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State of California
Alert & Warning Guidelines

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Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

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1. Table of Contents

The State of California Alert and Warning Guidelines will be reviewed annually.

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2. Executive Summary

A comprehensive alert and warning program is a critical component to a community's ability to effectively respond to emergencies. With recent disasters in California highlighting the differences and inconsistencies among various alert and warning programs across California, emergency management leadership representing California's Standardized Emergency Management System identified the need to establish statewide guidelines for the purpose of enabling and encouraging consistent application of alert and warning best practices, procedures, and protocols.

It is the intent of the Legislature that, in the event of another catastrophe, like the 2017 firestorms, every tool be used to alert and warn all members of the public in the affected area. The Legislature finds and declares that the safety of local communities requires designated alerting authorities to ensure they have multiple operators, adequate testing and training, and functional equipment and software. It is therefore the intent of the Legislature that, to the extent designated alerting authorities have difficulty acquiring or maintaining adequate alert and warning resources, those designated alerting authorities may consult with the Office of Emergency Services on best practices to achieve those goals.

These Statewide Alert and Warning Guidelines were developed in collaboration with a group of local, state, federal and tribal partner's as part of the Standardized Emergency Management System (SEMS) Technical Group, through the SEMS Alert and Warning Specialist Committee.

The document provides guidance and expectations for jurisdictions and designated alerting authorities implementing an alert and warning program within the State of California. Additionally, the document provides overarching direction to the sub-components of the statewide alert and warning system, including the State Emergency Alert System (EAS) Plan, sub-jurisdictional alert and warning programs, and local EAS and alert and warning plans.

The Statewide Alert and Warning Guidelines address the critical components of an effective and comprehensive alert and warning program, including:

- Roles and Responsibilities;
- When and How to Issue a Public Alert or Warning;
- Methods and Technologies;
- Messaging;
- Alerting Coordination;
- Training Requirements; and
- System Testing and Exercise Requirements.

The Statewide Alert and Warning Guidelines enable the development of robust and effective alert and warning programs throughout California by providing a comprehensive articulation of best practices, protocols, and procedures used by jurisdictions from across the spectrum of California communities.

3. Acknowledgements

The Statewide Alert and Warning Guidelines were developed as part the Standardized Emergency Management System (SEMS) Technical Group through the SEMS Alert and Warning Specialist Committee and were approved and adopted by the SEMS Advisory Board on January 24, 2019. Per the SEMS Alert and Warning Specialist Committee Charter committee membership included representatives from the following agencies, associations, and stakeholder groups:

- California Governor's Office of Emergency Services
- California Fire Chiefs Association
- California Police Chiefs Association
- California State Sheriffs Association
- Mutual Aid Regional Advisory Committee Region 1
  - Orange, LA, Ventura, Santa Barbara, and San Luis Obispo Counties
- Mutual Aid Regional Advisory Committee Region 2
  - Contra Costa, San Francisco, San Mateo, Santa Cruz, Monterey, San Benito, Santa Clara, Alameda, Del Norte, Humboldt, Mendocino, Lake, Sonoma, Napa, Marin and Solano Counties
- Mutual Aid Regional Advisory Committee Region 3
  - Siskiyou, Modoc, Lassen, Shasta, Trinity, Tehama, Plumas, Sierra, Butte, Glenn, Colusa, Sutter, and Yuba Counties
- Mutual Aid Regional Advisory Committee Region 4
  - Nevada, Placer, El Dorado, Alpine, Tuolumne, Calaveras, Amador, Yolo, Sacramento, San Joaquin, and Stanislaus Counties
- Mutual Aid Regional Advisory Committee Region 5
  - Mariposa, Merced, Madera, Fresno, King, Tulare, and Kern Counties
- Mutual Aid Regional Advisory Committee Region 6
  - Imperial, San Diego, Riverside, San Bernardino, Inyo, and Mono Counties

The SEMS Alert and Warning Specialist Committee was chartered for the purpose of "review[ing] and finaliz[ing] the new California Statewide Alert and Warning [Guidelines] document, which will include guidance on alert and warning procedures, protocols, equipment and training." Committee members worked extensively over six months to develop the final draft for review and approval by the SEMS Advisory Board, including attending an in-person workshop to develop the first comprehensive draft and facilitating collection of comments by represented constituencies.

The SEMS Alert and Warning Specialist Committee members are listed below:

Name	Agency	Role
Kelly Huston	Cal OES	Committee Co-Chair
Caroline Thomas Jacobs	Cal OES	Project Manager
Brenna Howell	Sutter County OES	MARAC Region III
Dana Carey	Yolo County OES	MARAC Region IV
Andrew Lockman	Tulare County OES	MARAC Region V
Heather Tiernan	Contra Costa County OES	MARAC Region II
Paul Hess	Alameda OES	MARAC Region II (Alt)
Brian Uhl	Santa Barbara OES	MARAC Region I
Zackary Mullennix	San Bernardino OES	MARAC VI
Jeff Meston	S. Lake Tahoe Fire	CA Fire Chiefs
Hank O'Neill	Cal OES	PSC
Budge Currier	Cal OES	PSC (Alt)
Randy Gonzales	Cal OES	Warning Center
Grady Tunnell	Cal OES	Warning Center (Alt)
Vance Taylor	Cal OES	AFN
Kim Zagaris	Cal OES	Fire & Rescue
Ken Corney	Ventura PD	Cal Chiefs
William Imboden	Saint Helena PD	Cal Chiefs
Robert Giordano	Sonoma Sheriff	State Sheriffs

External stakeholders who participated in the draft reviews included, but are not limited to, Federal Emergency Management Agency (FEMA), the National Weather Service (NWS), California Emergency Services Association (CESA), California Tribal communities, California Broadcasters Association, numerous Operational Area emergency management departments, and several city departments.

The California Governor's Office of Emergency Services, SEMS Advisory Board, SEMS Technical Group, and SEMS Alert & Warning Committee extend a big thank you to all who participated in the development of these critical statewide guidelines that support development of consistent and effective alert and warning programs across California communities.

4. Purpose

The California Statewide Alert & Warning Guidelines provides the minimum expectations for jurisdictions and designated alerting authorities to implement an alert and warning program within the State of California. The document provides overarching direction to the sub-components of the statewide alert and warning system, including the State EAS Plan, sub-jurisdictional alert and warning programs, and local EAS and alert and warning plans.

5. Intended Audience

The intended audience for this document is the agencies and jurisdictions within California that have a role in ensuring the public is notified effectively before, during, and after emergencies of protective actions to be taken.

6. What is Public Alert & Warning

A **public alert** is a communication intended to attract public attention to an unusual situation and motivate individual awareness. The measure of an effective alert message is the extent to which the intended audience becomes attentive and searches for additional information.

A **public warning** is a communication intended to persuade members of the public to take one or more protective actions in order to reduce losses or harm. The measure of an effective public warning message is the extent to which the intended audience receives the message and takes the protective action and/or heeds the guidance.

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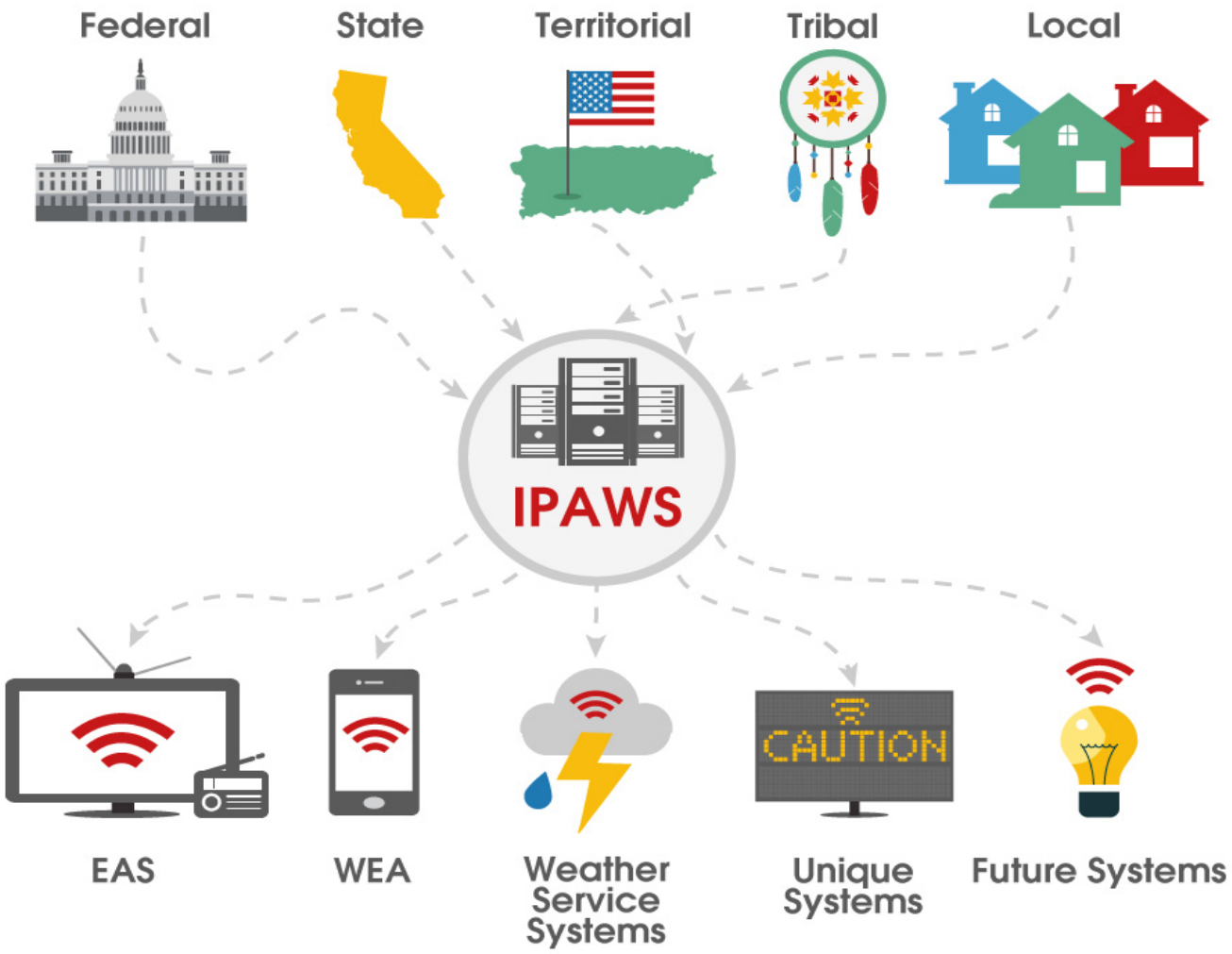
7. Roles and Responsibilities

Planning for, preparing, and disseminating alerts and warnings are the responsibility of multiple levels of government. Each level of government—and designated entities within those levels—hold responsibility and/or authority to ensure the overall effectiveness of the statewide alert and warning system in the State of California.



7.1 LOCAL GOVERNMENT

It is an inherent responsibility of local government organizations and officials to keep the public informed about natural, human-caused, and technological disasters in addition to what actions they need to take to protect themselves and their families. Depending on how the local area governments have organized and coordinated the local area alert and warning system, the local government responsibility can be inclusive of city, special district, county, and multi-county jurisdictions.

Local government officials typically have the most accurate and timely understanding of the situation, necessary protective actions, and potential adverse impacts of the incident. It is incumbent upon local officials to rapidly and adequately communicate to the public what is occurring and any steps or actions the public needs to take.

These actions could include but are not limited to:

- Evacuation orders (Including evacuation routes, shelter info, key information, etc.);
- Locations of points of distribution (for food, water, medicine, etc.);
- Direction to move to higher ground;
- HazMat incidents;
- Red Flag warnings;
- Weather alerts;
- Lockdown; and
- Shelter-in-place guidance.

The above scenarios may trigger a local jurisdiction to send out an alert via one or more of their alerting tools.

Specifically, local entities, as defined in the local area alert and warning plan(s), are responsible for:

- Enactment of ordinances and/or policies identifying local roles and responsibilities to enable the issuance and coordinated dissemination of alerts and warnings to the public by responsible officials within their jurisdictions regarding imminent threats to human life and health and extraordinary threats to property;

- Installation, maintenance, user training and exercise/testing of local public alert and warning capabilities within their jurisdiction;
- Understanding the access and functional needs-related considerations associated with public alert and warning systems and messaging;
- Obtaining authority and tools for accessing federal warning systems as a Collaborative Operating Group (COG) via the FEMA Integrated Public Alert and Warning System (IPAWS);
- Participate in revisions of mandated Federal Communications Commission (FCC) local EAS plans, including approval of authorized event codes;
- Development of procedures *for proper chain of command for* initiating, cancelling, and revoking accidental alerts, and for rapidly correcting and updating alert details as additional information becomes available;
- Coordination with adjoining jurisdictions, Operational Areas, the State, and the NWS regarding origination of alerts and warnings over NWS Weather Radio related to hazards that have effects across jurisdictional boundaries; and
- Developing, maintaining, and submitting to the State EAS Committee a Local Emergency Alert System Plan (Local EAS Plan).

Within SEMS regulations, Operational Areas are responsible for coordinating response and recovery support to county sub-jurisdictions, e.g. cities and special districts, which includes coordination of mass notification alerts, within the authority of the Local EAS Plan.

Specifically, Operational Areas are responsible for:

- Coordinating with all Alerting Authorities within an Operational Area and Operational Areas within same Local EAS Plan, as needed to effectively manage an incident and prepare and warn the public;
- Coordinating training, testing, and exercising of county-wide alerting and warning systems;
- Incorporating alert and warning systems into Operational Area standard procedures and protocols; and
- Utilization of IPAWS as a component of the county-wide alert and warning plan.

7.2 STATE GOVERNMENT

Recognizing that virtually all disasters emerge on a local level, the main public alert and warning responsibility of the state is to provide training, consultation, and guidance on alert and warning standards and best practices to local government entities. This includes establishing access to and utilizing available urgent communications tools, such as the federal IPAWS network. The state will work with Operational Areas to support their mass notification activities, and, when requested, serve as a back-up capability for the Operational Area. The state may need to issue public alerts under its own authority when an incident's severity and breadth of impact threatens multiple operational areas. When the State issues an alert or warning, every effort will be made to coordinate with the impacted Operational Area(s) and possibly National Weather Service within the available timeframe prior to issuing a public alert and/or warning.

The State of California, acting through California Highway Patrol, is responsible for:

- Distributing public alerts regarding the well-being of at-risk children (AMBER Alerts), elders (SILVER Alerts), and officer safety (Blue Alerts) to law enforcement, broadcasters, the National Center for Missing and Exploited Children (NCMEC), Lottery, ports of entry, and members of the public;

The State of California, acting through Cal OES, is responsible for the following as it relates to alert and warning:

- Relaying war emergency and other emergency alerts and notifications from state or federal authorities to appropriate offices and Operational Areas within the state;
- Issuing public alerts and warnings for all hazards when an incident's severity and breadth of impact threatens multiple jurisdictions;
- Coordination with adjoining jurisdictions, Operational Areas, the state, and NWS regarding origination of alerts and warnings related to hazards that have effects across jurisdictional boundaries or over NWS Weather Radio;
- Managing the California State Warning Center (CSWC) and the California Warning System (CALWAS), which is a state-sub circuit of the federal National

Alert and Warning System (NAWAS) linking the State Warning Center and State Alternate Warning Center with Operational Area warning points;

- Assisting in coordination and when necessary/appropriate, issuing of public warning and alerting activities that affect multiple Operational Areas;
- Ensuring that state laws and regulations facilitate the efficient maintenance, testing, and use of public alert systems at all levels of state and local government;
- Publicizing standards of practice for effective and consistent statewide public alert and warning maintenance and execution;
- Providing standard, baseline alert and warning training to alerting authorities and originators;
- Direction and management of Earthquake Early Warning within the state;
- Providing technical and programmatic guidance to cities, special districts, Operational Areas, 9-1-1 centers and other state agencies regarding the implementation and use of public alert and warning; and
- Participating on the California EAS Plan Committee, which includes maintaining copies of local EAS plans.

The California State Warning Center is tasked, on a daily basis, with information gathering and inter/intragovernmental notifications (see California State Warning Plan www.caloes.ca.gov/warningcenter). Nothing in this plan is intended to conflict with, or supersede, any existing arrangement for dissemination of public alerts and warnings by local, state, or federal agencies.

7.3 TRIBAL GOVERNMENT

Tribal elected officials may designate which public safety officials in their tribe are granted the authority to alert the public of emergency situations occurring that can affect tribal members. These officials are responsible for informing their members about natural and human-caused disasters, and what actions they need to take to protect themselves and their families. Some of these actions could include, but are not limited to:

- Evacuation orders;
- Locations of points of distribution (for food, water, medicine, etc.);
- Direction to move to higher ground; and
- Shelter-in-place guidance.

Tribal governments that choose to access federal warning systems via the IPAWS may be responsible for:

- Installation, maintenance, user training and exercise/testing of local public alert and warning capabilities within their jurisdiction;
- Ordinances and/or policies enabling the issuance and effective dissemination of alerts and warnings to their jurisdictions regarding imminent threats to human life and health and extraordinary threats to property;
- Understanding the access and functional needs-related considerations associated with public alert and warning systems and messaging;
- Policies and procedures for cancelling and revoking accidental alerts, and for rapidly correcting and updating alert details as additional information becomes available; and
- Coordination with adjoining jurisdictions, Operational Areas, and the state regarding origination of alerts and warnings related to hazards that have effects across jurisdictional boundaries.

7.4 FEDERAL GOVERNMENT

FEMA is the lead federal agency for coordination and implementation of IPAWS. FEMA ensures that this nationwide system is maintained and operational. FEMA's stated goals for IPAWS are to:

- Operate NAWAS to notify state warning points and other critical operations centers of a wide variety of events including military attacks. NAWAS is controlled from FEMA's Operations Center and the FEMA Alternate Operations Center in the National Capital Region;
- Build and maintain an effective, reliable, integrated, flexible, and comprehensive alert and warning system;
- Diversify and modernize the broadcast EAS;
- Issue an IPAWS MOU and IPAWS certificate with the Collaborative Operating Group (COG) jurisdictions, acknowledging the approved event codes, and designated alerting authorities, ensuring required certificated training has been completed;
- Create an interoperability framework by establishing or adopting standards, such as the Common Alerting Protocol (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 National Oceanic and Atmospheric Administration (NOAA) for seamless integration of message transmission through NWS national networks;
- Facilitate dissemination of Presidential Alerts during a national emergency;
- Receive and authenticate alert messages, then simultaneously deliver to all IPAWS–compliant public alerting systems; and
- Ensure that required Emergency Management Institute (EMI) courses are available and updated periodically.

7.4.1 NATIONAL WEATHER SERVICE

The NWS has responsibility for originating public warnings regarding weather hazards. The NWS operates several public alert and warning dissemination systems, including NOAA Weather Radio All Hazards (NWR), a network of over 1,000 VHF radio transmitters serving the population of the United States, NOAA Weather Wire Service (NWWS), and the Emergency Managers Weather Information Network (EMWIN). In addition, the NWS National Tsunami Warning Center issues Tsunami statements, watches and warnings which are disseminated by the Coastal CA NWS offices. While the NWS has responsibility for weather-related alerting, local government is not precluded from sending notifications and alerts in support of weather events.

NOAA Weather Radio All Hazards (NWR)
NWR is an "All Hazards" radio network, making it a single source for comprehensive weather and emergency information. In conjunction with Federal, State, and Local Emergency Managers and other public officials, NWR also broadcasts/conveys warning and post- event information for all types of non-weather hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as civil emergency messages or 9-1-1 telephone outages)

EAS
The EAS is a national public warning system that requires broadcasters, cable television systems, wireless cable systems, satellite digital audio radio service (SDARS) providers, and direct broadcast satellite (DBS) providers to provide the communications capability for the President to address the American public during a national emergency. The system also may be used by state and local authorities to deliver important emergency information, such as AMBER alerts, SILVER Alerts, and weather information targeted to specific areas.

NWS and EAS
The FCC, in conjunction with FEMA and NOAA NWS, implements the EAS at the federal level. The NWS develops emergency weather information to alert the public about imminent dangerous weather conditions.

The NWS requests activation of the EAS for imminent and dangerous weather conditions,

uses NWR as its primary means to activate EAS, and NWS can assist with relaying state and local authorities' non-weather EAS messages and activations via NWR to communicate important non- weather emergency messages, such as 9-1-1 outages, shelter-in-place and Civil Emergency Messages. However, as of 2018, CHP ENTAC is responsible for AMBER alerts via IPAWS for the state of CA, triggering EAS and WEA accordingly.

With the exception of national-level activation of the EAS, it is voluntary for EAS participants, such as radio and television stations, to further relay NWS-generated messages. NWS EAS codes can be found here: https://www.weather.gov/NWR/eventcodes

Naming Convention for EAS Event Codes

The FCC established naming conventions for EAS event codes. In most cases, and for all future codes to be approved, the third letter of all hazardous state and local event codes is limited to one of four letters:

W for WARNINGS, A for WATCHES, E for EMERGENCIES, S for STATEMENTS

- A WARNING is an event that alone poses a significant threat to public safety and/or property, probability of occurrence and location is high, and the onset time is relatively short.
- A WATCH meets the classification of a warning, but either the onset time, probability of occurrence, or location is uncertain.
- An EMERGENCY is an event that, by itself, would not kill or injure or do property damage, but indirectly may cause other things to happen that result in a hazard. For example, a major power or telephone loss in a large city alone is not a direct hazard, but disruption to other critical services could create a variety of conditions that could directly threaten public safety.
- A STATEMENT is a message containing follow up information to a warning, watch, or emergency.

NWS and Wireless Emergency Alerts (WEA)

The NWS coordinates with its local partners prior to issuing WEA messages for continuity of operations and effective response. The NWS in conjunction with the FCC has an established list of weather warnings that will trigger WEA for the affected area, generally defined as a polygon. WEA messages are disseminated via FEMA's Integrated Public Alert and Warning System (IPAWS). The approved NWS warnings that will initiate a WEA are:

- Tsunami (TSW);
- Flash Flood (FFW) – including, due to dam inundation and debris flows;
- Tornado (TOR);
- Hurricane (HUW);
- Storm Surge (SSW);
- Dust Storm (DSW); and
- Extreme Wind (EWW)

8. Guidelines for Issuing Public Alert & Warnings

Events/incidents can evolve in extreme ways. Alert and warning needs to be an integral component of a jurisdiction's response to those events. Issuing public alerts and warnings requires the exercise of reasonable and well-informed judgment. This action must be well practiced and familiar to the initiator, when incidents dictate.

There is no all-encompassing formula for making warning decisions. There are, however, some evidence-based principles and best practices that can help guide the decision maker:

1) Incomplete or imperfect information is not a valid reason to delay or avoid issuing a warning. **Time is of the essence**, as recipients of warnings will need time to consider, plan, and act after they receive a warning message. This is particularly true among individuals with disabilities and people with access and functional needs. They may require additional time to evacuate or may be at increased risk of harm without notification.

2) Utilization of alerting mechanisms within the IPAWS should be a primary route to issue alert and warnings to ensure the greatest number of recipients within the impacted area are being alerted.

3) The responsibility for issuing alerts and warnings during an emergency rests with designated public officials—known as Alerting Authorities—that may include city, special districts, or Operational Area emergency managers/authorities, communications center staff, executive leaders, Incident Commanders (ICs), or designees in coordination with the local Public Safety Dispatcher, or Public Information Officer (PIO). Jurisdictional plans may identify designated individuals such as:
    a. Dispatch/9-1-1 personnel;
    b. Emergency management/EOC personnel;
    c. Fire personnel;
    d. Field IC;
    e. Health officers; and
    f. Law enforcement personnel.

4) Use of large-scale, wide ranging public warning systems are usually restricted to designated officials (Alerting Authorities). Operational Areas should ensure all local jurisdictions (cities, special districts and, when appropriate, private sector critical infrastructure) have the capability and a method to request the coordination and use of large-scale, wide ranging public warning systems when appropriate. When imminent danger threatens, all agencies can, and should, issue a warning to people with whom they have authority and responsibility to inform, using whatever means are at their agency's disposal.

5) Messages should come from an authoritative source and clearly identify the originating agency. Messages originating from an anonymous or unfamiliar source will be treated with skepticism by the public. Whenever possible, the Alerting Originator should be recognized by the target audience as knowledgeable on the threat.

6) Approved Alerting Originators should access alert and warning systems through a unique, individually identified account so that every warning message is attributable to a specific individual. Use of shared "agency accounts" to control access to warning systems can undermine the enforceability of usage policies and may violate a FEMA MOU to access IPAWS. Additionally, all warning system users should utilize a strong password for authentication— preferably, two-factor authentication when possible. Ensuring the security of the alerting software will reduce the chance of data breaches and ensure the public's trust in providing their contact information to an opt-in system.

7) Warning messages can, and should be, updated and refined as additional information becomes available. Additionally, when the threat or warning messages are no longer applicable, a message stating it no longer applies should be sent.

8) Warning messages sent in error should be updated, clarified, or retracted within ten minutes from the message being confirmed as being erroneous.

9. When to Issue Alert & Warnings

Warnings should be issued when there is an **imminent threat to life, health, or property**. This can include alerts and warnings issued in advance of forecasted severe weather events when doing so will give the public time to evacuate. When a threat exists, even though it might not be imminent, such as a Red Flag Warning, hurricane or flooding, it is advised to communicate that threat out to the public so that they may be better prepared. Warning systems, such as sirens, while helpful in alerting a community of a hazard, should not be used for reassuring the public that an ongoing situation or an upcoming event is not hazardous; other public information channels should be used for those purposes instead.

Fear of triggering "panic" is not a valid reason to delay or avoid issuing a warning. "Mass panic" very rarely occurs as the result of a warning message. Note that justified anxiety or physical flight is not the same thing as panic. When public warning information is delivered by a credible alerting authority, the public usually responds by following the recommended actions. Rarely do such warning messages lead to mistrust or panic.

When dealing with uncertain or conflicting information about a threat, the Alerting Authority should choose to **err on the side of protecting the public.** Some warning systems have provisions for communicating the general degree of certainty associated with threat information, but many only permit a yes-or-no decision as to warning the public. Reasonable detail should be provided, but a warning message is not the place for an extended discussion of scientific data and probabilities.

Irrelevant warnings can fatigue the public rapidly and lead to recipients discounting further warning messages or opting out of receiving future alerts and warnings. Every effort should be made—within the capabilities of the warning system(s)—to **limit the warning to people actually at risk**. Warning systems become more effective to the extent they can target limited areas or specific at-risk populations, such as NOAA Radio's Specific Area Message Encoding (SAME).

Structured training and practice will reduce **false alarms**. It is recommended that the alerting capability be practiced either in a simulated environment or in real time no less than twice a year. While repeated **false alarms** can be damaging to the credibility of both the source and the delivery channel, false alarms or erroneously issued warnings historically **have not significantly eroded public confidence** in issued warnings as long as they were promptly corrected or retracted. Warning originators should use their best judgment but err on the side of public safety.

9.1 AUTHORIZED USE

System	Access Approval Body	Permissible Use
IPAWS	COG under Local EAS Plan Communications Committee, FEMA Alerting Authority Application reviewed by CalOES	Life or property threats only, by local EAS plan designated alerting authorities
NOAA WEATHER RADIO (including HazCollect through IPAWS)	Local NWS Warning office	
Over Highway Signs	Local Caltrans Traffic Management Center and California Highway Patrol (CHP)	

For a current list of IPAWS approved alerting authorities, visit: https://www.fema.gov/alerting-authorities

9.2 TIMEFRAMES FOR ISSUING ALERTS & WARNINGS

Agencies should maintain an alerting capability at all times by maintaining a primary operational capability, as well as a back-up capability for use when the primary capability is not functioning or inaccessible. Maintaining the capability to send out an alert is imperative as disasters may strike at any time, and jurisdictions are responsible for informing the public in a timely manner of the threat and protective actions to take.

Agencies should issue alert and warning messages as soon as feasible given the circumstances of the situation. Access to the designated alerting authority and alerting originator should not be delayed due to limited resources or non-operational equipment. Designated alerting staff should have ready and reasonable access to primary or back-up alerting systems and be properly trained and well versed in how to operate the equipment.

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10. How to Issue Alert & Warnings

To ensure an effective alert and warning program a jurisdiction should closely coordinate and collaborate with all public safety agencies within the jurisdiction and neighboring communities to develop a shared understanding of the local alert and warning plan prior to an incident and specific alert and warning actions taken during an incident.

Warning messages should be distributed to all members, to the extent possible, of the community who are at risk, including commuters, travelers or transient populations, people with disabilities or access and functional needs, non-English speakers, people in remote or isolated areas, the elderly, and people with limited technology. Additionally, when providing emergency alerts and notifications, it is vital to note that local, state, and federal governments are keenly aware that not everyone receives or processes information in the same manner. The Americans with Disabilities Act (ADA) requires jurisdictions make all information accessible to their constituents, including emergency alerts and warnings. As such, governments must account for the access and functional related needs specific to alerts and warnings that impact all individuals, including those who are deaf or hard of hearing, blind or low vision, non-English speaking, persons with intellectual or developmental disabilities, or any others who receive and/or process information in different ways. Emergency alerts and warnings should account for the wide array of communication needs found in the public.

In some cases, it may be useful to offer alternative protective action recommendations for people who cannot implement the preferred recommendation, such as those with physical disabilities or medical conditions, or those without access to transportation. Also, as it may take longer for these populations to respond to a warning, earlier “pre-warnings” directed to them may be useful. However, initial warnings should not be delayed while alternate versions are being prepared. Translations or other variants of a warning message should be treated as updates.

People rarely act on a single warning message alone. To be effective, warnings should be delivered in various formats across multiple media platforms, both to increase reliability of warning delivery and to provide a sense of corroboration that will encourage recipients to take protective actions. Each community may have multiple methods to send out warning

messages, and each of these tools should be utilized with similar messages to ensure that the greatest number of individuals in communities receive the messages. When sending out messages, coordination amongst the jurisdictions within the impacted area is important to reduce confusion and ensure contradictory messages are not being sent.

11. Alert & Warning Methods and Technologies

11.1 METHODS

A successful alert and warning program is one that incorporates multiple methods and technologies to accomplish the goal of reaching the largest percentage of the target population. Selecting specific methods and technologies that will be most effective for the jurisdiction's demographic, cultural, and geographical area should consider:

- Mobile phone usage rate of target population;
- Community's adoption of Voice Over Internet Protocol (VOIP) vs traditional landline;
- Potential "off-the-grid" sub-communities;
- Generational usage of text vs email;
- Proportion of local vs transient population, such as travelers;
- Connectivity and bandwidth limitations of the community's geography and infrastructure; and
- Individuals with access and functional needs (AFN) (i.e. people with disabilities, seniors, children, limited English proficiency, and transportation disadvantaged).

11.2 IMPORTANT CONSIDERATIONS

All warning systems need to be ***protected*** from:

- Unauthorized activation;
- Improper use;
- Cyber security gaps;
- Interference with authorized activation (denial of service); and
- Outage due to lack of duplication or back-up services.

Special consideration should be given to implementing redundancy and enhancing interoperability, whenever possible, to prepare for:

- Loss of power;
- Loss of cell towers or overloaded cell systems;
- Internet outages;
- Overloaded networks;
- Cyber-attacks;
- Ability of carriers to redistribute;
- Overloaded infrastructure;
- Cross-jurisdictional needs; and
- Availability of staffing to effectively manage and deploy systems.

11.3 GENERAL FEATURES TO CONSIDER IN YOUR PROGRAM

11.3.1 ACCESS AND FUNCTIONAL NEEDS CONSIDERATIONS

To ensure messages are developed for maximum accessibility, alerting platforms should ideally include the ability to control the following:

- TTY/TTD;
- Font size;
- Color analyzer;
- Sound & vibrations;
- Flashes;
- Use of attachments (video);
- 508 compliance (use of screen-readers);
- Posting of accessible electronic content, documents, and videos; and
- Video relay as an option.

11.3.2 ALERT & NOTIFICATION SCHEDULES

To ensure the community is receiving relevant, timely, and actionable emergency information, the following items should be considered:

- Clearly designate a position within response operations to monitor current alert and warning content;
- Ensure the alerting authority, alerting originator, Public Information Officer (PIO), Joint Information Center (JIC), and designated social media staff are synchronized on current notifications; and
- Establish a schedule for determining whether the alerting and warning activities are achieving the intended outcomes, i.e. public is responding as intended. (This can be built into shift briefings.)

Note: Some alert and warning systems have a maximum time limit. Ensure all alerting stakeholders are aware of when messages may need to be renewed.

11.3.3 TRANSLATION OF NOTIFICATIONS

The state of California is comprised of many diverse communities, some of which include Limited English Proficiency populations. Identifying the most commonly used languages and having a process in place to translate warning messages, will ensure the greatest number of residents of the state of California receive the warnings that are being sent. It is important, however, to not let the inability to translate a message delay notification when time is of the essence and lives are at risk.

Culture
Due to the rich cultural diversity in California, communities may respond to messaging in an alert in different ways. For example, some communities may respond negatively to instructions from the government. Prior to an incident, it is important to locate trusted agents within communities who can help convey the intended meaning of a message and educate the impacted community on the jurisdiction's alert and warning program. This may include religious leaders, non-profit agency representatives, local elected officials, or prominent business owners within the respective community. Leveraging the relationships that have been established with these leaders will be a force multiplier when the time comes for a warning to be communicated out to the community.

Translation Technologies
Reduce reliance on free digital translation services as they can often misinterpret the message. Where feasible, contract with translation services, such as local translators and/or telephonic interpretation services.

Message Library
Jurisdictions are encouraged to establish a message library with sample messages that have been translated into the languages most commonly used in the communities that they serve. Pre-planned messages can save time in a disaster and ensure that accurate translations exist for messages that are critical for the community.

11.3.4 MULTI-MODAL / MULTI-PLATFORM SYSTEMS

A highly effective alert and warning program will use as many delivery methods as possible. The most effective system leverages all opportunities to link delivery systems, such as being able to send a message through text and social media through a single delivery system. It is critical to test or exercise the connectivity on a regular basis to confirm functionality with the various delivery methods.

11.3.5 OPT-IN FEATURES

With the growing adoption of VOIP and cellular phones, combined with the abandonment of traditional landlines, alert and warning systems should have an opt-in feature, which enables residents to add their contact information to the alert and warning contact database. The system should include functionality for residents and businesses to:

- Provide multiple phone numbers, e-mails, and cell numbers;
- Sign up for alerts at multiple addresses; and
- Sign up for communications related to specific target groups.

California Senate Bill 821 authorizes each county, including a city and county, to enter into an agreement to access the contact information of resident accountholders through the records of a public utility or other agency responsible for water service, waste and recycling services, or other property-related services for the sole purpose of enrolling county residents in a county-operated public emergency warning system. Additionally, the bill requires any county that enters into such an agreement to include procedures to enable any resident to opt out of the warning system and a process to terminate the receiving agency's access to the resident's contact information.

11.3.6 IN-PERSON NOTIFICATIONS

A successful alert and warning program relies not only on digital systems for notification, but also on low-tech systems for hard-to-reach areas, fast-moving events where first responders may already be in the location, and areas where digital systems may be unavailable

Door-to-Door

"Door-to-door" notification can be highly effective, especially when reaching people who are asleep, in rural areas, or not reached by other warning technologies. Dispatched personnel, most often law enforcement, should be trained in assisting individuals with access or functional needs, as well as, people who speak languages other than English. Personnel chosen to assist with this form of notification should be clearly identified (usually by a uniform of some kind), selected to connect with the audience they are intended to notify, and should be trained prior to an event.

When possible, personnel dispatched for door-to-door notification should have a flyer with the appropriate multi-language warning message. The flyer should include a visualization of the message in the form of a pictogram and/or maps. Personnel can use the flyer to explain visually the warning message and/or leave the flyer behind. Regardless of whether you are using a system or not, make sure any person going door-to-door can communicate with whomever answers the door by including visual materials and other supporting material.

11.3.7 LOUDSPEAKERS & PUBLIC ADDRESS SYSTEMS

Built-in audio announcement systems exist in many buildings and outdoor venues. These can be valuable provided:

a) The warning message is effectively written; and
b) The amplified audio is intelligible.

Fixed Location Public Address (PA) Systems

PA systems that are permanently installed at a facility are incredibly useful as they have already been designed by the owner of the facility to reach their target audience for internal messaging purposes. The challenges to be aware of are coordination with the system owner to use these systems. In some cases a system can be automatically triggered, and in others it is a more manual procedure. Special care should be impressed on the system owner to ensure all rooms in their facility are addressed. For example, sometimes PA speakers are not installed in bathrooms.

Mobile PA Systems

Public address loudspeakers are sometimes attached to aircraft and emergency response vehicles to notify people in more remote areas. Careful attention must be paid to the intelligibility of a message by the target audience. Systems mounted on aircraft should convey brief messages so that the entire message can be heard at a single point as the aircraft flies past. Vehicle-mounted systems may contain a slightly longer message provided the operator drives slowly enough for the entire message to be heard. Special care must be used when relying on hand systems, such as bullhorns, to enunciate the message as clearly as possible as the device itself can be hard to hear/understand.

11.3.8 PUBLIC SIRENS

The effectiveness of sirens in penetrating well-insulated homes and buildings can be limited. Sirens can be programmed to emit multiple distinctive sounds, but associating individual sounds with particular meanings can be problematic, requiring intensive public education.

Likewise, visitors from other areas may not recognize the meaning of a siren alert. Some siren systems are combined with a voice public address system, which can provide additional information once the siren sound attracts attention. However, reverberation amongst buildings and sound absorption by foliage can limit the intelligible range of voice messages. Sirens can be very effective for alerting people outdoors in parks or other public spaces. If a public siren is used for alert and warning, it should include an extensive public outreach campaign to train residents and visitors on what the siren means and the intended protective action. It is important to note, however, that visitors to the area may not understand the meaning of the siren or may interpret it as a different meaning based on their local norms.

11.3.9 OTHER APPROACHES

Many communities may have established institutions that can serve as effective alert and warning delivery systems. Consider coordinating with these embedded institutions to broaden the reach of alert and warning messaging.

- Church Bells;
- Community Bells;
- Foghorn;
- Digital outdoor billboards; and
- Navigational apps, such as Waze, Google Maps, and Apple Maps may add emergency notifications to their systems to warn uses of a threat or hazard.

11.3.10 INTEGRATED PUBLIC ALERT AND WARNING SYSTEM (IPAWS)

IPAWS is an internet-based capability, run by FEMA, which federal, state, local, tribal, and territorial authorities can use to issue critical public alerts and warnings. The three core components of IPAWS are EAS, WEA, and the NOAA Weather Radio. IPAWS also includes capabilities for unique alert systems, which includes dissemination of alerts through third-party applications, and future system development.

Emergency Alert System (EAS)
The federal EAS is used by alerting authorities to send warnings via (broadcast, cable, satellite, and wireline communications pathways). EAS can be used by local authorities in accordance with a pre-determined local EAS plan to alert their local jurisdictions of an imminent threat. Additionally, EAS enables the President to interrupt all broadcasts in one or more counties with an emergency announcement. Participation in local use of EAS is voluntary on the part of broadcasters except the Local Primary LP-1 and LP-2 stations. EAS messages are delivered to all listeners or viewers of stations serving a targeted county. Satellite and cable TV carriers also participate in EAS, but their capacity to geographically target dissemination is more limited. EAS can distribute warning messages over large areas very quickly, but cannot reach people who are not watching or listening to broadcast media, particularly people who are asleep.

Wireless Emergency Alert (WEA)
WEA are emergency messages sent by authorized government alerting authorities through the major mobile carriers. WEA alerts are targeted to a defined geographical area, and are presented differently than a typical text alert in order to differentiate it from regular notifications. They offer a unique alert tone and vibration accompanied by a brief push notification displayed uniquely on the end user's mobile device. WEA is an opt-out system. Mobile device users will receive the WEA notification unless they choose to deactivate the service on their mobile device.

WEA has the capability of notifying WEA-enabled cell phones within a selected geographic area, whether they have previously signed up or opted-in or not. This capability allows for both the residents of a given jurisdiction, and persons visiting the jurisdiction the ability to be notified.

National Oceanographic and Atmospheric Administration (NOAA) Weather Radio
Using technology similar to old-fashioned portable radio pagers, desktop radio receivers can be activated when they receive particular tone or data signals. The alerting signal is typically followed by audio information. The nationwide National Weather Radio network operated by the NOAA is the best known and most widely deployed example of this technology. Tone-alert radios can provide both alerting and warning detail quickly over a wide area but require an investment in the receiving equipment that many members of the public decline to make. Some NOAA Radios have Specific Area Message Encoding (SAME) capability allowing public or jurisdictions to limit warnings only in an area of concern.

11.3.11 CABLE OR SATELLITE TV OVERRIDE

In addition to participation in the EAS, many cable TV systems have a provision by which local authorities can interrupt the audio, and sometimes the video, of all channels with emergency notifications. The strengths and weaknesses of these systems are similar to those for EAS. An additional consideration is the risk of blocking or otherwise limiting access to news and other valuable information.

11.3.12 LOW-POWER LOCAL RADIO STATIONS & SIGNBOARDS

Some jurisdictions have their own low-powered radio stations, mobile radio trailers, and signboards. These units can receive updated alerts and warnings remotely that would help both the community and traveling public. The number of people who listen to these stations is very small, and often residents of a jurisdiction have no idea such stations exist.

11.4 TELEPHONIC & DIGITAL NOTIFICATION FEATURES

11.4.1 TELEPHONIC ALERT SYSTEMS

Many localities have the ability to call telephone numbers in an organizational database and play an audio message. This is commonly referred to as "reverse 9-1-1." Such systems can be very effective when notifying a known list of recipients, such as the members of a team, organization, or student body. The possibility of precise geographic targeting of messages has made such systems extremely popular.

Telephonic notification systems can provide extensive warning information. The amount of time to execute all of the calls, however, can be limited by the local telephone infrastructure, length of the verbal message, or limits on the technology initiating the calls. Additionally, while landlines may be automatically opted-into such databases, VOIP and cell-based phone lines are not.

When designing a telephonic alert and warning capability special considerations should be given to the following:

- Develop regular data refresh timelines to ensure data remains as up-to-date as possible within the system (automated, manual, quarterly, monthly, weekly, etc.);
- Yellow and White Page data traditionally includes a wide array of numbers that are less restricted in their usage than phone company purchased data;
- Data purchased from the phone company may already be available by partnering with the local PSAP in your area;
- Opt-in data used in a telephonic system increases the reach of the system on VOIP and cellular lines. A relatively small percentage of the population, however, tends to choose to opt in to these systems; and
- Use of a locally designed geo-coding service can ensure more accurate geo-coding than a commercially developed service (e.g. Google, Bing, etc.) but potentially requires more labor and/or costs.

11.4.2 EMAIL DISTRIBUTION

Many jurisdictions may already have e-mail distribution to various target audiences and might not even realize it. Almost every system that you manually sign up for will request an e-mail address for the account. Some websites have opt-in e-mail distribution systems designed to push e-mail notifications to target audiences when a webpage is updated. Coordination with these system owners can create a very large e-mail distribution network in your area. Some more common sources include:

- Governmental website change notification systems;
- School district parent contact systems;
- University systems;
- Chambers of Commerce and business groups; and
- Utility billing system

11.4.3 WEBSITE OVER-RIDE

Many websites managed by external companies via a Content Management System have the ability to override the home page of the website and display an emergency message prior to being re-directed to the normal homepage.

11.4.4 NON-WEA WIRELESS ALERTS AND TEXTING

In addition to WEA, alerts can target cellphones in a geographic area through independent Short Message Service (SMS) “text”-based platforms. Alerts sent by SMS will use the properties of the end- user’s phone for things like vibration and flashing lights. When incorporating SMS into an alert and warning program, it is important to focus on the system’s “callback” number to ensure the end-user recognizes the SMS as coming from an authoritative source. For example, some program’s brand their messages, such as 999-999-9999, and build awareness within their community.

11.4.5 INTERNET-BASED SERVICES

A wide array of internet-based alerting systems have been developed, including alerting via internet advertising channels. These tend to target pre-identified users of particular communities, although the advertising channel approach can theoretically target recipients geographically across a wide range of websites, games, and other applications. Systems chosen from this grouping should be thoroughly tested to understand their uses and limitations. Some will post only to computers on a specific network, such as Alertus, while others are treated more like a feed that will be wide-spread, such as Rich Site Summary (RSS) feeds and Google alerts.

11.4.6 CHANGEABLE MESSAGE SIGNS

Remotely programmable text and graphic displays exist along many highways, at mass-transit stations, and other public areas. Many of these signs can only display very short messages. More sophisticated signs are deployed by advertising firms, which might also be used for public alerting. Specialized “kiosk” devices, such as lottery displays, might be used for public alerting. Such displays are effective at disseminating location-specific information, but may not be seen by everyone at risk. Their ownership and control is also extremely fragmented and contractual and legal limitations may prohibit a jurisdiction from using them.

11.4.7 HIGH-FREQUENCY RADIO

An amateur radio service that uses amateur stations during periods of emergencies is known as the Radio Amateur Civil Emergency Service, or RACES. To transmit in RACES, an amateur station must be certified and registered by a civil defense organization or an FCC-licensed RACES station. RACES is administered by FEMA and acts as a communications group of the government. Typically, these activities occur during periods of local, regional, or national civil emergencies such as hurricanes, earthquakes, floods, or wildfires. RACES stations may only communicate with specified stations.

Although RACES stations operate in conjunction with federal, state, tribal, or local jurisdictions, there are other options for amateur radio operators in emergency communications, including the Amateur Radio Emergency Service (ARES). ARES members are licensed amateur radio operators who volunteer to provide emergency communications services to public safety and public service organizations.

Agencies should consider opportunities to leverage RACES and ARES to disseminate emergency communication, especially in catastrophic incident where traditional communication methods may not be available.

11.4.8 SOCIAL MEDIA

Social media has become a critical component to disseminating emergency messaging, instructions, and recovery information to both the media and the public. Due to its unique nature, it functions instantaneously and creates the appearance of highly official two-way dialogue between the agency and very large groups of people, including news media and stakeholders. Messaging for social media must be very carefully managed. It has the capability to deliver text, audio, video, images, infographics, maps, and other data and requires a skill set of regular use. These platforms have inherent expectations for two-way engagement (the agency will be responsive to questions and comments through responses) and therefore demand more staff time and resources. Additionally, these platforms can be resource-driven with needs for graphic design and video production in order to produce content that performs better on the various channels. Social media is more successful when the community is engaged and aware of accounts prior to a disaster.

Social platforms may include:

- Social networking;
- Image sharing and messaging;
- Video sharing;
- Social blogging; and
- Social community.

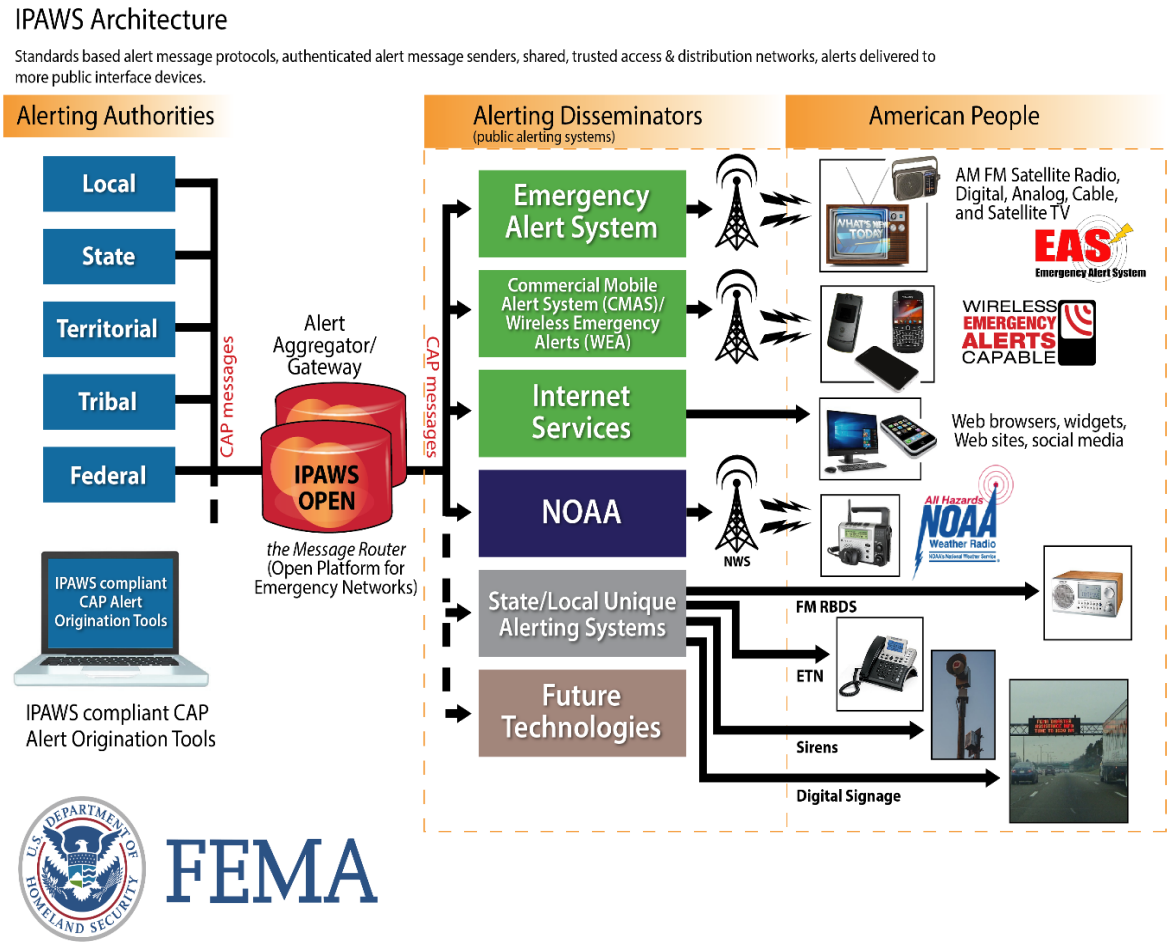
Considerations for incorporating social media into alert and warning before, during, and after emergencies include:

- Social media outreach is highly dependent on working cellular and data networks that may be impaired or down during and following an emergency;
- Consider the variety of languages and the complexity of language to post in postings;
- Social media is highly effective at reaching the news media, which may assist in more broadly sharing messaging;
- Briefings and updates via live and recorded video are recommended when internet access and bandwidth allows;
- Allow public comments to be posted and seen; two-way engagement is expected by the public and dedicated staff resources are necessary to facilitate it. This is controlled by rumor management personnel assigned to the JIC;
- Be aware that social media usage varies widely among different social, economic and demographic groups. Information gleaned from social media analysis may not reflect a balanced or complete picture; and
- Ensure messaging is consistent across all alerting platforms.

11.5 TECHNOLOGIES

11.5.1 IPAWS

This section contains information on the software used by public safety officials to send public alerts and warnings through IPAWS.



FEMA

To access IPAWS, Alerting Authorities must purchase (or develop) a Common Alerting Protocol (CAP) - compatible software platform, which will interface with IPAWS Open to disseminate the alert message to the public.

Jurisdictions should have a methodology built into their alert and warning programs for issuing alerts through IPAWS. The following checklist is provided for those jurisdictions who wish to become IPAWS alerting authorities directly.

Step	Action	Owner	Completion Date
1	Acquire IPAWS- compatible software		
2	Establish memorandums of agreement with FEMA.		
3	Apply for IPAWS public alerting authority permissions.		
4	Complete IPAWS web-based training (IS-247).		
5	Establish internal policies and standard operating procedures (SOPs) for use of IPAWS channels.		
6	- Train internal staff and other related personnel - Train IPAWS operators using IPAWS web-based training (IS-247), proprietary materials based on your WEA SOPs, and your service provider's training materials. - Train other staff (e.g., dispatchers, 911 operators, public relations personnel) on the purpose and usage of IPAWS channels to prepare them for the impacts of system use.		
7	Coordinate plans for IPAWS deployment with emergency response agencies, such as cities and special districts, within your jurisdiction, including how to request a notification by an Alerting Authority.		
8	Coordinate plans for IPAWS deployment with emergency response agencies in adjacent jurisdictions and the state.		
9	Complete internal testing of IPAWS channel operations.		
10	Educate the public about IPAWS using state-generated materials (if available), press releases, media interviews, social media, agency websites, presentations at town hall and civic group meetings, etc.		

12. Alert and Warning Messaging

Warning messages that do not answer keys questions may lead to those affected seeking additional information from uninformed friends or relatives, or other sources of misinformation, such as rumor, superstitions and urban myths.

To maximize warning effectiveness, the tone and language of a warning message should be:

- **Specific** – The message should make it clear which people are at risk and what protective action they should take. Inevitably, some people who are not at risk will receive the message; they should be able to determine that from the message text.
- **Consistent** – The public should receive consistent and mutually reinforcing messages through all media and from all sources.
- **Confident** – Even if the underlying information is uncertain, there should be no hedging or ambiguity about the protective action recommendations.
- **Clear** – Wording must be in simple language that can be easily understood. Technical jargon should be avoided.
- **Accurate** – If people learn or suspect they are not receiving correct and complete information, they may begin to ignore both the message and source.

Many warning delivery systems have limitations on character length or composition that require a warning message to be brief. However, "keep it short" is not necessarily a good guideline for composing a warning message. The warning messages should address five essential topics:

1. Source	Identify who—agency/authority—the alert or warning is coming from. This should be a source that is familiar to and trusted by the community.
2. Hazard	Describe the threat and its impacts
3. Location	Articulate the impact boundaries in common language, i.e. use street names, landmarks, neighborhood name, etc…
4. Protective Action	Say what protective action to take, the time to do it, how to accomplish it and how doing it reduces the impact.
5. Time	Expected duration, if known, or "until further notice"

Because of character limitations and inability to include multimedia in most initial notifications, it is also recommended to include a **URL** or link to a website that hosts alert information, or to drive alert recipients to monitor media outlets for additional information. Be sure to confirm the capacity of the resource to avoid the potential of overloading the site.

The order of message content has an impact on alert recipient response time. Since different delivery channels dictate the length of messages, below are the optimal message structures for both short (90- 140 characters) and long messages (up to 1380 characters).

A. Short messages work best if the content is presented in the following order:

Source, protective action, hazard, location, duration/expiration time

B. Longer messages work best if the message content is provided in the following order:

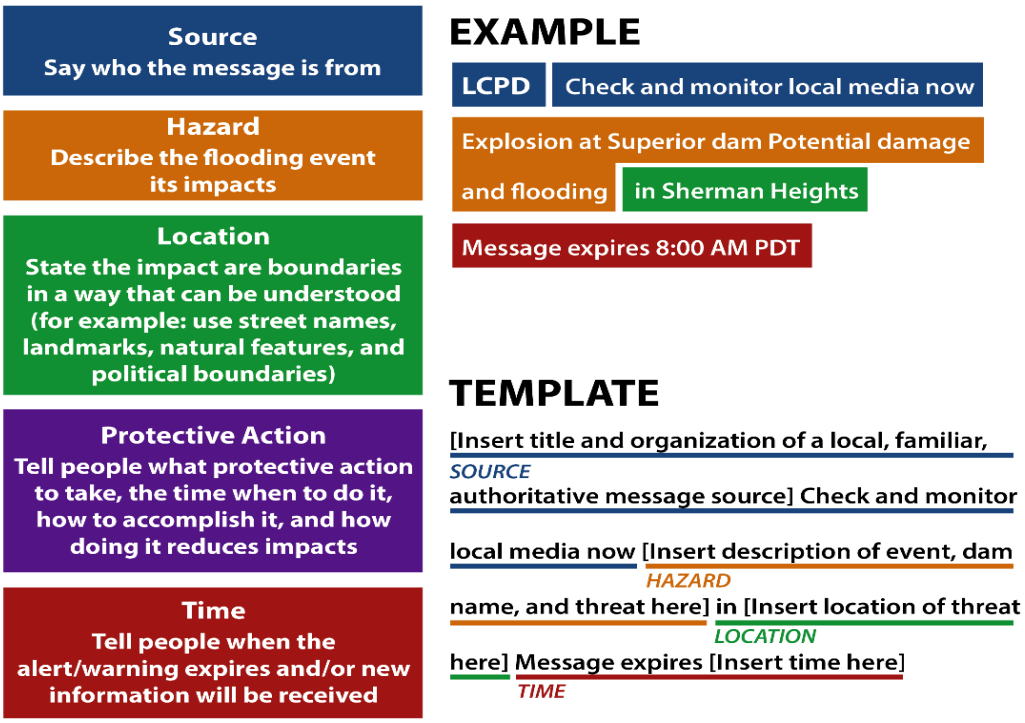
Source, hazard, protective action, location, duration/expiration time

While it is impossible to have pre-scripted message templates for every possible hazard, those responsible for alerts and warnings should prepare templates ahead of time. Messages should give clear direction on protective actions to be taken by public. Common protective action recommendations include:

- Shelter-in-place (with or without detailed instructions, such as sealing and/or locking doors and windows);
- Evacuation;
- Prepare to evacuate (or to take some other specified action when advised);
- Observe or be on the lookout;
- Take health precautions, such as boiling water; and
- Distribution instructions (for food, water, ice, building materials, medications, etc.).

In addition to the message topics listed above, including additional incident information can help reduce milling (time it takes for people to take action). Some considerations for common protective actions include:

- Avoid calling 9-1-1 unless you are experiencing a life-threatening emergency
- Evacuation locations, routes, road closures, shelter locations, etc.
- Reminders of things to bring with you when evacuating (medicines, pet safety, etc.)
- Instructions for sheltering in place or locking down



Original Graphic Credit: Dr. Dennis Mileti
https://www.fema.gov/preptalks/mileti

Redesigned by Cal OES for this publication

13. Alerting Coordination

Disasters are not typically limited to jurisdictional boundaries. However, Alerting Authorities are generally bound to their own jurisdiction. When considering issuing an alert and/or warning to the public, jurisdictional coordination, communication, and collaboration should be a priority.

To the extent a warning originator has the ability, warnings should be targeted to the area known to be at risk, while coordinating with any other affected jurisdictions as soon as possible. If the initial warning originator lacks the ability to deliver warnings to the at-risk area, coordination with other jurisdictions should be given priority. Having relationships in place to ensure continuity of operations is imperative. If a warning is issued from a higher level of government or jurisdiction, lower levels within the target area of the initial warning need not repeat that warning. However, local jurisdictions should issue additional warning messages, or request assistance from an Alerting Authority, if needed, to communicate local variations on the recommended protective action, to expand the target area for the message, or to utilize local warning dissemination capabilities that will enhance delivery of the warning to people at risk.

Evacuation messages are particularly demanding on their originators, as they must be coordinated with agencies responsible for transport, traffic control, and evacuee reception and sheltering. Confusing and/or uncoordinated evacuation orders can have unintended adverse consequences. Evacuation messages must come from the jurisdiction's designated authority, often the local law enforcement authority and should address issues such as:

- Direction and destination of travel (include a map image if possible);
- Routes to be used and routes to be avoided;
- Means of travel (by auto, by bus, on foot, etc.);
- Accessible transportation and sheltering resources;
- Things to take along (papers, medications, pets, etc.);
- Expected duration of relocation (a few hours, a day, etc.); and
- Phone or social media links for additional information.

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14. Training Requirements

To ensure effective and efficient use of alert and warning capabilities, agencies must regularly train and exercise their alert and warning policies, procedures, and systems. It is recommended that jurisdictions create a training program consisting of readily available coursework divided into sections of system access and responsibilities. Below is a recommended structure:

Technician – is a level designed for those who can physically access and send on platforms within the jurisdiction's alert and warning program.

☐ Monthly tests to themselves if they have not sent a real-world message during the week
☐ Training from the system vendors designed to teach technical skill-sets within the system specific to message sending

If person is to be a sender for any portion of the IPAWS system, he or she must also have the following (as per FEMA requirements):

☐ IS-247a: IPAWS Alerting Authority Online Training (required under FEMA MOU)
☐ IPAWS Rules of Behavior: Read, understand, and sign the IPAWS Rules of Behavior.

This document helps public safety officials understand that the IPAWS-OPEN system:

- Is for official use only;
- Requires approved email accounts for access;
- Requires users to create user IDs and passwords based on the provided guidelines; and
- Requires users to follow guidelines for protecting physical devices used for accessing IPAWS-OPEN and to use only officially approved devices.

☐ IS-248: IPAWS for the American People
☐ IS-251: IPAWS for Alerting Authorities Best Practices

Practitioner – is a level designed for those who request message sends and craft messages.

☐ Read articles that explain the social science of alert and warning, such as:

- *A Guide to Public Alerts and Warnings for Dam and Levee Emergencies* (US Army Corps of Engineers)

- Best Practice Guide for Warning Originators (Office of the US Attorney General of the US)
- *WEA Messages: Impact on Physiological, Emotional, Cognitive and Behavioral Responses* (U.S. Department of Homeland Security)
- Best Practices in Wireless Emergency Alerts (U.S. Department of Homeland Security)
- PrepTalks Discussion Guide: Modernizing Public Warning Messages (Dr. Dennis Mileti)

☐ PER-304: Social Media for Natural Disaster Response and Recovery
☐ G290-291: Basic PIO and JIC-JIS

If person is to be a crafter of messages to be distributed through IPAWS:
☐ IS-248: IPAWS for the American People
☐ IS-251: IPAWS for Alerting Authorities Best Practices

Program Administrator – is a level designed for those overseeing the entire alert and warning program.

All coursework under the previous two levels as well as:
☐ Training from the system vendors designed to teach technical skill-sets within the system specific to data refresh and management.
☐ Training from local GIS professionals within the jurisdiction, if the system(s) in use require geo- coding and/or shape files.
☐ Person should be knowledgeable in cross-jurisdictional coordination techniques within the jurisdiction L0388: Advanced Public Information Officer or L-402: Liaison Officer.

15. System Testing and Exercise Requirements

Jurisdictions should conduct regular training and exercises, including tests, of all components of the alert and warning program to ensure the ability to send emergency notification information across the entire program. Especially for systems not in use daily, testing should be coordinated prior to execution to ensure appropriate rules and regulations are followed. Any impediments should be identified and a resolution at the lowest jurisdictional level possible should be developed.

Jurisdictions should assess every component of their alert and warning program and identify the appropriate testing cycles for each piece. Systems that are used daily (e.g. social media) may not require system testing frequencies as aggressive as those that are used rarely (e.g. a telephonic distribution system). It is an industry best practice to conduct a system-wide test periodically to highlight flaws in system interoperability and compatibility. This is best done at the start of a potentially long event (e.g. slow-rise flooding or wildland fire) or to coincide with an educational preparedness campaign (such as the Great Shakeout or National Preparedness Month). Large-scale tests such as these have the effect of renewing the public's knowledge of the system(s) being used as well as encouraging citizen opt-ins for those systems that allow them.

It is important to understand testing limitations. For example, it is not allowable to test on unlisted or E911 database phone numbers.

For testing to be completed on IPAWS, jurisdictions can contact the CalOES Alert & Warning Coordinator or FEMA IPAWS Program Management Office for assistance with both the live and test message viewers and/or the Joint Interoperability Test Command Lab. Some IPAWS service providers may also provide a testing element. Testing should include law enforcement agencies, emergency management, dispatch/911 center, neighboring agencies, media partners, and members of the community.

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16. References and Authorities

- The Americans with Disabilities Act, 1990
- California Emergency Services Act; California Government Code § 8550 et seq.
- California Assembly Bill 2311
- Standardized Emergency Management System; California Code of Regulations, Title 19, Division 2, Chapter 1
- State of California Emergency Plan, October 2017
- California Public Alert and Warning System (CalPAWS) Plan, December 2016
- State of California Emergency Alert System Plan, October 2017
- Standardized Emergency Management System Guidelines, November 2009
- CFR 47, §11.55-EAS operation during a State or Local Area emergency
- IPAWS Strategic Plan FY14-FY18 FINAL-Signed (06052014)
- National Incident Management System, FEMA, December 2008
- 'Public Alert and Warning System,' Presidential Executive Order 13407, June 26, 2006
- Warning, Alert, and Response Network (WARN) Act, October 13, 2006
- National Response Framework, Second Edition, Federal Emergency Management Agency, May 2013
- "National Strategy for Integrated Public Warning", Partnership for Public Warning, February 2003, Washington DC
- "Effective Disaster Warnings", Report of the President's National Science and Technology council.

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17. Glossary of Terms

Access and Functional Needs (AFN) – As defined in Government Code section 8593.3, access and functional needs refers to individuals who have developmental, intellectual or physical disabilities; chronic conditions or injuries; limited English proficiency or non-English speaking; Or, individuals who are older adults, children, or pregnant; living in institutional settings; low-income, homeless, and/or transportation disadvantaged; or from diverse cultures.

Advisory – Highlights special conditions that are less serious than a warning, shelter in place, or evacuation. They are for events that may cause significant inconvenience, and if caution is not exercised, it could lead to situations that may threaten life and/or property.

Agency Representative – A person assigned by a primary, assisting, or cooperating federal, state, territorial, tribal, or local 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).

Alert – a communication intended to attract attention and warn of a danger or threat typically with the intention of avoided or dealt with it.

Alert Aggregator - The Alert Aggregator, known as the IPAWS Open Platform for Emergency Networks (IPAWS-OPEN), is the part of the IPAWS system that collects emergency alerts, authenticates the sender, and makes the alerts available for alert dissemination services.

Alerting Authority – Alerting Authorities are public officials that are granted the authority to alert the public of emergency situations through Federal, State, and local laws. These are designated in a local FCC EAS Plan, and within a signed FEMA MOU.

Alerting Originator – Alerting Originators are designated individuals who have been designated the authority and have the training to draft and distribute the alert and warning message through the approved notification systems.

Alert Origination Tool - Alert origination tools are software products used by emergency managers, public safety officials, and other alerting authorities to create and send critical lifesaving messages to the public or to other emergency management officials for collaboration.

AMBER Alert - The AMBER Alert Program is a voluntary partnership between law-enforcement agencies, broadcasters, transportation agencies, and the wireless industry, to activate an urgent bulletin in the most serious child-abduction cases. AMBER alerts are one of the three categories of Wireless Emergency Alerts (WEA).

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 IPAWSOPEN 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.

Common Alerting Protocol (CAP) - The Common Alerting Protocol (CAP) is an XML-based OASIS data format standard adopted by FEMA for exchanging public warnings between alerting technologies. CAP allows a warning message to be sent simultaneously over many warning systems to many different outlets (such as radio, television, mobile devices, Internet).

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.

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.

Evacuation – the action of evacuating a person or a place.

FIPS Codes – Federal Information Processing Standards Codes (FIPS Codes) are a standardized set of numeric or alphabetic codes issued by the National Institute of Standards and Technology (NIST) to ensure uniform identification of geographic entities. The entities covered include: states, counties, American Indian and Alaska Native areas, etc. FIPS codes are used by IPAWS as one method to specify geographic warning areas.

HazCollect - is shorthand for the National Weather Service All-Hazards Emergency Message Collection System that allows authorized public officials to use NOAA communication pathways, such as NOAA weather radio, to send pre-and post-disaster alerts and warnings to the public.

Imminent Threat Alert - "Imminent Threat" is one of the three categories of Wireless Emergency Alerts. Imminent Threat alerts must meet specific criteria for urgency, severity and certainty.

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 Federal, State, local, territorial and tribal 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.

IPAWS-OPEN - IPAWS Open Platform for Emergency Networks (IPAWS-OPEN) is the Alert Aggregator that receives and authenticates messages transmitted by alerting authorities and routes them to alert dissemination services.

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. For IPAWS, Memorandum of Agreement is a cooperative document written between parties to work together on an agreed upon project or meet an agreed objective. FEMA executes MOAs with alerting authorities who would like to use IPAWS to send alerts and warnings as well as system developers who would like to test products in the IPAWS-OPEN test environment.

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.

NOAA Weather Radio - "The voice of the National Weather Service" - NOAA Weather Radio broadcasts National Weather Service warnings, watches, forecasts and other hazard information 24 hours a day. It is provided as a public service by NOAA. The NOAA Weather Radio network has more than 480 stations in the 50 states and near adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands and U.S. Pacific Territories.

NOAA Radio's Specific Area Message Encoding (SAME) – provides in a digital format specific, timely information on the nature and location of a threat to the safety of those most immediately at risk from severe weather or other hazards. Its greatest value is to significantly improve the automatic selection and distribution of messages about events that threaten people and/or property.

Non-Weather Emergency Message (NWEM) - NWEM refers to emergency messages for the public about hazardous events that are originated by government organizations other than the National Weather Service, but still utilize NWS alert dissemination services.

Presidential Alert - A Presidential Alert is one of the three categories of Wireless Emergency Alert (WEA) messages that is reserved for use of the President of the United States in the event of a national emergency.

Primary Entry Point (PEP) Stations - Primary Entry Point (PEP) Stations (also known as LP-1 and LP-2) are private/commercial radio broadcast stations that cooperatively participate with FEMA to provide emergency alert and warning information to the public prior to, during, and after incidents and disasters.

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.

Severe Weather Potential Statement - This statement is designed to alert the public and state/local agencies to the potential for severe weather up to 24 hours in advance. It is issued by the local National Weather Service office. This could be used to make citizens aware of non-weather situation.

Severe Weather Statement - A National Weather Service product which provides follow up information on severe conditions which have occurred or are currently occurring. Could use a Statement for evacuation or shelter-in-place updates.

Operational Area – the county and its sub-divisions with responsibility to manage and/or coordinate information, resources, and priorities among local governments and serve as the link between the local government level and the regional level.

State – When capitalized, refers to the State of California.

Warning – Communication intended to persuade members of the public to take one or more protective actions in order to reduce losses or harm.

***Wireless Emergency Alert (WEA)* -** Wireless Emergency Alerts (WEA) were established pursuant to the Warning, Alert and Response Network (WARN) Act under Federal Communication Commission (FCC) rules. Alerting authorities can broadcast WEAs to cellular carrier customers with compatible mobile devices located in the geographic vicinity of cellular towers serving an affected area.

18. Appendices

18.1 ALERT & WARNING PROGRAM CHECKLIST

Minimum expectation checklist for jurisdictions and designated alerting authorities implementing an alert and warning program within the State of California.

Establishing an Alert & Warning Program	
☐	Develop a Local Alert and Warning Plan that includes all of the key steps below.
☐	Clearly identify and train Designated Alerting Authority(ies) within the jurisdiction on local alert & warning capabilities and their role and responsibilities in the Local Alert and Warning Plan.
☐	Clearly identify and train Designated Alerting Originators within the jurisdiction on local alert & warning capabilities and their role and responsibilities in the Local Alert and Warning Plan.
☐	Develop a training plan for alerting Authorities and Originators to ensure expertise on local alerting protocols, system expertise, and IPAWS, including Emergency Alert System (EAS) Event Codes and Wireless Emergency Alerts (WEA).
☐	Apply for IPAWS at https://www.fema.gov/how-sign-ipaws to obtain authority and tools for accessing federal warning systems.
☐	Select, install, and train on a public alert and warning platform that incorporates a wide range of alerting methods.
☐	Establish redundant alert and warning capabilities via neighboring jurisdictions, the CA State Warning Center, and the National Weather Service.
☐	Test coordination protocols with the primary and secondary Public Safety Answering Point (PSAP) per the Local Alert and Warning Plan.
☐	Coordinate alert and warning protocols with cross-agency, cross-jurisdictional partners, the State, and the National Weather Service (NWS).
☐	Confirm that the warning system technology is secure and software is up to date.
☐	Identify and train multiple individuals as Designated Alerting Authority and Originators to ensure someone with authority to approve an alert and someone with the ability to execute an alert is accessible at all times.
☐	Ensure messaging platforms account for accessibility considerations of individuals with access and functional needs.

☐	Conduct routine emergency exercises and drills to test the Alert and Warning System, including alerting protocols, roles and responsibilities, and technology capabilities.
☐	Read and understand the Statewide Alert & Warning Guidelines, CA State Warning Plan, and, if applicable, County and/or Local EAS Plan.
☐	Incorporate alert and warning systems into Local and Operational Area standard procedures and protocols, as appropriate.
☐	Coordinate with all Alerting Authorities within an Operational Area, Operational Areas within same Local EAS Plan, and neighboring jurisdictions that serve the same population(s).
☐	Coordinate training, testing, and exercising of county-wide alerting and warning systems.
Executing an Alert & Warning Program	
☐	Issue warnings when there is an imminent threat to life or health.
☐	Ensure that alert and warning messages are issued as soon as feasible.
☐	Confirm the jurisdiction for the incident prompting the alert.
☐	Confirm the incident location.
☐	Ensure warning messages are distributed to all members of the community at risk, including secondary spoken languages and to those who are blind and/or deaf.
☐	Craft messages with appropriate tone and language to maximize warning effectiveness.
☐	If other jurisdictions (cities, OAs, tribes) are affected, ensure those jurisdictions' public safety officials and PSAPs are provided the emergency alert and warning information.
☐	Ensure warning messages are updated and refined as additional information becomes available.
☐	Ensure that a warning message sent in error is promptly clarified or retracted.
☐	Avoid issuing irrelevant warnings.
Issuing Alert & Warning Notifications	
☐	Limit the alert and warning distribution area, as much as technically feasible, to the area actually at risk.
☐	Ensure the notification is reviewed for accuracy by a second person for verification before dissemination, whenever feasible.
☐	Clearly identify the originating agency.

☐	Ensure message includes source, hazard, location, protective actions, and timeframe, whenever possible given message length constraints.
☐	Update and refine messages as additional vetted information becomes available.
☐	Ensure that any message sent in error is promptly clarified or retracted.
☐	Ensure resources are available to find additional information about the alert and warning notification.
☐	Send a follow-up message when the threat or warning is no longer applicable.
Maintaining an Alert & Warning Program	
☐	Establish a regular (weekly or monthly) alert and warning technology maintenance check to confirm technology is operational.
☐	Annually review and update the Local Alert and Warning Plan.
☐	Annually review, update, and train (new personnel) the key personnel with alert and warning responsibilities within the Local Alert & Warning Plan.

18.2 ALERT & WARNING SAMPLE MESSAGES

Below are sample messages alerting agencies can use as a guide to draft a specific message relevant to a local emergency. These samples are not exhaustive. Final messages should always be tailored to the specific needs of the unique event precipitating their need.

Evacuation Sample Messages

Long Messages

- This is [Agency] with a mandatory evacuation order for [location]. Take the following protective actions and leave immediately; 1. Gather all family members. 2. Gather all pets. 3. Gather only essential items. 4. Be sure to bring essential medications with you. 5. Turn off all appliances and lights in your home 6. Lock your home. The evacuation route is: [Evacuation Route]. An Evacuation Center is open at [Name and Location of Evacuation Center]. For more information, please tune to local radio and television stations, visit [url], or call [###-###-####].

- Marin County Sheriff's Office is issuing a mandatory evacuation order for [location]. The National Weather Service has issued a flood warning for [location]. All residents in the impacted area should evacuate immediately. An Evacuation Center/Shelter is open at [location]. For more information go to [insert resource]. Please listen to [radio station] for updated details.

Short Message

- Wildfire threat-Evacuation Order for [location]-Leave now-Details on [Agency] website

Shelter-in-Place Sample Messages

Long Messages

- This is [Agency] reporting mandatory shelter in-place for residents in [location] due to a hazardous materials release. Take self-protective actions immediately: 1. Go inside immediately and stay inside your house or building. 2. Bring pets indoors only if you can do so quickly. 3. Close all windows and doors. 4. Turn off air conditioners and heating system blowers. 5. Close fireplace dampers. 6.

Gather radio, flashlight, food, water and medicines. 7. Call 911 only if you have a true emergency. You will be advised when this dangerous condition has passed and it is safe to go outside and resume normal activities. For more information, please tune to local radio and television stations, visit [url], or call [###-###-####].

- The Fire Department requests everyone within a ½ mile radius of [location] to get inside and remain inside due to a hazardous materials release. Stay indoors, close your windows, turn off your air conditioner, and bring your pets indoors. More information to follow. [link]

Short Message

- Hazardous Release. All within ½ mi of [location]. Get Inside. Stay Inside. Stay Tuned.

Weather Awareness Sample Messages

Long Messages

- This is [Agency] reporting mandatory evacuation order for [location] due to potential flooding. Take the following protective actions and leave immediately: 1. Gather all family members or other individuals. 2. Gather all pets 3. Gather only essential items. 4. Be sure to bring essential medications with you. 5. Turn off all appliances and lights in your home. 6. Lock your home. The evacuation route is: [Evacuation Route]. An Evacuation Center is open at [Name and Location of Evacuation Center]. For more information, please tune to local radio and television stations, visit [url], or call [###-###-####].

- The National Weather Service is predicting flooding in [location] within the next 24 hours. Police are advising residents who live in this area to be prepared for potential evacuation at any time. Info on how to prepare to evacuate is here. Updates to follow.

Short Message

- Flood Warning for [location] Avoid area. Turn Around-Don't Drown. Stay tuned for updates.

Active Shooter Sample Message

Long Message

- This is [Law Enforcement Agency] reporting an active shooter near [location]. Avoid the area. If you are near [location], get inside, stay inside, and take the following protective measures: 1. Go inside immediately and stay inside your residence. 2. Bring pets indoors only if you can do so quickly. 3. Close and lock all windows and doors. 4. Call 911 immediately if you have a true emergency or hear or see any suspicious activity in or near your location. You will be advised when your safety is no longer at risk. For more information, please tune to local radio and television stations, visit [url], or call [###-###-####].

- As of 11am, Police advise public to avoid area of [insert location]. Officers are responding to an active shooter. Those located in the area should seek shelter and mute phones. If engaged with the shooter, RUN, HIDE, FIGHT. Please go to [link] for additional information and standby for further instruction.

Short Message

- Active shooter near [location]. Avoid Area or Run, Hide, Fight. Stay tuned in for updates.

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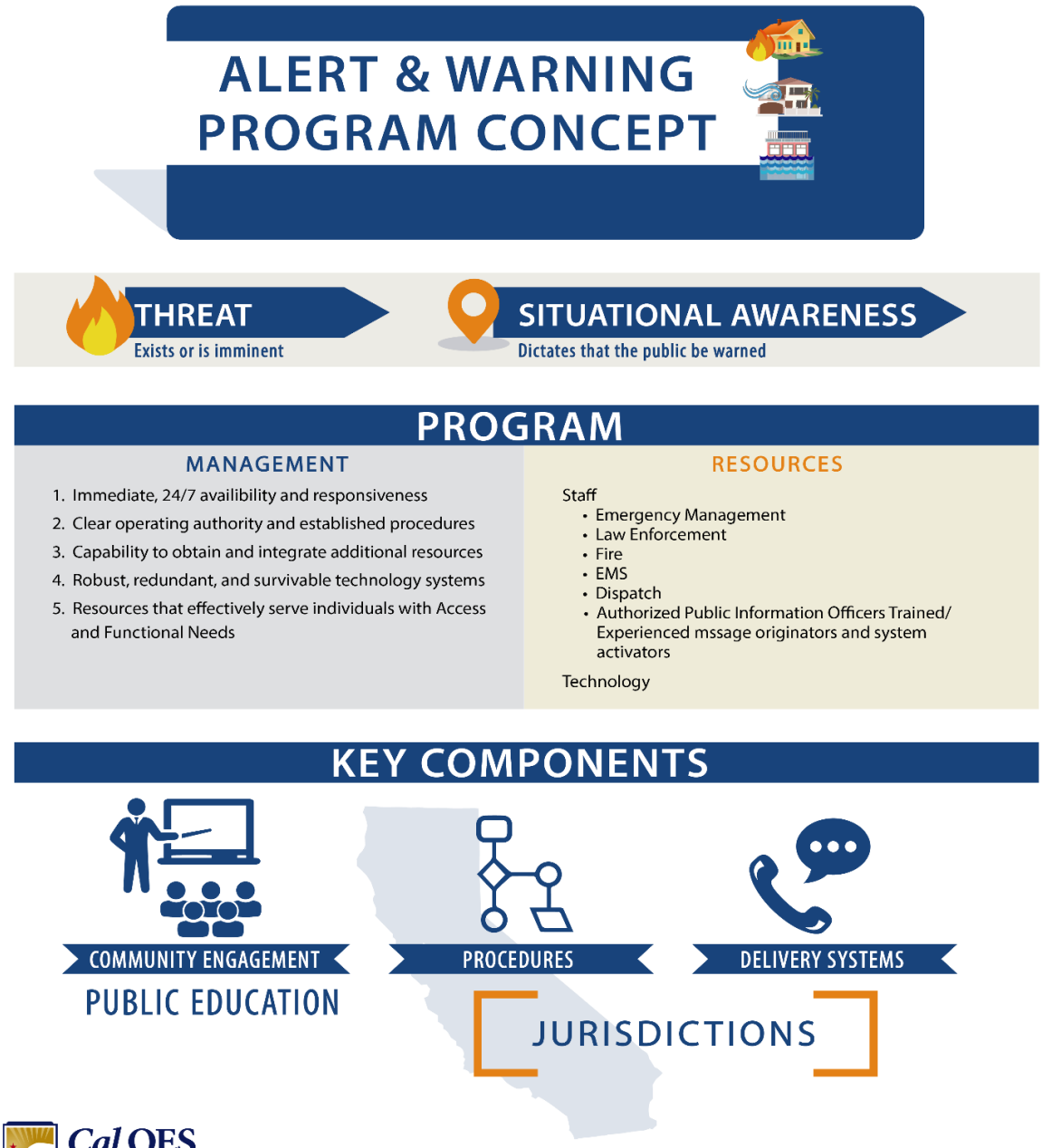
18.3 MODEL PROGRAM & SAMPLE LOCAL ALERT AND WARNING PLAN

Based on local needs, a model alert and warning program contains the following:



Cal OES
GOVERNOR'S OFFICE OF EMERGENCY SERVICES

The sample Local Alert and Warning Plan below is for a fictional county called California Jurisdiction. It contains the basic elements necessary to establish and maintain an effective alert and warning program. Jurisdictions in the process of assessing an existing program or establishing an initial program can use this sample to begin discussions within their jurisdiction on how to develop a robust program that meets the needs of their specific community. The sample plan is not a final plan for any one jurisdiction. The sample is provided as an initial starting point from which a local jurisdiction can development a detailed final plan through extensive collaboration and coordination with internal and external stakeholders based on specific local needs and considerations.

In addition the components of the sample plan below, local jurisdictions should consider the following topics when developing their custom plan for the needs of their specific jurisdiction:

- Training coordination between neighboring jurisdictions
- Memorandums of Understanding/Agreement with local partners
- Authorized Requestors
- Requesting Procedures

California Jurisdiction

Local Alert and Warning Plan

This is a sample Local Alert and Warning Plan for a fictional California Jurisdiction

This document supports the Jurisdiction Emergency Operations Plan.

Version 0.1

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PURPOSE

The Local Alert and Warning Plan establishes guidelines for the use of California Jurisdiction's alert and warning program in partnership with the cities within California Jurisdiction and the surrounding counties, Jurisdiction A and Jurisdiction B. The alert and warning program provides public notification of protective actions to take before, during, and after threats or emergencies and to disseminate other kinds of messages to community members who have opted in to receive such messages. This document supports the California Jurisdiction Emergency Operations Plan.

POLICY

This policy establishes appropriate use of the California Jurisdiction alert and warning program. Each jurisdiction within the broader jurisdiction is responsible for preparing for a disaster, including establishing methods for alerting and warning the public, mobilizing resources, and initiating protective actions. Participating jurisdictions expressly agree to activate the California Jurisdiction alert and warning program when an incident threatens life or property, participants can use the jurisdiction's alert and warning program to disseminate protective action instructions to affected populations.

Emergency Alert System (EAS) rules are governed by 47 CFR § 11.1, *et seq*.

LOCAL ALERT AND WARNING PROGRAM ADVISORY COMMITTEE

The California Jurisdiction Alert and Warning Program Advisory Committee is a jurisdiction-wide organization composed of participating city and jurisdiction agency representatives. Maintained and led by the California Jurisdiction alert and warning program Administrator, the committee shall meet semi-annually or more frequently as established by the committee. The purpose of the Advisory Committee is to conduct after action reviews of the system usage, coordinate ongoing administration, training, public outreach, modifications of policies and guidelines, protocols, or other issues related to the alert and warning program. All recommendations for substantive changes to the alert and warning program shall be submitted to the appropriate committee/council.

LOCAL ALERT AND WARNING PROGRAM SPECIFICATIONS

The California Jurisdiction alert and warning program:

- Contains tools for accessing the Federal Emergency Management Agency (FEMA) Integrated Public Alert and Warning System (IPAWS).
- Contains a variety of tools to communicate with the public during emergencies. Consideration should be made to include tools that allow operators to geo-target alerts to residents in the affected area of the emergency.
- Coordinates with all Alerting Authorities within an Operational Area, and Operational

Areas within same Local EAS Plan

- Contains features for cancelling and revoking accidental alerts, and for rapidly correcting and updating alert details.
- Considers access and functional needs.
- Considers geographic gaps in communication availability within the community and hazards and threats most likely to affect the local community.

California Jurisdiction administers the Local Alert and Warning Program. Maintenance, user training, exercises, and testing are coordinated through the California Jurisdiction Alert and Warning Program Administrator. For detailed instructions on accessing the system, see the alert and warning program user's manual.

PROCEDURES

Coordination of Notifications

All participating agencies will work to coordinate efforts when using the alert and warning program. All jurisdiction departments, cities, and other organizations are required to sign a Memorandum of Agreement (MOA) governing the use and cooperative sharing of the alert and warning program resource. Alert and warning notifications that extend across multiple jurisdictions will be communicated and coordinated with the impacted and neighboring jurisdictions.

Authorized Users

System access and authorization to send broadcasts is the responsibility of the designated and authorized mass notification Alerting Authority from each participating jurisdiction. Each Alerting Originator will:

- Have his/her own password.
- Not share passwords.
- Ensure passwords meet stringent security measures.
- Changed their password every 90 days.
- Not exceed their authority in use of the system.
- Log off the system before leaving their workstation.

System Training

All system users must receive proper training in the use of the alert and warning program. Once the training is completed, authorization to access the system will be granted based upon the level of training received and the authorization level required for messaging. The California Jurisdiction alert and warning program administrator maintains training and access of authorized system users.

Allocation of Sufficient Resources

Adequate staffing and resources to operate the alert and warning program in an effective manor must be scalable and based on the risk analysis within the Emergency Plan. A minimal *staffing* level *is to be maintained to ensure the availability of a trained operator* to operate the alert and warning program shall be maintained at all times.

Staffing Availability

A Duty Officer will be on-call 24/7 and available to activate emergency alerts. If the OES Duty Officer cannot be reached, the County Public Safety Answering Point will contact the designated back-up alerting originator.

System Redundancy

The system is available 24/7, and accessible from any location, including out-of-jurisdiction locations. If the primary system is not available, the County will utilize a backup system—or the designated neighboring jurisdiction with whom they have an agreement—to execute notifications.

Exercises

As a shared goal, the jurisdiction will participate in one or more annual exercise in order to test the collaboration, coordination, system proficiency, integration, and knowledge of jurisdictional partners. Individual municipalities, departments, and group managers may "exercise" the system so long as their tests are conducted in a manner consistent with proper system testing procedures.

Required Testing

Required system testing includes:

- Receipt and re-transmission of a Required Monthly Test (RMT) based on FCC requirement.
- National Period Test. FEMA will schedule the National Periodic Test yearly.
- Missed Tests. Check for IPAWS OPEN connectivity.
- Test Codes. Time Duration and Jurisdiction Location Codes.
- Test Formats and Scripts. Required weekly test announcements and visual messages.

The jurisdiction will maintain a redundant system capability through either separate back-up system or a partnership with neighboring jurisdiction(s).

NOTIFICATIONS

The Common Alerting Protocol (CAP) is an international standard required for IPAWS messages. All emergency messages distributed through the alert and warning program shall be formatted using CAP, whether or not IPAWS is used to disseminate the message.

Delivery of Presidential alerts and nationwide, monthly, and weekly tests will be performed. Emergency Alert System EAS alerts are delivered to EAS Participants either over the internet or from FEMA's IPAWS gateway or by over-the-air broadcast.

The agency sending the message is responsible for managing the questions, comments, or concerns arising from the message.

Pre-Message Coordination

Inform all critical stakeholders of the notification contents and implications prior to full message dissemination, as feasible while maintaining timely notification under emergency situations. Use message templates to ensure consistency of content delivery and use checklists when informing critical stakeholders.

Post-Message Coordination

Evaluate whether or not another message is warranted, if clarification is needed, or "message fatigue" is occurring.

Prohibited use

- Unauthorized disclosure of personal data contained within the system.
- Manipulation or usage of system or data beyond ascribed user level.
- Any usage beyond the scope as outline in this policy, participating jurisdictions' policy or MOU.

Emergency Use

Emergency use covers incidents where life or property is threatened and responders need affected community members to take immediate protective actions.

Proactively deliver emergency messages. The nature of the incident and directions from authorized public safety officials will dictate the specific protective action instructions for a given incident or event.

The jurisdiction's alert and warning Alerting Authority will determine whether the alert and warning program should be activated. The Alerting Authority may designate Authorized Users in the jurisdiction with pre-approval to disseminate emergency messages using the alert and warning program.

Send emergency messages in the most targeted manner possible in order to avoid "alerting fatigue" of unaffected members of the public.

When appropriate, follow-up notifications should be broadcast through the emergency alerting system to provide the impacted community with critical updates or changes to the message, or to notify them that the emergency situation has concluded.

When an evacuation order has been lifted, consideration should be given to the scale of the incident and the number of evacuees. In an effort to minimize confusion and ensure an organized reentry process, other available means of disseminating this information should be strongly considered.

Non-Emergency Use

The alert and warning program may be used to disseminate non-emergency information only to community members who have opted-in to receive this information.

Each authorized System Administrator is responsible for determining the non-emergency (opt-in) messaging groups that their jurisdiction will make available to community members.

PRIVACY POLICY

It is policy that each member jurisdiction preserve and protect the integrity and privacy of personal data collected for use with the alert and warning program.

No personal data will be disseminated or extracted from master records, nor will reports produced as part of the jurisdiction's alert and warning program will be used for purposes other than mass notification.

AFTER ACTION REPORT

While an After Action Report is recommended for all emergency notifications, it is only required when a City, or City and County, or County proclaims a local emergency and a state of emergency is declared by the Governor. The Jurisdiction's Disaster Preparedness Coordinator will be responsible for completing and forwarding the report to the jurisdiction's Board of Supervisors and Sheriff, and the Director of the Governor's Office of Emergency Services within 90-days after the close of incident per the California Code of Regulations, section 2900(q).

TERMINOLOGY

Alert – Refers to any text, voice, video, or other information provided by an authorized official to provide situational awareness to the public about a potential or ongoing emergency that may require actions to protect life, health, and property. Communication intended to draw the attention of recipients to some previously unexpected or unknown condition or event.

IPAWS – Integrated Public Alert and Warning System. Organized by FEMA. Once the alert is received from the alerting authorities, the IPAWS authenticates the alert source and then validates that the alert input conforms to the common alerting protocol standards and the IPAWS profile.

Notification – Refers to any process where Federal, State, local, tribal, and nongovernmental organization, department, and/or agency employees are informed of an emergency that may require a response from those identified. Communication intended to inform recipients of a condition or event for which contingency plans are in place.

Public Information – Refers to any text, voice, video, or other information provide by an authorized official and includes general information, crisis, and emergency risk communication activities.

Warning – Refers to any text, voice, video, or other information provided by an authorized official to provide direction to the public about an ongoing emergency that requires actions to protect life, health, and property. Communication that encourages recipients to take immediate protective actions appropriate to some emergent hazard or threat.

Watch – Meets the classification of a warning but either the onset time, probability of occurrence, or location is uncertain.