

# Emergency Alert System (EAS)

Communications Operations  
Orange County, CA

## CAUTION!

- **TLAs** ahead!
  - Three-letter acronyms (TLAs)
- Many abbreviations are used in the technical nomenclature of the public warning systems
- Ask questions at any time

## History

- Sequence of USA public alert systems
  - None for 175-years
  - CONELRAD
  - EBS
  - EAS & WEA
  - IPAWS

## FEMA Vision

- IPAWS
  - Integrated Public Alert & Warning System
  - [IPAWS Web Video](#)
    - 5-min



**FEMA**

## CONELRAD

- CONTROL of  
ELECTromagnetic  
RADIation
- 1951-1963
- Turned off TV & FM
- Rotated CD  
transmissions
  - AM 640 & AM 1240
  - To confuse Soviet  
bombers
- Civil defense alerts
- No weather info



## CONELRAD Key Station Relay

- Air Defense Control Centers (ADCCs)
  - Controlled CONELRAD activation
  - Hardwired to "basic key stations" (AM broadcasters) to control their transmitter
- CONELRAD Rules amended 1957
  - Amateur Radio must monitor key stations
    - Checking at least every 10-minutes
    - Validated amateur radio transmitter was allowed on air

## EBS

- Emergency  
Broadcast System  
(EBS)
- 1963-1997
- Presidential access  
to public
- Activated 20,000  
times
  - None for national  
emergency



## EAS

- Emergency Alert  
System (EAS)
- National public  
warning system
  - Presidential access  
within 10-minutes



## EAS Coordination

- Coordination
  - FEMA
  - Federal Communications Commission (FCC)
  - National Weather Service (NOAA)

## EAS Providers to Public

- Broadcasters
- Cable television systems
  - Cox
  - Time Warner
- Wireless cable systems
- Satellite digital audio radio service (SDARS)
  - Sirius XM
- Direct broadcast satellite (DBS)
  - Dish
  - DirecTV



## EAS Locally

- The system also may be used by state & local authorities
  - Emergency information
    - AMBER alerts
    - Weather information targeted to specific areas
    - Evacuation orders

## PEP

- Primary Entry Point (PEP)
  - Thirty (30) radio stations are National Primary Stations (NPS)
  - Mount Weather Emergency Operations Center
    - FEMA CP
    - Exec Branch Sub



## Sources of OC Alert

- LP-1 & LP-2
  - Local Primary source
  - Each area requires two (2) sources
- SR
  - State Relay
- NOAA Weather Radio (NWR)
- Any other broadcast station

## SAME Messages

- Specific Area Message Encoding (SAME)
  - SAME Header
    - Originator
    - Event type
      - Weather (flood, wind, winter storm, etc.)
      - Non-weather (Nuclear power, shelter-in-place, civil danger)
      - Administrative (tests)
    - Duration
    - Date/time
  - Attention signal
  - Audio announcement(s)
  - Digital end-of-message marker

## WWG21

- NOAA Weather Radio (NWR)
- OC SAME code
  - 006059



## OC Monitor Plan

- LP1: KWVE 107.9
  - KFVB 980
  - KFI 640
  - Control One 39.840
  - NWR 162.45
  - CLERS 158.79
- LP2: Control One
  - KWVE 107.9
  - KFVB 980
  - KFI 640
  - NWR 162.45
  - CLERS 158.790

All LP stations & CATV control points must monitor

- KWVE 107.9
- Control One 39.840

## OC Residents

- Should have 24/7 EAS monitoring
  - SONGS
  - Flood/tsunami
  - Weather
- For others, too
  - For family at home (especially while you're away)
  - Neighbors & relatives
  - Working office

## RMT

- Required Monthly Test (RMT)
  - Third Thursday, odd months, 10:50 AM
  - First Monday, even months, 04:50 AM
- RMT originates from Control One
- All stations must broadcast within 60-minutes

## RST

- Required State Test (RST)
  - Annually
    - First Tuesday, April, 10:30 AM
    - Announces statewide ShakeOut drill
    - Must be carried live without delay
  - Monthly
    - Except April
    - First Tuesdays, odd months, 10:25 AM
    - First Tuesdays, even months, 9:50 PM
  - Coordinated with SONGS Fall annual test

## To Activate Local EAS...

- Authorized agency
  - OCSD, OCFA, OC HCA, OC DES
  - City Manager, Police Chief, Watch Commander, Fire Chief, Battalion Chief
  - CHP
- Write the warning (max 2-min)
- Contact Control One or LP1
  - Authentication via callback
  - Originators read/record message
- Control One will distribute
  - Via CLETS, CCCS, OA Radio
- LP1 will broadcast

## Current All Warnings

- National NWS [Text Warnings](#)
  - 24/7
  - Internet access (weather.gov)

## Wireless Emergency Alerts (WEA)

- For cellphones
- Initiated April 2012
- 90-character message with special tones on *capable* devices
  - No registration required
- Started public service advertising June 2013



## WEA = CMAS = PLAN

- Same thing
  - Wireless Emergency Alerts (WEA)
  - Commercial Mobile Alert System (CMAS)
  - Personal Localized Alerting Network (PLAN)



## WEA Types

- Presidential Alerts
  - Alerts issued by the President or a designee
  - Opt out? NO



## WEA Types

- Imminent Threat Alerts
  - Alerts that include severe man-made or natural disasters
    - Hurricanes
    - Earthquakes
    - Chemical leaks
  - Opt out? YES



## WEA Types

- AMBER Alerts
  - Meet the U.S. Department of Justice's criteria to help law enforcement search for & locate an abducted child
  - Opt out? YES



## Summary Review

- History
  - CONELRAD & EBS
- Current
  - IPAWS
    - EAS
    - WEA
- Monitor
  - KWVE, NWR, KFI
  - IDEC Tango, OC RACES
- Check cellphone carrier for capable devices
- Go-kit and travel ready?

## Wrap Up

- Questions
- Answers
- Thank you!