listed in ANSI INCITS 31-2009 "Information technology-Codes for the Identification of Counties and Equivalent Areas of the United States, Puerto Rico, and the Insular Areas"

⁵ The EAS message will be rendered according to the formula defined in “ECIG Recommendations for a CAP EAS Implementation Guide, Version 1.0”

FCC Required Text + Description + Instruction

Where “FCC Required Text” includes the Originator, Event, Location and the valid time period of an EAS message.

And where the Description and/or Instruction may be truncated to ensure the overall message is 1800 characters or less.

Emergency Alert System (EAS) message

Time] EFFECTIVE UNTIL [h:mm AM/PM formatted time from *Expires Time*].
Message from [text of *Sender Name*]. [text from *Description*]. [text from
Instruction].

Wireless Emergency Alert (WEA) message

90-Char Text⁶ (optional) – 90 characters or less, no phone numbers, no URLs

This is the <parameter> CAP element with a valueName of “CMAMtext” and value of free form text limited in length to 90 English characters

NOAA Weather Radio (NWR) message

Sender Name⁷ (required) – Human-readable name of agency or authority issuing alert

This is the <senderName> CAP element

Headline (required) - 160 characters or less

This is the <headline> CAP element

Description (required) – (Instruction + Description) 160 words or less

This is the <description> CAP element

Instruction (optional) – (Instruction + Description) 160 words or less

This is the <instruction> CAP element

NWR message –

*THE FOLLOWING MESSAGE IS TRANSMITTED AT THE REQUEST OF THE
[text from **Sender Name**] . [text from **Headline**]. [text from **Description**]. [text
from **Instruction**].*

Assumptions:

- The additional required fields for each dissemination channel are correctly populated
- The alerting tool will map the required fields to the proper CAP fields

⁶ If this element is not present, the WEA message will be rendered according to the formula defined in “Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Specification”
<eventCode> in this area until <expires> [<responseType>, or "Take Shelter Now" if <eventCode>=SPW,
or "Evacuate Now" if <eventCode>=EVI] <senderName>

⁷ Must be of the form <CogName>,<City>,<State>

- The element values used to populate the CAP message are consistent with COG permissions such that permissions-based errors are not generated

References:

- 47 CFR Part 10 (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=47:1.0.1.1.11&idno=47>)
- 47 CFR Part 11 (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&sid=75127c72007aa6a3f1ce8fda8cb814e2&rgn=div5&view=text&node=47:1.0.1.1.12&idno=47>)
- ECIG Recommendations for a CAP EAS Implementation Guide, Version 1.0 (http://www.eas-cap.org/ECIG-CAP-to-EAS_Implementation_Guide-V1-0.pdf)
- Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Specification
- Common Alerting Protocol Version 1.2 (<http://docs.oasis-open.org/emergency/cap/v1.2/CAP-v1.2-os.pdf>)
- Common Alerting Protocol, v. 1.2 USA Integrated Public Alert and Warning System Profile Version 1.0 (<http://docs.oasis-open.org/emergency/cap/v1.2/ipaws-profile/v1.0/cap-v1.2-ipaws-profile-v1.0.pdf>)
- IPAWS-OPEN v3.04 Web-Service Interface Design Guidance
- Federal Information Processing Standards (FIPS) codes (<http://www.census.gov/geo/www/ansi/countylookup.html>)
- NATIONAL WEATHER SERVICE INSTRUCTION 10-1708 (<http://www.nws.noaa.gov/directives/sym/pd01017008curr.pdf>)

APPENDIX D: USING IPAWS IN PRE-PLANNED EVENTS

The use of IPAWS in advance of a pre-planned event is a viable method to alert the public of an event and mitigate panic and risk to the public and participants. These messages would advise the public of the event, communicate there is no cause for alarm, or warn the public of any potential risks. This guideline does not override the authority of the individual jurisdiction's elected officials and emergency management staff. Any alert must still be approved by the alerting authority for the jurisdiction before being sent.

Planning: During the planning of a pre-planned event (exercise or public event), the risks associated with the event should be identified. If the planned event has a potential risk to the public or public safety, the use of IPAWS to mitigate that risk may be appropriate.

Examples of events and risks:

- ✓ Controlled burn of large area
Risks: Smoke on roadway impairing driving, medical conditions of people in area
- ✓ School Active Shooter Exercise
Risks: Panic of the general public in the area, Good Samaritan's reaction and putting the players at risk
- ✓ Major bicycle road race
Risks: Traffic accidents, injury to riders and bystanders

During the planning for each event, the authority should review the event and identify the risks. These risks should be reviewed against the permitted uses and target audiences of the various IPAWS dissemination media. The alerting authority will determine if the use of IPAWS is appropriate. Guidelines for the use of IPAWS should be defined and documented in the event plan or an appendix.

Authorized Use: IPAWS has several dissemination pathways. Each system has a different audience and rules for use.

Dissemination System	Audience	Rules	Notes
Emergency Alerting System (EAS)	Broadcast radio and television viewers (not internet or satellite)	47 CFR 11 State EAS Plan	Broadcasters are not required to retransmit alerts from local authorities. An EAS alert will be delivered to a large audience.
Wireless Emergency Alerts (WEA)	Wireless phones in the area of the alert	47 CFR 10	WEA has specific criteria for use. See * below.
Non-Weather Emergency Messages (NWEM)	Weather radio users	NWS policies	NWEM alerts will be sent to a National Weather Service transmitter that covers a large area. The alert may also be rebroadcast by broadcast radio and television as an EAS message, but the entities are not required to do so.
IPAWS All	Third-party software and	IPAWS rules	Currently, defining specific criteria for

Dissemination System	Audience	Rules	Notes
Hazards Alert Feed	service providers; usually a subscription type service		delivery due to the many varied systems using this data is unclear.
Collaborative Operating Group (COG) to COG	Other specific COGs	IPAWS rules	Used to coordinate and share information between COGs.

Message Format/Content:

When using IPAWS for a pre-planned event, the alerting authority has the ability to write alert messages in advance to properly communicate the message. Using message templates, various expected messages should be developed to use or have available in the event they are needed.

TEMPLATE

APPENDIX E: FEMA IPAWS APPLICATION INSTRUCTIONS

Who can sign up to use IPAWS in {State}?

- ✓ {State Government Organizations}
- ✓ {Local Government or Public Safety Organizations}

Pathways for alerting are:

- ✓ Emergency Alert System (EAS): alerts to broadcasters
- ✓ Wireless Emergency Alerts (WEA): alerts to cellphones
- ✓ Non-Weather Emergency Message (NWEM): alerts to NOAA Weather Radio All Hazards
 - In addition to signing up for IPAWS, operational NWEM capability requires additional COG level permissions from the National Weather Service to submit NEWM messages. For more information, refer to:
<http://weather.gov/os/hazcollect>.

Selecting Alert Origination Software

Ensure that the selected software includes all functions you may require (e.g. ability to describe an area using a map polygon, easily accessed “Cancel” function, straightforward alert creation, etc.)

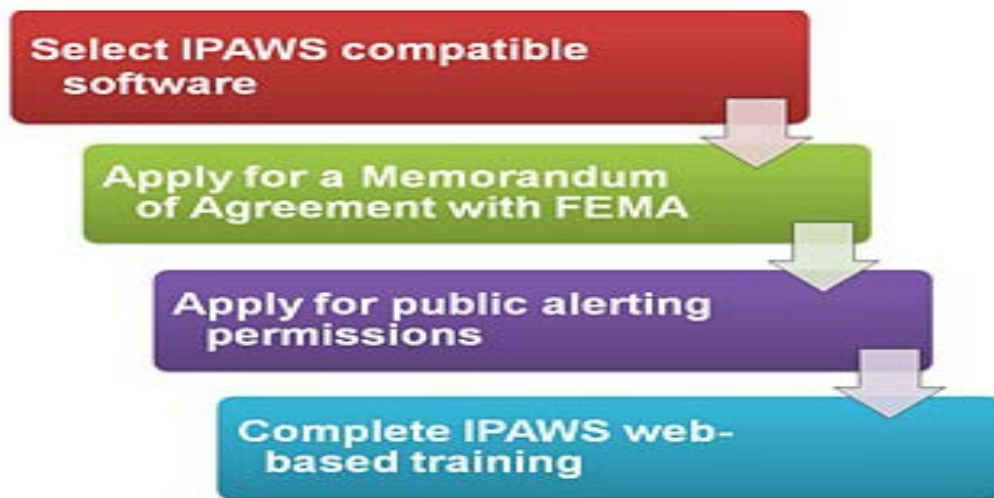
Relation with Governance Structure

Alerting authorities should reference their state emergency communications and EAS plans to govern alerting responsibilities for their state and local jurisdictions. COG permissions, including alerting jurisdictions and permissible alerting codes, should be established in accordance with established state emergency communications and EAS plans.

All state EAS plans are available on the Federal Communications Commission website at:
<http://www.fcc.gov/encyclopedia/state-eas-plans-and-chairs>

How to sign up for IPAWS:

How to sign up for IPAWS



1. Select IPAWS compatible software
 - Access to IPAWS is free; however, to send a message using IPAWS, an organization must procure its own IPAWS compatible software.
 - i. You should ensure that the software that is chosen meets your organization’s specific requirements
 - Consult with your software developer to ensure your system is IPAWS-OPEN compatible and provides the capabilities that your organization requires.
 - For a list of private sector developers who have access to IPAWS-OPEN, please view the list of IPAWS-OPEN developers at www.fema.gov/ipaws/alerting-authorities.
2. Apply for a Memorandum of Agreement (MOA) with FEMA
 - To become a COG, a MOA governing system security must be executed between the sponsoring organization and FEMA. Each MOA is specifically tailored to the sponsoring organization and their interoperable software system.
 - Download and complete the IPAWS Operational COG Application: <http://www.fema.gov/media-library/assets/documents/27077?id=6019>
 - Email this application directly to FEMA at: IPAWS@FEMA.DHS.GOV. Please indicate in the subject line of the email “COG Application.”
 - The FEMA COG coordinator will prepare and return the MOA for signature after it is submitted and assign a COG identification (ID). After being signed by the applicant, the MOA will be routed for FEMA signatures. A copy of the executed MOA and the COG-specific digital certificate will be returned to the sponsoring organization. Both the COG ID and digital certificate are necessary to configure the IPAWS compatible software system. After completing these steps, the

organization will have the capability to exchange messages and content between COGs. Please note, these messages will not be sent to the public.

3. Apply for public alerting permissions
 - If applicable, you will receive a public alerting application along with your unsigned MOA. This application must be signed by the designated state official.
 - Complete this application defining the types of alerts a COG intends to issue and the extent of its geographic warning area.
 - i. The contact information for the designated state reviewer will be provided with the public alerting application.
 - This form will be submitted for approval to:
 - i. The State of {State} at: examplepoc@state.gov
 - Once the signed form is received, please send it to IPAWS@FEMA.DHS.GOV.
4. Complete IPAWS web-based training
 - Complete IS-247.A <http://training.fema.gov/EMIWeb/IS/is247a.asp>
 - i. The goal of this course is to provide authorized public safety officials with:
 1. Increased awareness of the benefits of using IPAWS for effective public warnings
 2. Skills to draft appropriate, effective, and accessible warning messages
 3. Best practices in the effective use of Common Alerting Protocol (CAP) to reach all members of their communities
 - ii. The course should take approximately two hours to complete and is a prerequisite for full access to IPAWS-OPEN for the purpose of public alerting. FEMA does not provide training on third-party authoring software. Contact your vendor for any software support questions.
 - Send the Certificate of Achievement to:
 - i. The State of {State} at: examplepoc@state.gov
 - ii. FEMA at: IPAWS@FEMA.DHS.GOV

Completing the application

Once the public alerting application and web-based training are complete, specific alerting permissions will be implemented in IPAWS-OPEN. At that point the individual members specified by the COG will be able to send alerts and warnings in the geographically prescribed areas.

Initial functionality includes the ability to access and send alerts through:

- ✓ the Emergency Alert System (EAS)
- ✓ the National Weather Service (NWS) All-Hazards Emergency Message Collection System for NWS-approved alerting authorities
- ✓ Wireless Emergency Alerts (WEA), depending on local implementation by commercial mobile service providers.

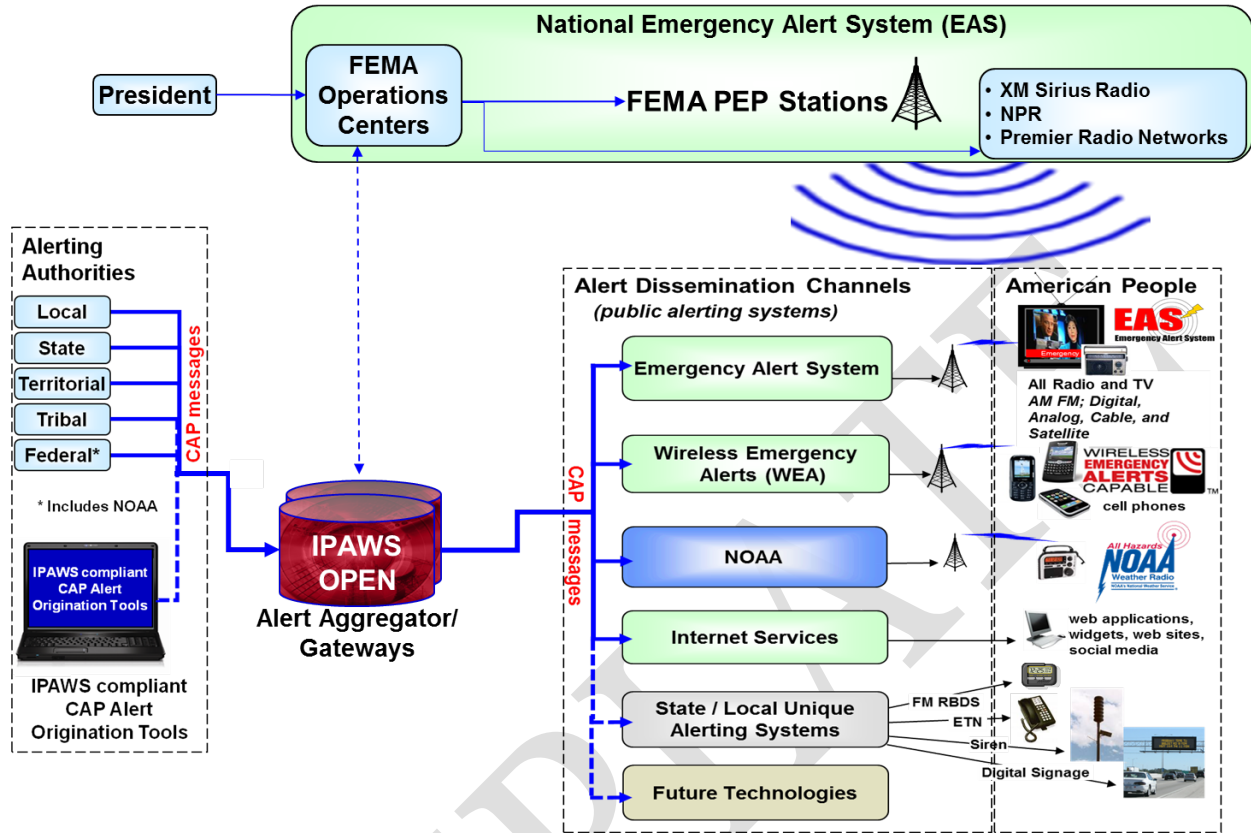
Go to www.fema.gov/ipaws/alerting-authorities for a list of emergency management organizations with access to IPAWS for public alerting.

The {State} Emergency Management and Homeland Security Director recommends going to the FEMA IPAWS website at www.fema.gov/ipaws to view a short five minute video about IPAWS before beginning the process of implementing IPAWS in your jurisdiction.

In addition to the introductory video, IPAWS informational materials, including the “IPAWS Toolkit for Alerting Authorities”, can be found at <http://www.fema.gov/informational-materials> and at statewebsite@state.gov/ipaws.

TEMPLATE

APPENDIX F: IPAWS ARCHITECTURE



APPENDIX G: IPAWS SUPPORTS ALL FIVE MISSION AREAS OF PREPAREDNESS

Public Alerts and Warnings Support Preparedness Goals

The Integrated Public Alert and Warning System (IPAWS) support all preparedness mission areas: prevention, protection, mitigation, response, and recovery efforts. IPAWS delivers coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods. IPAWS effectively relays information regarding any threat or hazard, as well as the actions being taken and the assistance being made available, as appropriate.

[These points can be used in policy writing, grant writing, etc. to increase understanding of the value and impact public alerts and warnings can have in support of all aspects of emergency management.]

Prevention

- ✓ Communicates timely and well-coordinated information to the public through standardized procedures
- ✓ Informs the American public of pending threats, as appropriate, and provides critical instruction on the precautions necessary to protect themselves, their families, and their property
- ✓ Tailors alerts to best meet the specific needs of the audience
- ✓ Shares prompt and actionable messages with the public and other stakeholders, as appropriate, to aid in the prevention of imminent or follow-on terrorist attacks

Protection

- ✓ Protects and enhances the overall physical and logistical health of communications
- ✓ Improves the sector's national security and emergency preparedness posture with state, local, territorial, tribal, federal, international, and private sector entities to reduce risk

Mitigation

- ✓ Warns people of the risks in their community and the actions they can take to mitigate those threats
- ✓ Alerts children, individuals with disabilities or access and functional needs, diverse communities, and people with Limited English Proficiency (LEP)
- ✓ Supports and increases the number of communities that develop and share risk reduction products
- ✓ Provides the tools necessary to make decisions quickly
- ✓ Shares information obtained through coordinating activities to inform response and recovery decision making by effectively communicating threat and hazard risk analysis

Response

- ✓ Informs all affected segments of the community by all means necessary, including accessible tools, of critical lifesaving and life-sustaining information to expedite the delivery of emergency services and aid the public in taking protective actions
- ✓ Delivers credible messages to inform ongoing emergency services and the public about protective measures and other life-sustaining actions and facilitate the transition to recovery

Recovery

- ✓ Informs all affected segments of the community by all means necessary, including accessible tools
- ✓ Utilizes existing resources to promote effective recovery and support states, territories, tribes, federal, and other jurisdictions affected by a disaster
- ✓ Promotes effective recovery, particularly for those incidents that are large-scale or catastrophic
- ✓ Provides a flexible structure that enables disaster recovery managers to operate in a unified and collaborative manner
- ✓ Manages expectations throughout the recovery process and ensures the public has a clear understanding of available assistance and their roles and responsibilities
- ✓ Supports the development of state, local, tribal, territorial, and federal government communications plans

APPENDIX H: OTHER TOPICS FOR CONSIDERATION

When updating emergency communication plans, addressing these topics may be of benefit to stakeholders.

- ✓ Child abduction activation procedures (e.g. AMBER Alerts)
- ✓ Weather-related activation procedures
- ✓ State and local officials authorized to activate public alerts and warnings
- ✓ Authentication procedures to activate public alerts and warnings
- ✓ Private sector alerting partners
- ✓ {State} alerting maps
- ✓ Testing requirements
- ✓ Coordination with neighboring states
- ✓ Alerting people with disabilities and others with access and functional needs

TEMPLATE