TAB C6 CONTENTS:

A. WEA Introduction

Wireless Emergency Alert (WEA) is a system that enables authorized governmental and tribal authorities to send geo-targeted emergency alerts to the public via broadcast messages to compatible cell phones and mobile devices. WEA is a component of FEMA's "Integrated Public Alert & Warning System" (IPAWS).

Authorized national, state, or local government alerting authorities may generate Wireless Emergency Alerts regarding public safety emergencies – such as severe weather, missing children, or the need to evacuate – using the WEA system via IPAWS.

WEA includes the following classes of alerts:

- **Presidential/National Alerts** are a special class of alerts only sent during a national emergency. Mobile device users cannot opt-out of this class of alert.
- **Imminent Threat Alerts** include natural or human-made disasters, extreme weather, active shooters, and other threatening emergencies that are current or emerging. Mobile device users may opt-out of this class.
- **Child Abduction Emergency/AMBER Alerts** for America's Missing Children: These are called AMBER Alerts and are urgent bulletins issued in child-abduction cases. Rapid and effective public alerts often play a crucial role in returning a missing child safely. An AMBER Alert instantly enables the entire community to assist in the search for and safe recovery of the child. Mobile device users may opt-out of this class.

For newer mobile devices (WEA 2.0 & 3.0, introduced ~2019 and later), two additional classes of WEA are supported in addition to the above:

- **Public Safety Alerts** contain information about a threat that may not be imminent or after an imminent threat has occurred. Public safety alerts are less severe than imminent threat alerts. Mobile device users may opt-out of this class.
- **State & Local Tests** which are opt-in by the mobile device user and is used by state and local jurisdictions to assess the capability to send their WEAs. Alert originators using this should ensure the phrase "THIS IS A TEST" or similar is included in the WEA message text. (It is not done automatically.)

B. WEA System Overview

Alerting authorities submit WEA alerts via alert "CAP" (Common Alerting Protocol) origination software, and the IPAWS system then serves as a Message Router to relay the WEA messages to all participating wireless carriers. The wireless carriers then broadcast the alerts to all mobile devices in the area which has been designated by the alert originator. All WEA-compatible devices connected to the wireless network within the designated alert area, including those of "roaming" wireless customers, will receive the alert.

An incoming WEA alert is announced by loud alert tones, phone vibration and a message display. The message shows the type and time of the alert, any action that should be taken, and the name of the agency issuing the alert.

Since WEA alerts are carried by the wireless carrier's control channel, they are not susceptible to network congestion that can interfere with normal SMS (Short Messaging Service) text messages and voice calls.

The coverage area of a WEA alert depends on:

(1) the geo-targeted area as specified by the alert originator, and
(2) the cellular coverage of the targeted area.

With WEAs, the size of the broadcast area can vary greatly and is dependent on each wireless operator's cell site topology. FCC rules require wireless operators to broadcast a WEA to an area that matches the specified circle or polygon; a WEA broadcast is considered to match the target area when they deliver an Alert Message to 100% of the target area or an area which best approximates the specified target area if its network infrastructure is incapable of matching the target area. Given this, it is best for alert originators to define the alert areas based on the knowledge of the event and the geography impacted. Alert originators need to understand that in rural areas, the alert may be broadcast much further than in urban areas where towers are closer together and wireless networks can better "geo-target."

A WEA alert is transmitted repeatedly by the wireless carrier for the designated alert duration or until cancelled by the alert originator. This ensures that as many users as possible within the target area receive the alert, and that users not originally in the target area will receive it within a short period of time after they enter the target area. Mobile devices will activate and present the alert once upon initial receipt, and then ignore repeats of the same alert for the duration of the alert.

PBS WARN (Warning, Alert, Response Network) provides an optional backup dissemination method of Wireless Emergency Alerts (WEAs) should IPAWS connection to wireless providers ever be interrupted. All WEAs sent via IPAWS are received and displayed by the PBS WARN website. The map shows all active WEAs that WARN is broadcasting in real time. Visit: https://warn.pbs.org.

C. WEA History

WEA was first adopted by the FCC in 2008 and implemented in 2012. The system has evolved through multiple versions since then. The current standard is "WEA 3.0" which permits long (360 character) messages, embedded internet links, advanced Device-Based Geo-Fencing (DBGF), and alert message preservation in the device. Not all phones are WEA 3.0 capable. Most phones that came out in 2020 or later are WEA 3.0 capable. Older phones (WEA 1.0 & 2.0) cannot receive the alert area coordinates and will present the alert even if they are not in the alert area.

D. IPAWS OVERVIEW

IPAWS, the "Integrated Public Alert & Warning System", is an internet-based distribution system provided to alerting authorities through FEMA. Federal, state, local, tribal and territorial authorities can use the system to issue public alerts and warnings. Alerting authorities must access the system through a third-party vendor of mass notification software, such as AlertSense, CodeRED, Everbridge, Rave, and HyperReach.

This system provides public safety officials with an effective way to alert and warn the public about diverse emergencies via pathways which include the Emergency Alert System (EAS) which is broadcast through radio and TV, Wireless Emergency Alerts (WEA) which are intended to reach all WEA-capable cell phones in an alert area, National Oceanic and Atmospheric Administration (NOAA) Weather Radio, and other public alerting systems. A critical feature is that all these pathways can be accessed from a single interface.

The following diagram depicts how alerts flow from authorities to the public through the IPAWS system:

State, Territorial, Tribal, Local - Level
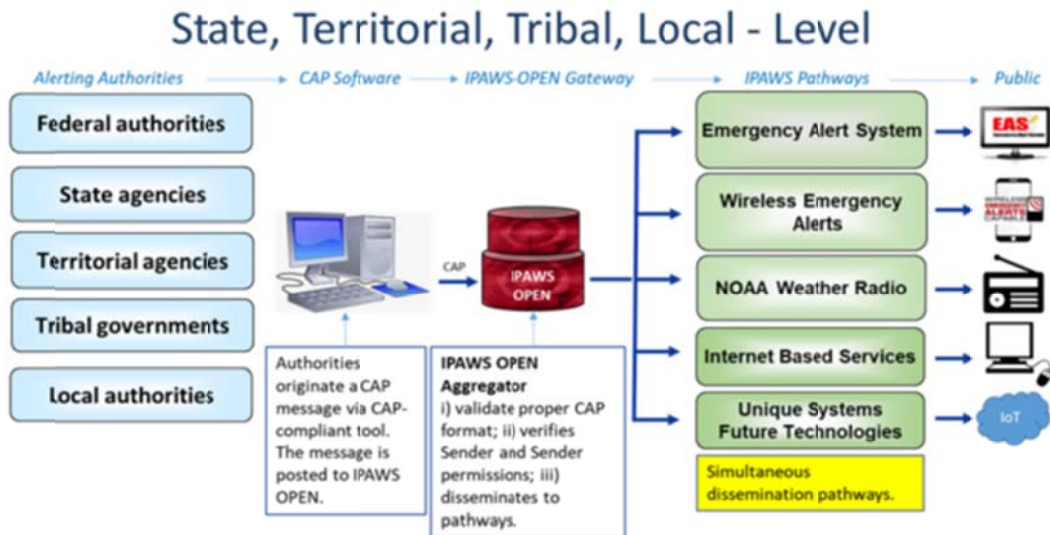
E. Geo-Targeting

When alert originators create a WEA message, they must designate a geographical target area for the message. The goal is to reach all those who could be affected or impacted by the subject of the message, without broadcasting the message to other areas that are unlikely to be affected.

The goal of the current WEA 3.0 device-based geo-fencing (DBGF) standard is to more accurately target the intended message than in the previous (WEA 1.0 and WEA 2.0) standards. The specific goal is to reach "100 percent of the targeted alerts area with no more than 0.1 mile overshoot". To accomplish this, the WEA 3.0 mobile devices must be capable of receiving coordinates defining one or more Geometric Shapes (circle or polygon) sent by the alert originator and must be able to compare its actual location against the Alert Area defined by that shape with the 0.1 mile overshoot allowance taken into consideration. In order to enable DBGF for an alert, the alert originator must provide coordinates defining at least one shape as part of the Area Element. If no shape is provided in the Area Element (i.e., only one or more geocodes are included), DBGF cannot be performed.

DBGF can only be performed if the device's current location can be obtained. If the mobile device has location services turned off, or for any other reason is unable to obtain its location at the time the alert is received, the mobile device will default to presenting the alert without performing DBGF and may be outside the alert area.

Further, the existence of numerous older phones (WEA 1.0 and WEA 2.0), which aren't able to perform DBGF, will likely experience significant overshoot and thus affect the outcome of the alert. It is highly recommended that alerting authorities understand the reality of WEA overshoot and be ready to educate the public on why this occurs.

When sending a county-wide alert, DO NOT send an alert to the entire county. This is not effective and can bog down the systems.

F. Handset Compatibility

With the implementation of the latest WEA 3.0 standard, it is essential that all WEA messages broadcasted be backward-compatible to ensure that older WEA 1.0 and WEA 2.0 model wireless handsets (cell phones) still display a WEA 1.0/2.0 compatible alert message.

Alert originator software typically includes provisions for both 90 character and 360 character message fields to be delivered within the same WEA message broadcast—both MUST be included in every WEA alert that is launched.

Many devices can support WEA messages containing a clickable link to additional information, but the link should be considered supplemental to the key points in the alert text. A link can still be used with older devices, but it will not be clickable. **BE AWARE** that simultaneous attempts to access the link by thousands of consumers can cause congestion on the cellular network and the web server hosting the link, such that the information becomes inaccessible by the public and valuable time may be lost in an emergency. Be sure to understand the potential consequences of including a link, and that any links refer to relevant information.

G. WEA Best Practices

The following suggestions are a starting point for implementing successful alerting using WEA:

→ Apply Correct Criteria for Issuing WEA Alerts

When deciding whether to issue a WEA Alert, the following criteria should be applied:

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

→ Compose Effective WEA Messages

To help ensure that warning messages are effective, they must be issued in a timely manner and should include the following considerations and information about the hazard:

- Source – Who is the warning coming from? Make it clear.
- Why – Why are they contacting the public?
- Guidance – What do you want the public to do?
- Hazard – What is going to harm them?
- Location – Where is the danger?
- Format – Both 90 and 360 character messages are required. Create the 360 first, and then cut it down to 90.
- Geo-target – It is recommended that all localized WEAs are launched with a circle or polygon. You should never alert the entire FIPS code area unless the intent is to alert the entire county. (This will result in overshoot of the alert area.) Choose the appropriate drawing tool for the situation: either a circle, polygon or square/rectangle as provided in the software.
- Primary Language –What is the primary spoken language of the target area? IPAWS allows WEA alerts in Spanish, so Spanish can be included and should be included for areas with high Spanish speaking populations.

The FEMA IPAWS OPEN Aggregator does not provide translation services, but is capable of accepting and relaying WEA alerts in Spanish in addition to English, as composed by the alert originator. Alert authoring or other software programs may provide automated translations, but all automatically translated text should be validated with a speaker of the language to avoid errors. The use of pre-translated templates may serve to minimize the amount of information requiring translation for actual alerts.

Because WEA messages are limited to 90 or 360 characters, depending on the age of the public's wireless device, it is very important to maximize the message's effectiveness. Consider the following factors when writing WEA messages:

- Does the message drive the recipient to take action?
- Does it direct people to other sources of information?
- Does it *clearly* identify the impacted area? (such as Lincoln County, WA vs. Lincoln County, ID)

→ **Use WEA Message Templates**

The use of pre-planned WEA message templates tailored to the known hazards of a given jurisdiction is highly encouraged. Time taken to carefully pre-plan an effective message for appropriate target areas will save time and will reduce the chance of errors.

→ **Foster Inter-Agency Coordination**

When multiple alerting agencies possess the ability to issue alerts in an area, confusion can arise from the public receiving redundant -- or even contradictory -- alerts. When implementing best practices for alerting, consider cases when emergency events will cross jurisdictional boundaries, such as a drifting cloud of toxic gas released from an industrial accident or a flood resulting from a dam break. Establish agreements with adjacent jurisdictions that address coordination of alerting to enable a coordinated and consistent response in advance.

H.   **Washington SECC WEA Policy** (adopted by the WA SECC 9/15/20)

This is the policy of the Washington State Emergency Communications Committee (SECC) regarding correct use of the Wireless Emergency Alert System (WEA) in Washington.

WEA is a public warning system that allows customers with wireless phones and other compatible mobile devices to receive geographically-targeted messages informing them of imminent threats to life or property in their area (including AMBER Alerts), and requiring immediate action to avoid the danger. **It's important to understand that those receiving WEA alert messages can opt out of all but Presidential/National alerts.**

Like the Emergency Alert System (EAS), WEA is **not** to be used in Washington State to distribute non-emergency information, such as traffic advisories, access restriction orders for beaches or parks, or "mask up" public health orders from state or local government officials. This information is most effectively disseminated through official announcements and news releases via radio, TV, newspapers, and social media. WEA is **not** a redundant method of distributing a non-emergency public message.

Failure to adhere to these requirements threatens WEA as an effective public alert and warning system. Mobile device customers **must** remain sensitized to WEA alert messages. If it is used as a messaging system for non-emergency messages, WEA recipients **will** become overloaded or desensitized, ignoring or opting out of alerts and missing warnings about a true emergency that requires immediate action. It is also a misuse for WEA to disseminate public service announcements, like "Wear your seatbelt" and "Don't drink and drive."

The Washington State Emergency Communications Committee (SECC) requests that **adjacent states do not purposely direct any non-emergency WEA messages to any part of Washington State.** We recognize that due to limitations of wireless technology, WEA alert messages in adjacent states may inadvertently be received by mobile devices in Washington.

We also recognize that National Weather Service forecast offices in Washington and in neighboring Northern Oregon properly direct weather-related WEA alert messages to parts of Washington.

I. **Links to Additional WEA Information:**

a. WA Emergency Management Division

https://mil.wa.gov/alerts#WEA

b. FCC

https://www.fcc.gov/consumers/guides/wireless-emergency-alerts-wea

c. FCC Rules for WEA

https://www.ecfr.gov/current/title-47/chapter-I/subchapter-A/part-10

d. FEMA

https://www.fema.gov/emergency-managers/practitioners/integrated-public-alert-warning-system/public/wireless-emergency-alerts

https://www.fema.gov/sites/default/files/documents/fema_ipaws-process-playbook-version-1.0.pdf

e. National Weather Service

https://www.weather.gov/riw/WEA_Info

f. USGS ShakeAlert and WEA

https://www.shakealert.org/implementation/wea/

g. ATIS WEA 3.0 Practical Hints for Alert Originators

https://access.atis.org/apps/group_public/document.php?document_id=61040

h. PBS WARN

https://warn.pbs.org/

i. AT&T

https://www.att.com/support/article/wireless/KM1009041/

j. Boost Mobile

https://my.boostmobile.com/support/devices/wireless-emergency-alerts

k. Cricket Wireless

https://www.cricketwireless.com/support/apps-and-services/wireless-emergency-alerts.html

l. T-Mobile

https://www.t-mobile.com/support/plans-features/wireless-emergency-alerts

m. US Cellular

https://www.uscellular.com/support/wireless-emergency-alerts

n. Verizon Wireless

https://www.verizon.com/support/wireless-emergency-alerts-faqs/