

# Integrated Public Alert and Warning System (IPAWS)

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# Outline

- IPAWS Background
- IPAWS Overview
- Sandia's Role
- IPAWS Pilot - Details on WARN
  - WARN
  - ETN
  - DHNS
  - Hardware Installations
- Concept of Operations
- Questions



# IPAWS Background

- Administrated by FEMA
- Addresses the mandate and vision of Executive Order 13407:
  - Ensures that the President can rapidly and effectively address and warn the public over a broad range of communications devices and under any emergency condition



# IPAWS Overview

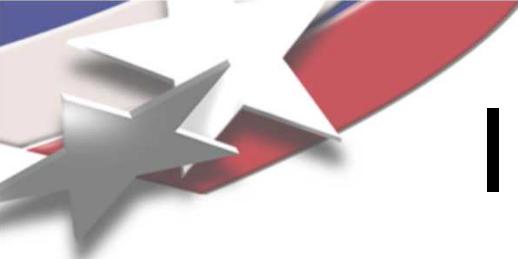
- IPAWS will transform the national Emergency Alert System (EAS)

<b><u>Current EAS</u></b>	<b><u>IPAWS Goal</u></b>
<ul style="list-style-type: none"><li>• 12% of listening population during the day</li><li>• 1% at night</li></ul>	<ul style="list-style-type: none"><li>• 95% of the listening population in 10 minutes</li></ul>
<ul style="list-style-type: none"><li>• Audio-only alerts, distributed via television and radio</li></ul>	<ul style="list-style-type: none"><li>• Voice, text, or video to all Americans, including those with disabilities or who cannot understand English</li></ul>



# Sandia's Role

- Design, set up, and operate pilot alert program for 2007 hurricane season
  - Initial capability deployed by 1 August 2007
- Develop and pilot new architecture for next hurricane season
  - Understand needs/requirements of users
  - Develop secure architecture for sending messages (internal/public)
  - Develop standards (OASIS)
  - Certify vendors for interoperability
  - Multiple year effort to develop architecture and roll it out nationally



# IPAWS Pilot Overview

- Currently IPAWS is a pilot system
- In effect from Aug 1 - Dec 31, 2007
- Integrates other pilot systems and capabilities:
  - Emergency Notification: WARN
    - Provide messaging framework to allow CAP message to enter EAS
    - Emergency Telephone Notification (ETN)
    - Deaf and Hard-Of-Hearing Notification System (DHNS)
    - Public alerts and internal notification
  - Hardware
    - Warning Systems Inc. (WSI) AdaptAlert EAS Activation System
    - WSI AdaptAlert RF Activation System

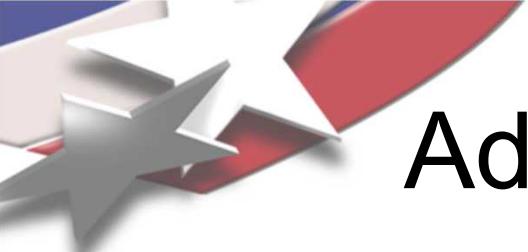


# WARN

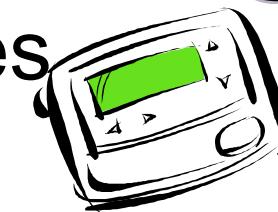


- **Web Alert and Relay Network**
  - Send administrative and internal notifications to members of the emergency management community
  - Send EAS and public alerts and warnings
  - Share information within the emergency management community
  - MyStateUSA under contract to provide service to all counties/parishes in AL, LA, and MS





# Additional Capabilities



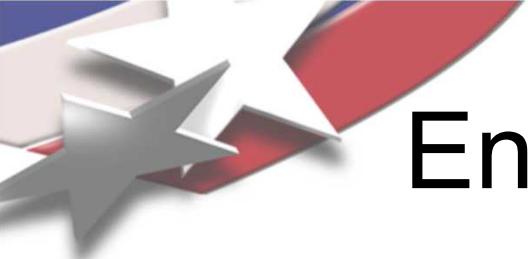
- Provides Internet-based public alert and warning of selected alert messages
  - Via email, pager, or cell phone
  - Alerts: threat to life or property, NOAA weather alerts
  - Text message: abbreviated message for cell phones, longer for email
  - Unlimited use: paid per subscriber, not per message (allows for local messages as well)



# Basic Emergency Telephone Notification

- **Basic** ETN available Aug. 1
- Geo-targeted phone calls to homes, businesses, and public facilities via landline phones
- Uses Targus Information Database
  - Includes unlisted phone numbers but not VoIP
- English only
- 20,000 one minute calls in 10 minutes
- No call priority for delivery





# Enhanced ETN

- ***Enhanced*** ETN available on Sept. 1 
- 60,000 thirty second calls in 10 minutes
- Adds redundancy to minimize the chance of an outage due to technical failure
- Current languages supported
  - American English, British English, Dutch, French, German, Italian, Japanese, Korean, Brazilian Portuguese, Russian, and Spanish
  - Vietnamese being investigated



# ETN Alert Codes

## • Alert Codes

### EAS Weather Event Codes (17 supported by IPAWS)

AVA – Avalanche Watch  
**AVW – Avalanche Warning (IPAWS)**  
**BZW – Blizzard Warning (IPAWS)**  
CFA – Coastal Flood Watch  
**CFW - Coastal Flood Warning (IPAWS)**  
**DSW – Dust Storm Warning (IPAWS)**  
**EQW – Earthquake Warning (IPAWS)**  
FFA - Flash Flood Watch  
FFS - Flash Flood Statement  
**FFW - Flash Flood Warning (IPAWS)**  
FLA - Flood Watch  
FLS - Flood Statement  
**FLW - Flood Warning (IPAWS)**  
**FRW - Fire Warning (IPAWS)**  
HWA – High Wind Watch  
**HWW – High Wind Warning (IPAWS)**  
HLS - Hurricane Statement  
HUA – Hurricane Watch  
**HUW - Hurricane Warning (IPAWS)**  
SVA – Severe Thunderstorm Watch  
**SVR – Severe Thunderstorm Warning (IPAWS)**  
SVS – Severe Thunderstorm Statement  
**SMW – Special Marine Warning (IPAWS)**  
SPW – Special Weather Statement  
**TOA - Tornado Watch (IPAWS exception)**  
**TOR - Tornado Warning (IPAWS)**  
TRA – Tropical Storm Watch  
**TRW – Tropical Storm Warning (IPAWS)**  
TSA – Tsunami Watch  
**TSW - Tsunami Warning (IPAWS)**  
**VOW – Volcano Warning (IPAWS)**  
WSA – Winter Storm Watch  
**WSW – Winter Storm Warning (IPAWS)**

### EAS Administrative and Local Event Codes (10 supported by IPAWS)

ADR – Administrative Message  
**CAE - Child Abduction Emergency (IPAWS)**  
**CEM – Civil Emergency Message (IPAWS)**  
**CDW – Civil Danger Warning (IPAWS)**  
CEM - Civil Emergency Message  
DMO – Practice/Demo Warning  
**EVI - Evacuate Immediately (IPAWS)**  
**HMW - Hazardous Materials Warning (IPAWS)**  
**LEW - Law Enforcement Warning (IPAWS)**  
**LAE - Local Area Emergency (IPAWS)**  
NMN – Network Message Notification  
**NUW – Nuclear Power Plant Warning (IPAWS)**  
**RHW - Radiological Hazard Warning (IPAWS)**  
RMT – Required Monthly Test  
RWT – Required Weekly Test  
**SPW – Shelter in Place Warning (IPAWS)**

Note: Pilot project is designed to test warnings. The IPAWS will support messages that convey an imminent threat to life or property.



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# Deaf and Hard-of-Hearing Notification System



- Deaf Link provides video alerts in American Sign Language to the public and broadcasters
- Opt-In site specifically oriented for the Deaf and Hard-of-hearing.
- Community outreach needed in each state



# WSI EAS Hardware

- **Warning Systems Inc.**
- **AdaptAlert EAS Communication Processor**
  - Common Alerting Protocol (CAP) to EAS ENDEC
  - WSI box accepts CAP message to trigger analog EAS
  - System has been tested
- **Locations**
  - Currently installed in state EOCs
  - LP-1 stations to be covered in all 3 states





# WSI RF hardware



- **Warning Systems Inc.**
- **RF Activation System**
  - WSI box accepts CAP messages to trigger RF systems (siren, tone-alert radio)
  - Remote activation
- **Location**
  - Installation locations and numbers to be determined in consultation with states and FEMA
  - New version of RF box in September 2007



# Concept of Operations

- Does IPAWS fit with your operations?
  - Emergency Operations Plan (EOP)
  - Emergency Alert System (EAS) Plan
- How would this capability be used in your state?



# Sandia Point of Contacts

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# QUESTIONS?

# IPAWS End State Vision

