



The

# Broadcasters' Desktop Resource

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... edited by Barry Mishkind – the Eclectic Engineer

## Focus on Regulation

### The State of IPAWS in 2015



**By Richard Rudman**

*[April 2015] At the NAB Show, the FEMA booth had some really important information for those who still have hope that a strong Emergency Alert System is still possible. Unfortunately, a co-ordination among the governmental agencies at the national level has so far not been easy since there is still no overall public warning strategy for the USA.*

There is still no comprehensive overall national warning strategy for the United States.



This pressing need is outlined in reports written for the Federal Emergency Management Agency (FEMA), the Federal Communications Commission (FCC), and the National Weather Ser-

vice (NWS) by the Partnership for Public Warning (PPW).

#### NATIONAL WARNINGS

The PPW started from the premise that government has a responsibility to get timely information about protective actions to a public at risk.

This premise is the core of the definition for what emergency public warnings are all about.

The PPW was incorporated in 2002 after the tragic events that occurred on September 11, 2001 by 17 founding trustees. The mission was to write reports for the FEMA, the FCC and the NWS outlining a roadmap to a national warning strategy that included what we now call CAP, the Common Alerting Protocol.

#### CAP AND IPAWS

The CAP, through the efforts of the PPW and other warning stakeholders, was vetted as a recognized standards process as an open source, worldwide non-proprietary tool for issuing public warnings.

CAP by itself is just a tool that can allow the Federal government, the emergency management and law enforcement communities to fulfill its responsibility to warn that public at risk. CAP needed to be a part of an overall warning toolkit. FEMA came up with a name for that toolkit, IPAWS, and stood up a virtual national workshop to roll CAP out to a nation at risk.

IPAWS, as we know, stands for Integrated Public Alert and Warning System. A simple way to look at IPAWS is to think of it as a single method for originators to send out warnings through any viable means including the Emergency Alert System (EAS), cell phones, a still-growing number of social media channels, and even simple basic warning means like sirens.

### **IPAWS 2015**

IPAWS was hoped to finally bring – under one protocol – the potential to better and more rapidly warn people with sight and hearing impediments.

Nevertheless, the IPAWS acronym currently describes a future for emergency public alert and warning that does not yet exist, but should.

On the other hand, at the recent National Association of Broadcasters (NAB) Broadcast Engineering Conference (BEC) I saw a glimmer of hope that the inherent promise made by the IPAWS name could someday become a reality.

### **A POSITIVE VIEW**

During the 2015 NAB BEC Al Kenyon delivered a detailed presentation describing the Preliminary Findings from Preparations for the IPAWS (Integrated Public Alert and Warning System) National Test.

Kenyon is the Technical Lead for the IPAWS National Test, IPAWS Division, under the FEMA's National Continuity Programs. Many of us in the broadcast industry know and respect Kenyon dating back to his tenure with Clear Channel and his involvement with and signify-

cant contributions to the FEMA's Primary Entry Point (PEP) program.

I do not know if other EAS stakeholders in the audience would agree with me, but I was encouraged by the preparations, planning and results Kenyon outlined.

### **IPAWS, FEMA, AND CAT HERDING**

We can liken the FEMA's challenge in making IPAWS into a national public warning reality to cat herding, with extreme complications.

The "cat" population includes, but is not limited to, our 50 states, a growing number of for-profit vendors of warning technology, and an ever-growing array of new warning channels. The lack of an overall national warning strategy makes the FEMA's challenge even more daunting.

The FEMA describes IPAWS as a "Gateway to Alert Dissemination Channels" and they call the core of this gateway as hardware and software for "Alert Aggregation."

### **ALERT AGGREGATION**

The FEMA "aggregator" does several things.

It authenticates the originator or sender prior to allowing any CAP message to be issued with a digital signature. It validates the message format to make sure it conforms to CAP. It validates that the subject of the message the sender is authorized to issue., where the message goes, and the warning channels used.

The FEMA aggregator then hands off alert messages to IPAWS alert dissemination pathways including the EAS, cell phone warnings (WEA), NOAA Weather Radio, social media, and warning-specific Internet applications.

As we know, the FCC requires all licensees to monitor IPAWS EAS feeds that have the potential to support triggering radio, TV, cable and

satellite media alerts to deliver full text, audio attachments, audio links, and text-to-speech.

## SEEKING TO REACH THE POTENTIAL

The operative word above is “potential.”

While the CAP itself is a standard, the “cats” have not all agreed on how to accomplish all those support actions so they can smoothly and seamlessly work together to reach our public at risk. Some states and private warning entities have pieces of the IPAWS infrastructure in place. Others have not.

To build another analogy, think of a road system where sections are built but there is no standard lane width or signage, some are still dirt roads, and other sections that are simply missing.

## IDENTIFYING THE PROBLEMS

The “dirt road” part of the analogy is the legacy EAS.

Even when CAP triggers legacy EAS, the crawl or text messages the public gets are those burnt into PROM chips.

For example, during emergencies, the CEM legacy EAS code comes out as “Civil Emergency Message” – with no detail as to what the message is trying to warn you about. Moreover, there is no specific location information given in legacy EAS since it uses an elderly and severely limited federal geo-coding system (FIPS) that makes it impossible to target down to local neighborhoods.

To find out what all the “cats” are doing we must have tests. Kenyon presented the thus far successful preparations for the first national EAS test that will include CAP. When that national test happens, we will have a clearer idea of how much of our national warning road map really works, and what needs to be done to fix the parts that do not work well.

## PAVING THE WAY

As Kenyon and the FEMA explain it, “The goal of the IPAWS National Test (INT) is to assess the readiness and effectiveness of the Integrated Public Alert and Warning System (IPAWS) for distribution of a national-level message from origination to reception by the public.”

The FEMA is now rolling out a three-phase national test approach consisting of controlled tests in the FEMA IPAWS test lab (JITC), conducting regional “live” tests using the National Program Test (NPT) EAS code, and finally, a nationwide IPAWS test.



As Kenyon explained it, the FEMA worked with the West Virginia Broadcasters Association in late 2014 on an IPAWS National Test (INT) exercise in West Virginia. Over 80 percent of commercial broadcasters participated voluntarily. Overall broadcaster participation was 55%.



On September 17, 2014 at 2:00 PM the JITC initiated a test message for West Virginia containing the National Periodic Test (NPT) code along with the specific location code for West Virginia for the EAS and IPAWS All-Hazards Information Feed pathways. Approximately 90 percent of the participating stations successfully transmitted the test message.

It took a lot of cooperation and teamwork to achieve this 90 percent success rate involving broadcasters, the Virginia Broadcaster Association, and that state's emergency managers.

Another successful regional test was conducted for the North Central region of the country on March 18, 2015.

## TESTING THE TESTS

To validate test results FEMA deployed its own monitoring teams who recorded off air selected radio and TV stations who volunteered.



That monitoring process showed a 70% success rate that improved to over 88% just counting the volunteers.

## USING THE DATA

These state and regional tests do not simply collect data. They serve as information and training exercises based on lessons learned that will help

build out a resilient and effective public warning network, the goal of IPAWS.

The FEMA deserves a lot of credit for taking on the fulfillment of the IPAWS promise. Their job would be easier if more funding were available to support a comprehensive warning tool certification program, warning originators training, and raising public awareness about warnings.

The FEMA's significant success outlined in the Virginia and North Central regional tests should be helpful in encouraging Congressional support to not only give the FEMA immediate resources prior to the national test but to someday write that missing national warning strategy the PPW called for thirteen years ago after the nation received that September 11 wake-up call.

## LOOKING FOR BETTER ALERTING

Much has happened and not happened since the launch of EAS in 1997 to erode support among EAS stakeholders.

Today we are in need of people committed to the value of emergency public warnings participate in state and local committees, the only places where the infrastructure of a viable warning web can be woven and maintained. The FEMA's efforts as they conduct more regional and state tests could be valuable in stemming that erosion.

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*A regular contributor to **The BDR**, Richard Rudman is the owner of Remote Possibilities in Santa Paula, CA. He has extensive experience from small to major markets.*

Contact Richard at [rar01@mac.com](mailto:rar01@mac.com)

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