

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)

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



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



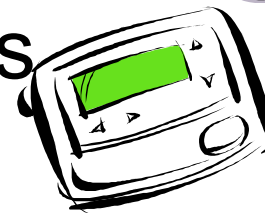
- **Web Alert and Relay Network**
 - Send administrative and internal notifications to members of the emergency management community
 - Send EAS and public alerts and warnings
 - Share information within the emergency management community
 - MyStateUSA under contract to provide service to all counties/parishes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



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 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?



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QUESTIONS?

IPAWS End State Vision

