

THE EFFECTIVENESS OF OUR NATION'S PUBLIC ALERT SYSTEM

(112-67)

HEARING
BEFORE THE
SUBCOMMITTEE ON
ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS, AND
EMERGENCY MANAGEMENT
OF THE
COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED TWELFTH CONGRESS
FIRST SESSION

DECEMBER 13, 2011

Printed for the use of the
Committee on Transportation and Infrastructure



Available online at: <http://www.gpo.gov/fdsys/browse/committee.action?chamber=house&committee=transportation>

U.S. GOVERNMENT PRINTING OFFICE

71-738 PDF

WASHINGTON : 2012

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512-1800; DC area (202) 512-1800
Fax: (202) 512-2104 Mail: Stop IDCC, Washington, DC 20402-0001

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE

JOHN L. MICA, Florida, *Chairman*

DON YOUNG, Alaska	NICK J. RAHALL II, West Virginia
THOMAS E. PETRI, Wisconsin	PETER A. DeFAZIO, Oregon
HOWARD COBLE, North Carolina	JERRY F. COSTELLO, Illinois
JOHN J. DUNCAN, JR., Tennessee	ELEANOR HOLMES NORTON, District of Columbia
FRANK A. LoBIONDO, New Jersey	JERROLD NADLER, New York
GARY G. MILLER, California	CORRINE BROWN, Florida
TIMOTHY V. JOHNSON, Illinois	BOB FILNER, California
SAM GRAVES, Missouri	EDDIE BERNICE JOHNSON, Texas
BILL SHUSTER, Pennsylvania	ELIJAH E. CUMMINGS, Maryland
SHELLEY MOORE CAPITO, West Virginia	LEONARD L. BOSWELL, Iowa
JEAN SCHMIDT, Ohio	TIM HOLDEN, Pennsylvania
CANDICE S. MILLER, Michigan	RICK LARSEN, Washington
DUNCAN HUNTER, California	MICHAEL E. CAPUANO, Massachusetts
ANDY HARRIS, Maryland	TIMOTHY H. BISHOP, New York
ERIC A. "RICK" CRAWFORD, Arkansas	MICHAEL H. MICHAUD, Maine
JAIME HERRERA BEUTLER, Washington	RUSS CARNAHAN, Missouri
FRANK C. GUINTA, New Hampshire	GRACE F. NAPOLITANO, California
RANDY HULTGREN, Illinois	DANIEL LIPINSKI, Illinois
LOU BARLETTA, Pennsylvania	MAZIE K. HIRONO, Hawaii
CHIP CRAVAACK, Minnesota	JASON ALTMIRE, Pennsylvania
BLAKE FARENTHOLD, Texas	TIMOTHY J. WALZ, Minnesota
LARRY BUCSHON, Indiana	HEATH SHULER, North Carolina
BILLY LONG, Missouri	STEVE COHEN, Tennessee
BOB GIBBS, Ohio	LAURA RICHARDSON, California
PATRICK MEEHAN, Pennsylvania	ALBIO SIREs, New Jersey
RICHARD L. HANNA, New York	DONNA F. EDWARDS, Maryland
JEFFREY M. LANDRY, Louisiana	
STEVE SOUTHERLAND II, Florida	
JEFF DENHAM, California	
JAMES LANKFORD, Oklahoma	
REID J. RIBBLE, Wisconsin	
CHARLES J. "CHUCK" FLEISCHMANN, Tennessee	

SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS, AND EMERGENCY MANAGEMENT

JEFF DENHAM, California, *Chairman*

TIMOTHY V. JOHNSON, Illinois	ELEANOR HOLMES NORTON, District of Columbia
ERIC A. "RICK" CRAWFORD, Arkansas, <i>Vice Chair</i>	HEATH SHULER, North Carolina
RANDY HULTGREN, Illinois	MICHAEL H. MICHAUD, Maine
LOU BARLETTA, Pennsylvania	RUSS CARNAHAN, Missouri
BOB GIBBS, Ohio	TIMOTHY J. WALZ, Minnesota
PATRICK MEEHAN, Pennsylvania	DONNA F. EDWARDS, Maryland
RICHARD L. HANNA, New York	BOB FILNER, California
CHARLES J. "CHUCK" FLEISCHMANN, Tennessee	NICK J. RAHALL II, West Virginia (<i>Ex Officio</i>)
JOHN L. MICA, Florida (<i>Ex Officio</i>)	

CONTENTS		Page
Summary of Subject Matter		iv
TESTIMONY		
Damon Penn, Assistant Administrator, National Continuity Programs, Federal Emergency Management Agency		3
James Arden Barnett, Jr., Rear Admiral (Ret.), Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission		3
Suzanne D. Goucher, President and CEO, Maine Association of Broadcasters ..		3
Christopher Guttman-McCabe, Vice President, Regulatory Affairs, CTIA—The Wireless Association		3
William Check, Ph.D., Senior Vice President of Science and Technology, National Cable and Telecommunications Association		3
PREPARED STATEMENTS SUBMITTED BY MEMBERS OF CONGRESS		
Hon. Eleanor Holmes Norton, of the District of Columbia		24
PREPARED STATEMENTS SUBMITTED BY WITNESSES		
Damon Penn		26
James Arden Barnett, Jr.		32
Suzanne D. Goucher		38
Christopher Guttman-McCabe		51
William Check, Ph.D.		56
ADDITION TO THE RECORD		
John I. Taylor, Vice President, Government Relations and Communications, LG Electronics USA, Inc., letter and attachment to Hon. Jeff Denham, a Representative in Congress from the State of California, December 13, 2011		64



U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

John L. Mica
Chairman

Dick J. Rahall, III
Ranking Member

James W. Case II, Chief of Staff

December 9, 2011

James H. Zola, Deputy Chief of Staff

BRIEFING MEMORANDUM

TO: Members of the Subcommittee on Economic Development, Public Buildings, and Emergency Management
FROM: Subcommittee on Economic Development, Public Buildings, and Emergency Management Staff
SUBJECT: Oversight Hearing on "The Effectiveness of Our Nation's Public Alert System"

PURPOSE

The Subcommittee on Economic Development, Public Buildings and Emergency Management will meet on Tuesday, December 13, 2011, at 9:30 a.m., in 2167 Rayburn House Office Building to receive testimony from the Federal Emergency Management Agency (FEMA), the Federal Communications Commission (FCC), and representatives of the wireless, cable, and broadcasting industries. The purpose of the hearing is to examine the development of FEMA's Integrated Public Alert and Warning System (IPAWS) and receive testimony regarding the recent test of the nation's Emergency Alert System (EAS).

BACKGROUND

Legislation

On September 13, 2011, Subcommittee Chairman Denham and Ranking Member Norton introduced H.R. 2904, H.R. 2904, the Integrated Public Alert and Warning System (IPAWS) Modernization Act of 2011, would establish a clear framework and timetables for FEMA's modernization of its public alerts and warning system. Similar legislation was introduced in the 110th and 111th Congresses. FEMA is responsible for ensuring alerts and messages of the President can be sent to the public pursuant to Section 202 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Development of IPAWS is pursuant to that authority.

Last Congress, the Subcommittee conducted an investigation of the development of IPAWS and the Government Accountability Office (GAO) issued a report¹ that highlighted concerns related to FEMA's development of IPAWS. The Subcommittee's investigation and GAO's report supported the need for legislation to ensure consultation and coordination with key stakeholders, strategic planning, and the timely roll out of the new system.

H.R. 2904 is modeled after the WARN Act. In 2006, Congress enacted the Warning, Alert, and Response Network (WARN) Act. That Act established a similar framework, led by the FCC, to develop a system that would provide for the use of wireless technologies in sending alerts. During the course of the Subcommittee investigation, the framework established by the WARN Act ensured input by the relevant industries maximizing buy-in by the private sector and helping to facilitate decision-making by establishing timetables. H.R. 2904 is intended to apply a similar framework to the development of IPAWS.

Emergency Alert System

Currently, the United States issues emergency warnings through the Emergency Alert System (EAS) – the successor to the Emergency Broadcast System (EBS) -- which relays messages through broadcast and other media. EAS allows the President and authorized officials to transmit emergency messages to the public via television (TV) and radio through a hierarchical distribution system dating back to the 1960s. FEMA is responsible for administering EAS at the national level and distributing Presidential alerts to national primary stations, known as Primary Entry Point (PEP) stations. PEP stations are stations that have been hardened to protect them from disasters, including back up generators and fuel onsite. Broadcasts of the national level alerts are relayed by the PEP stations across the country to radio and TV stations that rebroadcast the message to other stations and cable systems. The retransmission of alerts from one EAS participant to another is commonly referred to as a “daisy chain” distribution system.

Additionally, the National Oceanic and Atmospheric Administration's (NOAA) Weather Radio, All Hazards Network, sends alerts through NOAA Weather Radio (NWR), which has been expanded to include warnings for all hazards.

On November 9, 2011, the first nation-wide test of EAS was conducted. The test only involved the legacy TV and radio system. The test was originally planned to last for three minutes; however, a decision was made to reduce the test time to 30 seconds. FEMA asserts this decision was made due to the limited ability to alert the public that the alert was only a test. The visual message indicated that EAS had been activated; however, the message indicating it was a test was in audio. This raised concerns that many, including the hearing impaired, could mistake the test as an actual emergency. While an official assessment will be not available until after December, as broadcasters have until the end of the year to submit reports, some of the issues reported include 3 of

¹ Emergency Preparedness: Improved Planning and Coordination Necessary for Modernization and Integration of Public Alert and Warning System, GAO-09-834, Sep 9, 2009

the 63 PEP stations failed to rebroadcast the message resulting in some members of the public not receiving a message and reports of poor or no audio or the playing of music in lieu of the message.

Integrated Public Alert and Warning System

On June 26, 2006, former President Bush issued Executive Order 13407, stating the U.S. policy is “to have an effective, reliable, integrated, flexible and comprehensive system to alert and warn the American people.” The former President issued a list of functional requirements for the Secretary of Homeland Security. The requirements were based on recommendations of experts in the field and included:

- evaluating and assessing existing resources at all levels of government;
- adopting common alerting protocols, standards terminology, and other procedures to enable interoperability;
- delivering alerts on criteria such as location and risk;
- accommodating disabilities and language needs;
- supporting necessary communication facilities;
- conducting training, testing, and exercises;
- ensuring public education about emergency warnings;
- coordinating and cooperating with the private sector and government at all levels;
- administering the existing EAS as a component of a broader system; and
- ensuring that the President can alert and warn the American people.

Executive Order 13407 directed the Department of Homeland Security (DHS) to meet this challenge “to ensure an orderly and effective transition” from current capabilities to the system described in the executive order and to report on the implementation of the system within 90 days after the Order, and on at least a yearly basis thereafter. FEMA’s IPAWS program was initiated in 2004, and has become the programmatic mechanism to carry out this Executive Order. IPAWS is defined by FEMA as a “system of systems,” which is intended to eventually integrate existing and new alert systems including EAS. Therefore, EAS is expected to be superseded as the nation’s primary alert function by IPAWS. EAS will act as one of IPAWS’ component parts and one of the primary mechanisms to disseminate alerts.

IPAWS aims to be the nation’s next generation public communications and warning capability. As previously mentioned, the current EAS is based on generally outdated technology that mostly relies on radio and TV to transmit audio-only alerts.

Today, the public uses many different technologies to receive information and is increasingly less reliant on TV and radio.

The aim of IPAWS is to improve public safety through the rapid dissemination of emergency messages to as many people as possible over as many communications devices as possible, including in multiple languages, in American Sign Language, and in Braille. To do this, IPAWS seeks to expand the traditional alert and warning system to include more modern technologies such as digital technology and, at the same time, upgrade the alert and warning infrastructure so that no matter what the crisis is, there would be near instantaneous transmission and receipt of alerts to the public. The alerts would be transmitted through digital technologies that can reach various communications devices, such as mobile phones, land lines, pagers, fax machines, personal digital assistants, desktop, computers, and digital road signs.

Under IPAWS, an alert is initiated either by the President or by a designated State official. The designated State official sends a message to FEMA, which is designated as the “aggregator” for the messages. FEMA then authenticates the message and the sender and ensures that the message complies with what is known as the Common Alerting Protocol (CAP). The message is then transmitted to the PEP stations via phone lines and satellites and the PEP stations in turn rebroadcast. The Common Alerting Protocol is a standard adopted by the international standards-making body, the Organization for the Advancement of Structured Information Systems (OASIS). CAP ensures messages meet the proper technical standards to be transmitted. FEMA officially adopted CAP in September, 2010.

Last Congress, the Subcommittee held a hearing in September 2009 which highlighted the potential of digital technology to transmit information to the public through many methods of communication. Such technology can be used to send video, for example, that could facilitate visual information understandable to people with limited English proficiency. The technology could also be used to trigger lights or other devices to facilitate alerts for people with disabilities.

As highlighted, the IPAWS legislation introduced by Chairman Denham and Ranking Member Norton mirrors the framework established in the WARN Act for the wireless industry. The Warning, Alert and Response Network Act (WARN Act), as signed into law as Title VI of P.L. 109-347, the Security and Accountability for Every Port Act of 2006 (The SAFE Port Act), required the establishment of a Commercial Mobile Service Alert Advisory Committee (CMSAAC) by the FCC. Committee members included State, local and tribal governments, members of the private sector, and representatives of people with disabilities. The Committee was charged with providing the FCC with recommendations on technical requirements, standards, regulations, and other matters needed to support the transmittal of emergency alerts by commercial mobile service providers to their subscribers on a voluntary basis.

In April 2008, the FCC adopted most of the recommendations made by the CMSAAC, including those for wireless carriers to transmit certain types of alerts, specifically Presidential, imminent threat, AMBER alerts and emergency alerts originated by State, local and other non-Federal entities and the coverage is to be nationwide with a

Federal agency managing the alerts by acting as an aggregator in accepting, verifying and routing messages. Since the recommendations were issued, FEMA has agreed to serve as the Federal aggregator.

While the wireless industry was not included in the recent EAS test, since passage of the WARN Act, the FCC has led the development of a wireless system to carry a public alert or warning called the Commercial Mobile Telephone Alerts (CMAS). CMAS would require participating carriers to transmit three types of messages: presidential alerts, Amber alerts, and Imminent Danger Alerts (e.g. tornados). As has occurred in past disasters, typically the wireless networks have been overloaded with people attempting to make phone calls or send text messages. The WARN Act process has led to the formulation of a system in which wireless carriers would send a broadcast cellular message which means that rather than, for example, thousands of text messages going through the system, the broadcast message acts as if it is one message, thus minimizing the potential an alert would clog the system. In addition, the broadcast method allows for geo-targeting – sending the alert only to those cellphone owners within the area broadcasting the alert.

While participation in CMAS is not required by law, currently a significant number of carriers have agreed to participate, covering 96% of the wireless customer base. The four largest carriers involved include Verizon, AT&T, Sprint, and T-Mobile. More are expected as the system is rolled out with the first roll out expected in New York by the end of the year. While the four largest carriers are prepared or nearly prepared to roll out the system nationwide, FEMA must still finalize the technical connections and certify and train the designated States officials assigned to originate messages.

WITNESSES

Mr. Damon Penn
Assistant Administrator
National Continuity Programs Directorate Federal Emergency Management Agency

Mr. James Arden Barnett, Jr.
Rear Admiral (Ret.)
Chief, Public Safety and Homeland Security Bureau Federal Communications
Commission

Ms. Suzanne D. Goucher
President & CEO
Maine Association of Broadcasters

Mr. Chris Guttman-McCabe
Vice President, Regulatory Affairs
CTIA – The Wireless Association

Dr. William Check
Senior Vice President of Science and Technology
National Cable and Telecommunications Association

THE EFFECTIVENESS OF OUR NATION'S PUBLIC ALERT SYSTEM

TUESDAY, DECEMBER 13, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC
BUILDINGS, AND EMERGENCY MANAGEMENT,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 9:33 a.m., in Room 2167, Rayburn House Office Building, Hon. Jeff Denham (Chairman of the subcommittee) presiding.

Mr. DENHAM. The subcommittee will come to order. Today's hearing is on the effectiveness of our Nation's public alert system. Many of us recall the old Emergency Broadcast System and periodic interruption of our TV viewing with an audio announcement and very distinctive annoying tones.

Today we have the Emergency Alert System and EAS. However, the backbone of that system is still largely based on 1960s technology. Last month FEMA conducted the first-ever nationwide test of the EAS. To be clear, after almost 50 years, we just recently conducted the first nationwide test.

In 2009 GAO raised this as a serious issue: How can we count on a national alerting system that has never been fully tested? And the test revealed several shortcomings. Some stations failed to re-broadcast; music of Lady Gaga seized some airwaves; and apparent feedback affected the transmission of the message to some locations.

With that said, I am sure FEMA expected some problems, and thankfully we finally did a nationwide test so the problems could be identified and corrected.

While a nationwide test is significant, the test only included EAS and the components of the legacy system consisting of TV and radio. Today it seems we are constantly bombarded by information through not only broadcast TV and radio, but also satellite TV and radio cable, cell phones, social networking, and the Internet. It would seem that today if the public needed to be alerted quickly to an impending disaster it would be fairly easy to get the word out.

We saw just last week how important an effective alert system is to saving lives. At Virginia Tech, the University's Emergency Alert System kept students in place and out of harm's way in the moments following the tragic shooting. And as demonstrated this year with devastating tornados, hurricanes, and floods around our

Nation, improving alerting capability will help save even more lives.

In 2006 former President George Bush signed an executive order to direct our Nation's alert system was brought into the 21st century. There is no reason with modern technology for the public not to expect that in a serious emergency, alert would be sent through many communication mediums as possible, not just TV and radio, but all communication devices. And modern technology opens up capabilities that in the past were not possible: transmitting information that can help facilitate the alerting of those with disabilities and people with limited English proficiency.

So the Integrated Public Alert and Warning System was envisioned to be a system of systems, to use as many methods of communication as possible, to reach as many people as possible. Unfortunately, since IPAWS was conceived, there have been many setbacks and lack of strategic direction. These concerns raise serious doubts about whether we could properly warn the public of a disaster.

Earlier this year, Ranking Member Norton and I introduced the Integrated Public Alert and Warning System Modernization Act. This legislation is modeled after the WARN Act that effectively provided a framework led by the FCC for the development of the Commercial Mobile Telephone Alerts, or CMAS, the wireless components of IPAWS. CMAS, when fully deployed as part of IPAWS, will transmit text alerts to wireless devices. While adding wireless devices is a first good step, great first step, ultimately sending more than simple text is what is envisioned with IPAWS.

I hope today we can hear from FEMA and the FCC and some of the key industries involved in the development of IPAWS to help our subcommittee assess the work being done. At the end of the day we all share a mutual goal: the safety of the public. That is why Ranking Member Norton and I recently requested GAO review the current status of the development of IPAWS. We must ensure we have a reliable systems that will send a warning out to as many people as possible. With modern technology there is no reason we can't achieve that goal.

I thank the witnesses for being here today to address many important issues. And I will allow Ranking Member Norton her 5 minutes as soon as she arrives.

Our first panel this morning: Mr. Damon Penn, assistant administrator, national continuity programs, Federal Emergency Management Agency; Mr. James Arden Barnett, Jr., chief public safety and homeland security bureau of the FCC; Ms. Suzanne Goucher, president and CEO of Maine Association of Broadcasters; Mr. Chris Guttman-McCabe, vice president, regulatory affairs for The Wireless Association; and Dr. William Check, senior vice president of science and technology, for the National Cable and Telecommunications Agency. I ask unanimous consent that our witnesses' full statements be included in the record. Without objection, so ordered.

TESTIMONY OF DAMON PENN, ASSISTANT ADMINISTRATOR, NATIONAL CONTINUITY PROGRAMS, FEDERAL EMERGENCY MANAGEMENT AGENCY; JAMES ARDEN BARNETT, JR., REAR ADMIRAL (RET.), CHIEF, PUBLIC SAFETY AND HOMELAND SECURITY BUREAU, FEDERAL COMMUNICATIONS COMMISSION; SUZANNE D. GOUCHER, PRESIDENT AND CEO, MAINE ASSOCIATION OF BROADCASTERS; CHRISTOPHER GUTTMAN-MCCABE, VICE PRESIDENT, REGULATORY AFFAIRS, CTIA—THE WIRELESS ASSOCIATION; AND WILLIAM CHECK, PH.D., SENIOR VICE PRESIDENT OF SCIENCE AND TECHNOLOGY, NATIONAL CABLE AND TELECOMMUNICATIONS ASSOCIATION

Mr. DENHAM. Since your written testimony has been made part of the record, the subcommittee would request that you limit your oral testimony to 5 minutes. Mr. Penn, you may proceed.

Mr. PENN. Good morning, Chairman, Ranking Member Norton and distinguished members of the subcommittee, it is a pleasure and an honor for me to appear before you on behalf of FEMA to discuss the progress we have made in the Integrated Public Alert and Warning System.

FEMA serves as the Nation's focal point for Government continuity planning, guidance, and operational support. We are also responsible for ensuring the President is able to address the Nation under the most extreme circumstances, and IPAWS is the capability we use to accomplish this task. Our vision for IPAWS has not changed. We are tasked to provide timely and accurate alerts and warnings to the American people in the preservation of life and property. We do this by relaying a single message over multiple dissemination platforms to ensure redundant pathways to alert the public by multiple means. IPAWS is an integrated capability, accessible to all levels of public safety officials.

We have made significant progress since I last testified before the subcommittee 2 years ago. We have adopted and accepted the common alert protocol to ensure all alerts and warnings equipment is compatible. We have extended the primary entry-point program from 36 stations to 63 stations, and we will increase that number to 77 by the end of next year.

We have established, tested, and fielded the IPAWS aggregator, and that is the device that takes a single message and distributes it to the different alert disseminators. And we have developed and fielded a training program to help message-originating authorities produce valuable alerts and warnings and meet the standard criteria of urgency, certainty, and severity.

Our two latest achievements are the fielding of the Commercial Mobile Alert System, CMAS/PLAN, and the conduct of the first nationwide Emergency Alert System's testing.

And I would like to take a moment to expand on both of these projects. Adding to the CMAS/PLAN capability allows trained and authorized emergency management officials to pass a text message alert directly through IPAWS to participating wireless carriers, to any CMAS-capable cell phone or handheld device located in the geo-targeted area. CMAS/PLAN technology is immune to wireless call congestion so cell phones can receive emergency alerts even if wireless towers in the location are overwhelmed and can no longer

support cellular phone calls or subscriber-to-subscriber text messaging.

Additionally, by using IPAWS-compatible software, State, local, territorial, and tribal officials can, at no cost, use CMAS/PLAN to alert and warn individuals in particular areas about imminent threat events as well as AMBER emergencies.

This is not emerging technology, but a capability that is currently being fielded. Thanks to overwhelming support by the wireless industry, the first capability of the system has been fielded in New York City and in the Washington, DC, area. Final testing will be conducted in DC later this month and final testing in New York City will take place on Thursday of this week. The initial capability will be available 4 months ahead of the originally mandated schedule. Nationwide, the deployment will continue over the next 2 years.

Thanks to our partnership and support from the FCC, NOAA, radio and television providers, the cable industry and the satellite industry, emergency managers across the Nation, we conducted the first-ever nationwide test of EAS. The test was a success and an essential step in moving forward to improving the EAS system. Although data from the field will not be available until the end of the month, we have already begun work to solve some technical issues discovered during the test. We learned that parts of the system worked as envisioned or better. But more importantly, we learned what didn't work.

For example, message propagation through the PEP stations was better than anticipated, but we also discovered that we have work to do to improve audio transmission quality and to improve the accessibility of the text to serve the deaf and hard-of-hearing community. And we have already done some work to begin addressing those issues. I can further explain during questions and answers if you would like.

From here we will analyze results, determine root causes, develop and implement corrective actions, and retest as necessary to ensure we have a system that serves our whole community of Americans.

Developing strategy for success in the future requires a shift in our basic approach. IPAWS moved from a requirements-based single technology network approach to an application-based open platform approach. This ensures that IPAWS can easily integrate with a broad range of information processing technologies, networks, and equipment from existing private sector communication systems.

To support people with access and functional needs, FEMA remains engaged with agencies, organizations, and conferences and private industry to promote the IPAWS capability and integrate alerts and warning technology into their communities. We have also partnered with private and public organizations to demonstrate products and incorporate CAP-enabled technologies to alert persons with access and functional needs.

In conclusion, the IPAWS vision of providing timely alert and warning information to the American people and the preservation of life and property remains clear and consistent. And, FEMA is

fully committed to IPAWS and recognizes the importance of the whole community of American public.

Thank you, sir, for the opportunity to appear and testify before the committee, and I will be happy to answer any questions you may have.

Mr. DENHAM. Thank you.

Mr. Barnett.

Mr. BARNETT. Chairman Denham, members of the subcommittee, thanks for the opportunity to come and talk to you today about the FCC's recent work in alerts and warning the public.

One of the FCC's primary statutory obligations is to promote the safety of life and property through the use of wire radio communications. The FCC has a singular commitment to protection of the public through constantly evolving alert and warning systems. We recognize that this should be a team effort.

I am very pleased to be here with my friend and colleague, Damon Penn, of FEMA. The FCC works closely with FEMA, with our other Federal partners, the National Weather Service, with telecommunications industry, to bring the future of alert and warning systems to consumers now.

So pursuant to the WARN Act, the FCC in 2008 adopted rules for what we call the Personal Localized Alerting Network or PLAN, also as Chairman Denham mentioned CMAS, an emerging alerting system that wireless carriers sign up for voluntarily which will transmit emergency text-like alerts to subscribers' cell phones. Under the FCC's rules the carriers, the participating carriers, must begin to plan deployment by April 7th of 2012. But in May of this year Chairman Genachowski, FEMA Administrator Fugate, New York City Mayor Michael Bloomberg, and top executives from four of the major nationwide wireless carriers. AT&T, Sprint, T-Mobile, and Verizon Wireless announced that PLAN would be available in New York City by the end of the year, months ahead of schedule.

PLAN will serve as an important complement to the other alert and warning systems, like the Emergency Alert System, EAS. The alerts will be geographically targeted, ensuring that they will reach the right people, at the right time, with the right messages, and this will ensure that alerts reach only those people who actually are in danger. It creates a fast lane for emergency alerts so that vital information is guaranteed to get through, even if there is congestion in the network. Moreover, PLAN has the additional feature of neither the alert originator nor anyone administering the system will know who receives the alert. PLAN cannot be used to monitor wireless devices or a consumer's location. Pursuant to the WARN Act, subscribers may opt out of receiving all but the national emergency alerts.

The FCC has also taken action to enhance the EAS system. Last month the FCC, with FEMA, did in fact, as Damon mentioned, conduct the first-ever nationwide top-to-bottom test of the EAS. The purpose of the test was diagnostic, to allow the FCC and FEMA to determine how well the system would work if activated during an actual national emergency. Prior to the test, the FCC and FEMA, along with EAS participants, State and local governments, and other stakeholders took significant steps to educate the partici-

pants, public safety and other State, tribal, local governments, and consumers about the test.

For example, the FCC released a step-by-step guide for EAS participants to use during the test. Some materials were briefed over 40 organizations representing State, tribal, and local governments about the test, and over 100 community and consumer organizations, including those who represent the deaf and hard of hearing, and people who do not speak English as their primary language.

Under the FCC rules, EAS participants have until December 27th, 2011, to submit test result data to the FCC. Once we receive this data, in conjunction with FEMA, we will analyze it to determine what worked and what didn't, and make recommendations for improvements as necessary.

Some improvements actually are already scheduled. The first step to modernize the EAS will take place next year—or has taken until next year with introduction of work transmissions using common alerting protocol, or CAP. Once implemented, CAP-based alerting will enable the migration of the current EAS to a next-generation learning system to provide a host of features not possible under the current technology.

The FCC will continue to explore whether other communication technologies can provide ways for Americans to receive alerts and warnings about imminent threats to safety of life. As recommended by the national broadband plan, the FCC will examine the role of broadband technologies, social networks, and other Internet-based tools and how they can play in emergency alerting. We will continue to work closely with FEMA and the National Weather Service, industry, and State and local governments to ensure that the public has access to emergency alerts, warnings and information over multiple communication technologies.

I appreciate the opportunity to appear before you today and I look forward to your questions.

Mr. DENHAM. Ms. Goucher, you may proceed.

Ms. GOUCHER. Thank you, Mr. Chairman and distinguished members of the committee. My name is Suzanne Goucher. I thank you very much for your interest in improving emergency communications to the public. I am honored to be here with you to share the valuable, often life-saving public service that full power local radio and television stations provide during times of crisis.

When disaster strikes, Americans know they can turn to their local broadcasters for news and information. When the power goes out, when phone service and the Internet go down, broadcasters move heaven and earth to stay on the air, delivering vital information to their audiences. Through wildfires, floods, tornados, hurricanes, everywhere across our Nation, local communities depend on their broadcasters to keep them informed before, during, and after disaster strikes.

Broadcasters are also proud of our keystone role in the Emergency Alert System. For 60 years, from the CONELRAD days of the Cold War, through the Emergency Broadcast System, to EAS, and now on to the next generation of alerting, broadcasters stand ready to be America's first informers. We consider the delivery of timely alerts and warnings to be the highest and best use of our spectrum, our facilities, and our resources.

For example, after the abduction and murder of Amber Hagerman in 1996, Dallas area broadcasters initiated the creation of the first AMBER Alert program. The Oklahoma Association of Broadcasters subsequently developed the first statewide AMBER plan which became the model for similar programs across the Nation. To date, AMBER Alerts have aided in the successful recovery of 542 abducted children across the U.S.

The hot new buzz in the alerting community is social networking, and broadcasters are also leveraging their news dissemination capabilities across these pathways. When you receive an email, a text alert, or a Facebook message from your local radio or TV station, you know you are getting reliable information from an authoritative source.

The nationwide EAS was tested for the first time last month, and in my view the test was a success. It was the first time an official national alert message was purposely deployed end to end throughout the system. There were technical problems with the origination of the message, and there were also a few scattered problems with reception of the test message through the primary entry-point network. This is precisely why systems should be tested on an ongoing basis.

We fully support the plan by FEMA and the FCC to test the nationwide EAS on a regular basis going forward. EAS is tested weekly by each radio and TV station, and monthly within each State. Such tests allow message disseminators to confirm that their equipment is working properly or to diagnose and fix any problems. It only makes sense that we should also be regularly testing the ability of the Federal Government to send an alert message throughout the Nation.

The ongoing effectiveness of EAS depends on a few important factors.

First, a training program for State and local public safety officials on how to use EAS is desperately needed. The knowledge and expertise of some local authorities as to how and when to deploy EAS is currently at what we consider an unacceptable level. We stand ready to deliver the message, but first we need someone to deliver it to us. We applaud our friends at FEMA for undertaking the development of a training program which will certify State and local officials to send alerts through the Federal IPAWS gateway.

While this is a good first step, it does not address those State and local officials who don't have the fundamental understanding of or willingness to use EAS in the first place. Some sort of incentive for them to take this training, such as incorporating it into the National Incident Management System, would encourage a greater understanding of the beneficial uses of the system.

Secondly, we thank the committee for considering H.R. 2904, which would direct the creation of a national advisory committee on emergency alerting, and we respectfully urge that this committee be made permanent. Governance authority for our national warning system is divided among several Federal agencies, while the primary use of the system is at the State and local level. At present there is no mechanism to bring all of the message originators and the message deliverers together, except on an ad hoc

basis. As a result, the system not being used as effectively as it as could be.

Creation of a permanent advisory committee would help to ensure that problems get addressed and ideas for continual improvement of the system are brought to the fore.

The overarching significance of H.R. 2904 is that it also authorizes the Integrated Public Alert and Warning System in law. This demonstrates your recognition of the vital importance of this system. It a crucial step forward in ensuring that all parts of the system—broadcast alerts, cell phone text messages, and other communications pathways—will be developed as a unified whole that becomes greater than the sum of its parts.

I am grateful for this opportunity to share my views on emergency communications to the public and the indispensable role of broadcasters. And I look forward to working with you toward our shared goal of keeping the American people safe through timely alerts and warnings. Thank you.

Mr. DENHAM. Thank you.

Mr. Guttman-McCabe.

Mr. GUTTMAN-McCABE. Thank you. Good morning, Chairman Denham and members of the subcommittee. Thank you for affording CTIA the opportunity to participate in today's hearing.

My name is Christopher Guttman-McCabe, and I serve as the Association's vice president for regulatory affairs. In that capacity I have been involved in the wireless industry's efforts to implement the commercial mobile alert service called for by the WARN Act. And I am pleased to have the chance to share with you today that the wireless industry is doing what is necessary to deliver a state-of-the-art alerting system by early 2012.

The approach taken in the WARN Act was consistent with and built upon previous public-private partnerships that led to the successful creation of both wireless priority service and the AMBER Alert program.

In the WARN Act Congress secured the participation of interested nongovernmental parties in the development and deployment of what has been envisioned as a 90 character, geo-targeted, succinct alerting capability that would let consumers carrying a wireless device know that there is an imminent threat to health or safety.

From CTIA's perspective it appears that Congress' vision is working as designed. In the first year after the WARN Act became law, the FCC established the Commercial Mobile Service Alert Advisory Committee, comprised of more than 40 individuals representing tribal, local, State and Federal Government agencies, communications providers, vendors, broadcasters, consumer groups, and other technical experts.

I served on the advisory committee on behalf of CTIA. Over 11 months the committee generated more than 600 documents, held hundreds of meetings, and spent thousands of man-hours to develop a thorough, workable, commercial mobile alerts systems plan. Following delivery of the advisory committee's recommendations, the FCC has issued orders initiating the process.

Among other things, the FCC's orders set forth the alerting service architecture proposed by the advisory committee, and concluded

that a Federal entity should aggregate, authenticate, and transmit alerts to the participating wireless providers. FEMA has agreed to play this role.

The FCC has also required that participating providers must transmit three classes of alerts—Presidential, imminent threat, and AMBER Alerts—and consumers be permitted to opt out of the latter two, but not the first.

Following issuance of the FCC's order, wireless carriers had to elect whether they would participate in the delivery of wireless emergency alerts well in advance of finalizing the technical specifications for implementing those alerts. I am pleased to report that approximately 100 mobile providers, representing 97 percent of wireless subscribers, have elected to provide emergency alerts, demonstrating the success of this public-private partnership. Moreover, this figure is likely to increase as additional carriers elect to offer the alert to their customers once the system is rolled out.

Since providers made their initial elections in September 2008, the wireless industry has been working in close consultation with both FEMA and the FCC to make the investments and modifications necessary to enable the wireless Emergency Alert System to be operational by April 2012. And I am pleased to report that providers have deployed and tested the elements of the wireless Emergency Alert System within their control, and currently have the capability to deliver wireless emergency alerts to New York City by the end of this year.

While we believe the wireless industry is hitting all the marks necessary to deliver on the promise of the WARN Act, there are two key areas beyond wireless carriers' control that must be addressed if a seamless national deployment is to occur and be operational next year.

First, FEMA must continue its hard work to stand up its wireless emergency alerts gateway and be capable of receiving and distributing alerts to all participating wireless carriers. The wireless industry has worked closely with FEMA and the FCC for well over a year to move this deployment forward, and we commend both agencies for their efforts to date.

Second, substantial and ongoing care must be taken to ensure that potential alert at the State, county, and local levels are properly trained about when and how alerts should be originated. This is crucial because it is these alert originators who are responsible for disseminating critical information to the public in a timely manner. If consumers receive confusing, irrelevant, or overly frequent alerts, then even the best alerting system ultimately will fail.

We urge you to exercise your oversight authority to ensure that these objectives are achieved. The wireless industry is committed to delivering wireless emergency alert capability next year and to working with FEMA and the FCC to ensure that subsequent generations of the system support additional functionality and granularity. With this in mind, we do not believe the wireless carriers that participate in the Emergency Alerting System should be subject to new requirements that emanate from the implementation of IPAWS.

While IPAWS may help to modernize the distribution of alerts on other communications platforms, CMAS is the proper path to deliver and modernize emergency alerts provided over wireless networks. We hope you will keep this in mind as you consider legislative efforts like H.R. 2904.

Thank you for the opportunity to appear on today's panel. I look forward to your questions.

Mr. DENHAM. Thank you.

Dr. Check.

Mr. CHECK. Good morning, Chairman Denham and members of the subcommittee. My name is Bill Check. I am the senior vice president of science and technology, and the chief technology officer at the National Cable and Telecommunications Association, NCTA, the principal trade association representing cable operators and programming networks. Thank you for inviting me to testify today.

Cable operators have been active participants in providing emergency alerts to their customers since the 1960s, and we recognize our role in ensuring that the public receives timely information during crises situations.

By way of background, cable operators don't originate or alter emergency messages. FEMA transmits a message to a primary entry-point broadcast station, called a PEP, and then those stations transmit that message to local primary stations. Cable operators receive the message from these local primary stations and transmit it to their subscribers using automated equipment in the cable headend.

Cable operators were among the participants in the recent November 9th first-ever nationwide test of the Emergency Alert System. Prior to the test, cable operators undertook significant outreach efforts to ensure that consumers were aware of the test. These efforts included running public service announcements, notices in customer bills, and the use of social media outlets. Our programming network members aired additional public service information about the test as well.

We are still in the process of gathering and analyzing the test results from our member companies, and they expect to provide a full report to the FCC by December 27th. But preliminary analysis shows that most cable operators were successfully able to receive the transmitted Emergency Action Notification signal, known as an EAN, and to disseminate the EAN message to their customers.

Some operators did experience various issues within their service areas, although most of the major problems originated upstream from cable systems. For instance, some cable providers didn't receive the emergency message from broadcast stations that they are required to monitor. And sometimes when cable systems did receive the emergency message, the message audio was muffled or distorted.

Our companies also encountered some other technical issues that can be remedied. Cable operators look forward to continuing to work with the FCC, with FEMA, and others in an effort to resolve these issues.

NCTA also appreciates efforts to further modernize our Nation's Emergency Alert Systems. And we support the goals of H.R. 2904. We support the initiation of a training program, the creation of an

advisory committee, and that cable would be represented on this committee.

We respectfully suggest, however, that legislation should take into consideration the work that has already been done in this area. The cable industry has devoted significant resources towards complying with the upcoming June 30th FCC deadline that requires systems to be able to receive emergency messages in what is known as the Common Alerting Protocol, or CAP. Any new standards, technology, and operating procedures should recognize and incorporate the work that has already been done and be consistent with existing regulatory directives.

Finally, cable companies currently transmit the information as they receive it. While cable operators would, of course, pass through any alerts for non-English speakers and the hearing impaired, legislation should make clear that the obligation to make messages accessible should rest with the message originator.

Thank you again for the opportunity to appear before you today on this important issue. We stand ready to work with the subcommittee, Congress, FEMA, and the FCC to meet our responsibilities. I would be pleased to answer any questions that you have, thank you.

Mr. DENHAM. And thank you for your testimony.

We now turn to Members for opening statements. The chair now recognizes Ranking Member Norton for a 5-minute opening.

Ms. NORTON. I am simply going to ask, since I apologize that I could not be here at the opening of this hearing, a very important hearing, I am going to ask that my opening statement be included in the record.

Mr. DENHAM. Thank you.

Mr. Crawford.

Mr. Michaud?

Mr. MICHAUD. Thank you, Mr. Chairman. First of all, I would like to thank all the witnesses for being here. I particularly would like to recognize Suzanne Goucher who is the president and CEO of Maine Association of Broadcasters. Suzanne has been part of the Maine Association of Broadcasters since 1994. She has also served as cochair of the Maine Business Association Roundtable, and is former president of the Alliance of State Broadcasters Association. I have had numerous opportunities to work with Suzanne on a range of issues, and I have always found her to be a dedicated and thoughtful advocate. It has been an honor to work with Suzanne in the past, and have no doubt that the Maine broadcasters greatly appreciate her as their representative. I want to thank you for being here today, Suzanne, as well as the rest of the witnesses.

I yield back. Do you want to do questions now?

Mr. DENHAM. We will start with opening questions. The first question I have, I have a number of different questions on the nationwide test that we did. But it has come to my attention that yesterday there was an unannounced test in New Jersey. The text messages warning came out with a civil emergency and a call to action to take shelter. Was that a FEMA emergency?

Mr. PENN. Mr. Chair, no, that was a provider doing some testing for our release of CMAS later this week and the test in New York City. One of the providers had a technological glitch where they

connected the testing platform to the production platform and broadcast the message.

Mr. DENHAM. So that was something that was coordinated with FEMA?

Mr. PENN. No, sir, it was not. It was not part of their—the message origination did occur from us in the testing environment. The problem occurred when the carrier crossed the testing environment with the production and output, and that is what caused the message to be released.

Mr. DENHAM. So the message was never supposed to be released?

Mr. PENN. That is correct. The message was only working in a closed environment when we were doing final testing for Thursday's test. And, when they crossed it with their normal broadcast, that is when the message got released.

Mr. DENHAM. Thank you. Mr. Guttman-McCabe.

Mr. GUTTMAN-McCABE. Yes, thank you, Mr. Chairman. That is correct. One of our carriers was in the process of the runup to the full test in New York City on Thursday. And as part of that they were testing their end, and a FEMA-originated message was unfortunately—found its way to the test gateway of one of the carriers. And as a result, it went out to several customers—to customers in several counties in New Jersey. And this I think was the result of both FEMA and the carriers working tirelessly to get ready 4 months in advance to deliver the service to New York. Hopefully, as soon as this Thursday, have it up and operational.

Mr. DENHAM. When there is such a test, whether it is internal or external, are the local law enforcement agencies normally notified?

Mr. GUTTMAN-McCABE. Yes. I will defer to Mr. Penn, but usually they are. In fact, they will be notified in advance of Thursday's test. This was FEMA-designed, sent a message, and they thought it was only within their system; unfortunately, Verizon was testing their system at the same time and had the gateway inadvertently opened. And so this wasn't designed to be an actual test of the system by either party. It was an unfortunate event that happened, sort of in the leadup to Thursday.

So it wasn't designed as a test. In a standard test authorities would be alerted and people would be made aware. We have something set up already for Thursday to alert authorities to let consumers know what is happening.

Mr. DENHAM. Mr. Penn, as a followup. Even in an internal test we would still notify local law enforcement, would we not?

Mr. PENN. Yes, sir. But again, this was really a test designed to be directly between FEMA and the carrier and never to be rebroadcast. So, during the test that we are having on Thursday, the New York City Office of Emergency Management has put together a very comprehensive notification plan, to the effect that areas within the city and to the public, and have what I think is more than adequate preparation of the public to receive the message. But the one yesterday was an anomaly and was never intended to be broadcast at all. It was intended to stay within the testing environment, as Mr. Guttman-McCabe mentioned.

Mr. DENHAM. Anything we learned from it?

Mr. PENN. Yes, sir, we did. And that is just the technical aspects of keeping the production environment and the testing environment separated. I don't want to go into a lot of technical mumbo jumbo about exactly how it worked, but, yes, there is something to be learned from it, and I think we have taken those lessons. And, not just the one carrier affected, but the other three carriers have that message loud and clear as well, and understand what happened and how to prevent it from happening in the future.

Mr. DENHAM. How about the community, the citizens in New Jersey that inadvertently received the message from a FEMA standpoint? Anything we learned from the action of taking shelter and working with local law enforcement as that message went out?

Mr. PENN. I think most citizens did the correct thing, and they immediately went to their 911 or to their local emergency managers and asked a question about what to do and how to react, and I think the city and the providers concerned took appropriate actions and immediately released some press information. And I think they got the whole message quelled fairly quickly.

Mr. DENHAM. Thank you. Ms. Norton.

Ms. NORTON. Thank you, Mr. Chairman. And I thank you for this hearing. This has been a subject of considerable interest to this committee for some years.

Now, this was, of course, the first test ever done. But you can't know if there are problems if you don't do a test. So we weren't looking for a perfect test. We were looking to find out what the problems were, so we could figure them out before the next thing was not a test but the real deal.

Do you expect to do another test in the near future?

Mr. PENN. Madam Ranking Member, if I could, I will answer that. Yes, we do. When exactly, I am not sure. A lot will depend on the information that we get on the 27th of December that we share with—that we will work with the FCC on to determine what the problems were and how to address them. It may be a call to do some localized testing, maybe a call to do a national test again. But we really won't know the timing of that until we get the full information assembled and analyzed and make sure that we solve the correct problem, that we don't solve the wrong problem. But we do look forward to regular testing in the future and think that it is a vital part of the Emergency Alert System.

Ms. NORTON. I was interested that this test lasted only for 30 seconds and wondered what you would learn from a 30-second test, since FEMA itself believed that a 3-minute test was necessary.

First, explain why you decided to go with a 30-second test. I would like to know whether a 30-second test gave you any data that would be considered reliable upon which to draw conclusions; for that matter, if any of the rest of the panel considers that the 30-second test feedback is information we should rely on.

Mr. PENN. Ma'am, if I could, I will start. The decision was made to reduce the test from 3 minutes to 30 seconds because there was quite a bit of concern that the public would not get the message that it was a test and would overreact, thinking that it was an actual emergency. So the decision was made at FEMA and DHS to reduce the amount of time for the test.

Two things that we wanted to test that we were not able to test by reducing the duration. The first is that the Emergency Alert System is normally limited to 2 minutes to broadcast a local alert. That is not supposed to be the limitation for Presidential alert. The Presidential message is supposed to continue until it is terminated. So one of the reasons that we wanted to have the test for 3 minutes was to test to see if that automatic turn-off happened at 2 minutes, or whether the message continued. So we were obviously not able to do that.

The other part that we wanted to test with a longer duration was the stability of the system, and that once we brought it up and that once the rebroadcasting happened, that the system would stay up and stable for an extended period. We were not able to test that either. But those are certainly two objectives for future tests.

Mr. BARNETT. Ranking Member Norton, the major thing that the FCC really wanted to get out of the test and that we set up for with our rules for the EAS participants to report back to us, had to do with the connectivity. As Ms. Goucher mentioned, there are weekly and monthly tests, there are all sorts of tests like this, but the thing that has never been tested before in that 50 years is that connectivity from FEMA down to the primary entry-point stations, and then cascading down through all the EAS participants until you get full coverage. That is what we were able to get with a 30-second test. And we are going have to wait until December 27th to get really full data to report to you on exactly what we can learn in the steps going forward.

We do know that the test was received and retransmitted to a large majority of the Nation. But there were, as we anticipated—and we anticipated because we had two prior tests that FEMA conducted in Alaska, so we knew that there might be some glitches. That is exactly what we wanted to concentrate on.

Ms. NORTON. But my question for both of you is, particularly given your answer about 3 minutes being necessary, I am struck by, other than the connectivity of the system, whether you could have learned anything from a 3-minute—a 30-second test. And I am concerned that there be a test, a realtime test of 3 minutes, and what do you think it would take to alert the public so we can get a real test.

Mr. PENN. Yes, ma'am. As Mr. Barnett mentioned, the ability to make the basic connection was our primary reason for the test, and 30 seconds was long enough to make the basic connection and for the PEP stations to receive the message rebroadcast to the broadcast stations, and broadcast stations then to send that down to the other stations that they connect with. So the duration was 30 seconds for the message, but the actual propagation of the message lasted longer as it worked its way down through the chain. So if I sent the message to Mr. Barnett, the message went for 30 seconds. If he sent it to Ms. Goucher, that was another 30 seconds. So that part was in fact a 30-second duration, but the time that it took to propagate the message down lasted longer than 30 seconds. But that did answer our first question, and we will find out the full results at the end of the month; and that is, how many people were able to receive a message and interrupt their broadcast and rebroadcast the message?

Mr. DENHAM. Thank you. Mr. Crawford.

Ms. NORTON. Mr. Chairman, if I could say, I think this is important to do, to see if the system is connected at all. This is not a test. This is not a test in the sense that we meant when we said the system should be tested. I understand why it is done this way, but I think we have to look forward to a test of the system, a 3-minute test. Thank you very much.

Mr. DENHAM. Mr. Crawford.

Mr. CRAWFORD. Thank you, Mr. Chairman. I want to ask Mr. Barnett about digital capabilities. IPAWS envisions more than just text and audio being transmitted. Additional data such as video or other visual aids may be transmitted in the future. What is FCC doing to ensure upgraded equipment is capable of transmitting and receiving more than text and audio?

Mr. BARNETT. Yes, sir. So you are talking about the total system, IPAWS. And the FCC is very much into the next generation technologies on this user broadband. That is why we have been working closely with FEMA on calling and alerting protocol. This was starting our rules back in—all the way back in 2007. Those rules indicated that EAS participants would have to have CAP ability to receive CAP alert messages. One hundred eighty days after FEMA adopted the technical standards that occurred in September 2010, within a couple months we actually issued another order, because we actually realized it was going to take a while for the manufacturers to actually be able to create the equipment or EAS participants to be able to incorporate that equipment. So in essence we waived it until the fall of 2011.

We issued a notice of proposed rulemaking in essence to shift over to the CAP system. It was an absolutely necessary precursor to IPAWS to be able to use that type of technology. And so we have an open rulemaking on that right now.

I think the rules, also have also extended the deadline for EAS participants to do that until June 30, 2012, because we also realize there are other things that are involved. We want to deal with the question of certification—whether these things need to be certified—training. But I think you will see the rules come out very soon, within a matter of weeks.

Mr. CRAWFORD. Thank you, sir.

Ms. Goucher, thank you for being here. I am a former broadcaster myself in my previous life, so thank you for being here.

You mentioned States are developing their own systems such as the one in your home State that you talked about. How would you envision the State system is working with IPAWS?

Ms. GOUCHER. Seamlessly. I would hope that would be seamless. It is my understanding that IPAWS will be an Internet-based system. We do think that Internet connectivity may pose some problems in some areas where, for example, a broadcaster may have their EAS equipment at their transmitter location. As a former broadcaster, you have been out to the transmitter site. You know that they can be remote. So we are looking at ways around that issue.

We are hoping that some redundancies will be built into the system, particularly for Presidential alerts, such as possible satellite

delivery, so that, you know, we ensure we have multiple redundant pathways to get the message through.

Mr. CRAWFORD. Thank you, ma'am.

Mr. Penn, I want to talk about Internet and social media and some of the things that you are doing to integrate there. What we haven't spoken a lot about is using the Internet and social media to alert the public. Talk about how the Internet and social media will be incorporated in the development of IPAWS in the future.

Mr. PENN. Thank you, sir. We have done quite a bit of work already with the Internet providers and the ability for them to receive and rebroadcast the message. The technical part of that is actually not exceptionally difficult. The integration with them we think will be smooth and seamless.

They also have a much greater capability to geo-target than we originally thought when we started dealing with them; that they do have the capability to target smaller areas and not just send a nationwide message. So that part has been very positive as well.

We have just started our work with social media. Several of the major social media networks have come on board. One has even created some software that will help us integrate into them, but I think that is really the next big step for the program where we need to go from here and how we use those.

In some recent trade shows, too, it became apparent that we not only have the general public with the State and local alert officials needing to be involved, but we have a separate niche involved when we talk about security for campuses throughout the country. And there are several products that we are testing to integrate in our system now to focus on the ability of that community on the campus to be able to alert itself. So maybe a Wi-Fi connection, where the campus can use social media and their own internal alerting, that would only go to the campus and not necessarily affect the surrounding county and the surrounding neighborhood.

Mr. CRAWFORD. Thank you, sir.

Mr. Guttman-McCabe, real quick. Is there an app for that?

Mr. GUTTMAN-MCCABE. Yeah, there is. And we saw it to some extent in the recent shootings in West Virginia. I think what we will see is a continuing evolution and almost a layered type of service, whether it is broadcast radio, cable, wireless, or social media. And I think that is exactly how this service should evolve. We should see that layer, because you are not always in front of a radio or a television or Internet connection, or don't always have a wireless device in front of you. And so what we are seeing is, as a runup to the launch of the wireless service, we are seeing some creative people putting together services that will work in the interim. We hope they continue to act as a complement to a wireless service, to a fully deployed IPAWS service.

Mr. CRAWFORD. Excellent. Thank you, sir. I yield back.

Mr. DENHAM. Thank you. Mr. Michaud.

Mr. MICHAUD. Thank you, Mr. Chairman.

Ms. Goucher, what factors set apart States where the national tests were—and States where they have experienced obstacles?

Ms. GOUCHER. Thank you, Congressman. There were some technical issues with the national test, as Administrator Penn and Admiral Barnett have noted. There were some connectivity issues. A

couple of primary entry-point stations didn't receive the message or failed to relay it. I think I would like to drill deeper down in that question, though, and give you an answer about why EAS works very well in some places and not in others on a State and local basis, which of course is the primary use of the system.

We have a very good system in Maine. Our officials there have been very cooperative in setting up the system and testing it rigorously. We have a very easy one-hop system that relays the message throughout the State from end to end. It should be noted, as well you know, that it is a farther distance from Kittery to Fort Kent than it is from Kittery to Philadelphia. We have a lot of territory to cover, and we set up a very simple, elegant system to be able to do that.

Buy-in in other States in terms of EAS is spotty, which is why we are so emphasizing the creation and deployment of the training program. Because as of right now, until this training program rolls out from FEMA, the only training that public officials receive on how properly to use the EAS is the operator's manual that comes with their EAS box, which only tells them how to plug it in and turn it on. We need rigorous training for these folks on how to use the system, when to use the system, how to properly craft an alert message. I think that is going to go a long, long way toward improving the overall use of the system.

Mr. MICHAUD. Thank you.

Mr. Penn, can you give us an example of the time that the Emergency Alert System wasn't activated in an emergency?

Mr. PENN. Sorry, sir, I am not sure I understand your question. Did you mean the results of the test or when the system has been used before?

Mr. MICHAUD. Well, no. In an emergency, has there been a time that the system has not worked?

Mr. PENN. From a nationwide level, sir, prior to the test last month, the system had never been tested across the Nation. There are some States that use part and portions of the Emergency Alert System to do local and State message but no national message. And, I do not know of any specific cases where anyone at the State and local level has tried to use equipment and it hasn't functioned. But I am sure there are some instances where it did at least not fully function.

Mr. MICHAUD. Ms. Goucher, in your former position and what you know, can you give us an example of a time that the Emergency Alert System wasn't activated in an emergency, either in Maine or in other States?

Ms. GOUCHER. Not in Maine, no, I am happy to say. There have been situations in other States, however, when the system could have been used and it wasn't. My counterpart in Texas tells a very sad story about two women who burned to death in wildfires because they lived half a mile down a dirt road, and the local officials needed to warn people that the fires were heading their way, and the only thing they could think of to do was to drive up and down the road with a bull horn saying, evacuate, evacuate. These women were soap opera fans and they were probably watching TV at the time, and an EAS message would have reached them and told them to evacuate.

Now, the times when we see that the system is not used when it should be, or not used properly, is generally as a result of a lack of training, buy-in, knowledge on the part of the issuing authorities.

Mr. MICHAUD. Thank you.

Mr. Barnett, do you know of any example, other than what Ms. Goucher had mentioned?

Mr. BARNETT. No, sir, I don't. Training is something we are obviously concerned about, particularly if we move into the CMAS/PLAN area, because that is another tool for local and State officials to be able to use. But I would direct it back to Mr. Penn with regard to that training program that FEMA has developed.

Mr. MICHAUD. Thank you. I yield back, Mr. Chairman.

Mr. DENHAM. Thank you. Mr. Hultgren.

Mr. HULTGREN. Thank you, Mr. Chairman. Mr. Guttman-McCabe, you highlighted so far that 97 percent of wireless customer base is represented by companies that have agreed to participate in CMAS. I wondered what your thought is, first of all, how difficult that was to get to that 97 percent, and if you see it growing, higher, hopefully to 100 percent.

Mr. GUTTMAN-McCABE. Thank you, Mr. Congressman. It was sort of a leap of faith to get to 97 percent because the way the statute was organized, carriers had to make a decision to participate before they knew what they were participating in and before the technical elements or characteristics of the service were actually defined.

And so I was, as someone who participated and testified numerous times on behalf of support of the WARN Act, I was ecstatic when we saw the number get up to 97 percent. I do believe it will get up higher than that, and hopefully 100 percent, as sort of the costs and the benefits of scale from some of our larger carriers flow down, so equipment and certainty and understanding get to our smaller carriers.

But right now the upside and why we think it is so beneficial to add wireless as an element to alerting is it does, as I said earlier, it adds a layer. And getting 97 percent of consumers access to this is a tremendous, really, benefit to the alerting capabilities.

Mr. HULTGREN. Mr. McCabe, geo-targeting. You mentioned that briefly. I know that is an important element of alerting. How will CMAS allow for targeting alerts and tell me a little bit more how you see that playing out and why that is so important.

Mr. GUTTMAN-McCABE. Certainly. Right now, the way that the advisory committee established the recommendations, it was based on a county level. We believe the technology ultimately will allow to have even more targeted alerts, although I think as part of the group that was sort of investigating this, we realized that more often than not you probably don't want to alert something smaller than a county when you are talking about mobile consumers. If you take Virginia Tech's example, you don't want to just alert the campus. You want to be able to alert outside the campus so no additional people come into areas of danger.

And so that is why we initially chose counties. And the reality is, I think we envision that alert originators will over-alert because of the mobile nature of our customers. And so from our perspective,

we believe the granularity will improve over time as part of the evolution of the service, and yet it is quite possible that it is never a—you know, a more granular, more targeted message is potentially never used because of the mobility of the consumer base.

Mr. HULTGREN. Thank you.

Mr. Penn, I wondered, GAO issued a report on IPAWS back in 2009. At that time, GAO criticized the lack of strategic planning and direction. I wondered if you can talk about how that has been addressed and where you feel like we are at as far as some of the strategic planning and direction goes.

Mr. PENN. Yes, sir. Thank you. I took over shortly after that report was released. My vision and focus has not changed. And we have assembled a great team together. Some of the accomplishments that I listed in my opening statement show how dedicated that team is and where we are headed.

So the strategic focus is there. That is on delivering alerts and warnings. And the people that you see at the table and the organizations that they represent are fully in step with us on moving forward with the system. We have actually exceeded our expectations in many different areas.

As an example, we were at a trade show recently, and a gentleman from National Public Radio service came forward. We did a demonstration with creating a message and disseminating it through our test booth. He had a piece of equipment that he took and plugged into an old weather radio. We initiated a regular alert. That piece of equipment he had took the audio message, turned it into text, and turned the text into Braille. That is the kind of technology that we have embraced. That is what the common alert protocol gives us, is the compatibility of existing equipment and the ability to use it.

Our change from trying to build a single piece of equipment to solve a single problem, moving from that to an applications-based approach where we have a platform that people can bring technology into and plug into, I think has been the difference in our program. So now we can welcome a gentleman like the one from National Public Radio. We have done some work with some geo-targeting and plume modeling to develop alerting. And the list goes on and on. So I think that basic change is what makes a difference for us.

Mr. HULTGREN. Great.

Again, thank you all for your work. This is very important, obviously. We all hope we don't have to use this much, but it is so important to have it there and it really does, I think, bring that confidence of some of the steps that are moving forward. So thanks for the work and I look forward to working with you as we move forward on this.

I yield back.

Mr. DENHAM. Ms. Holmes Norton.

Ms. NORTON. Thank you, Mr. Chairman. I have only one further question.

I was interested, Mr. Penn, in the notion that you indicated in your testimony about educating the public that the test was coming and the overreaction that you were trying to guard against. I am not certain I, as a member of the public, received that education.

So I would like some more detail about how you educated the public that a test was in the offing and when it would be occurring.

Mr. PENN. Yes, ma'am. Really, we had an actual campaign for releasing information and a lot of the work was actually done on a voluntary basis by the broadcasters, satellite providers, and the cable providers. They provided public service alerts to their individual communities as well as broadcasting alerts that we did from FEMA and that Mr. Barnett did from the FCC.

Also, the news and media outlets were all involved. They had quite a campaign as well for publishing it in local newspapers and other media outlets. As well, the administrator of FEMA went on the air with the major morning news programs and broadcast not really a public service announcement, but had interviews and warned people of the impending test and what it was going to amount to and what they could expect to see.

If you would like, I can submit to you the entire package and the entire campaign and show you what other steps we took in some detail.

Ms. NORTON. I think that would be useful, Mr. Penn.

We note that with the early results that are in, you saw some gaps or lapses in audio. That would be concerning because of the effect on particularly vulnerable populations like the elderly and the disabled. How will you ensure in the short term that you are able to reach such vulnerable populations?

Mr. PENN. Yes, ma'am. We think we have corrected the major problem that we had with the audio quality, and that was a feedback loop that occurred when one of the encoder/decoders at the primary entry-point station rebroadcast a message backup stream into the message flow. So even though they got a very clear message, towards the end of the message started hearing in the background the repeat of the message. That is an easy fix. All we have to do there is mute the return phone lines so nobody can broadcast the message back in to us—something we never thought would happen, something that we didn't prepare for, but a lesson learned that is an easy fix.

We have also already had a Webinar with the industry and discussed some other technical issues about the audio. And we think we have actually moved forward on that as well. So if we had to initiate it again right now, I think the audio would be much better. I can't give you a real feel for how much "much better" is, but by solving the first major problem we think that that took care of the biggest part of the problem that we had.

The other issue, as you go further down line and rebroadcast the message, you lose some of the message quality anyway. So if you start with a bad message, the message quality continues to get worse. So by correcting it at the source, we think that is going to solve most of the problem.

Ms. NORTON. Thank you, Mr. Chairman.

Mr. DENHAM. Thank you.

Mr. Fleischmann.

Mr. FLEISCHMANN. Thank you, Mr. Chairman. My first question is for Ms. Goucher.

Ms. Goucher, as you know, FEMA is in the process of increasing the number of PEP stations. These are stations which are hard-

ened to operate during disasters. However, in places that are down the daisy chain of transmissions, there are risks that they won't receive a broadcast. Once all the anticipated PEP stations are complete, how much of the country would receive a broadcast directly from a PEP station?

Ms. GOUCHER. It is my understanding that FEMA's goal is to be able to reach 90 percent of the population. Not 90 percent of the land mass of the United States, but 90 percent of the population.

Mr. FLEISCHMANN. Would any other witnesses like to confirm that?

Mr. PENN. Yes, sir, that is correct. We started with 36 stations. We have increased to 63. Our final plan is to go to 77 stations by the end of next year. We think that will give us 90 percent.

If I could say as well, part of what we learned during the test was that the homework prior to the test is as important as the test is. And a lot of the work that Ms. Goucher mentioned earlier by the broadcasters, cable industry, and providers getting ready, I think set the tone for us to be able to have a much better message propagation capability than we had before the test.

Mr. FLEISCHMANN. Thank you, Mr. Penn.

My next question is for Dr. Check. As you have pointed out, the message is sent from FEMA to the PEP stations and then rebroadcast to other stations. Where does cable fall in this distribution chain? And as a followup, do cable operators receive broadcasts directly from FEMA or from the PEP stations, sir?

Mr. CHECK. Cable operators' receivers are at the end of the chain. This may be, for example, the Mid-Atlantic area, just to give you an example here. So FEMA would send a message out to the PEP stations. In the Mid-Atlantic area, that station is WBAL in Baltimore. That resends the message out then to local area stations in the Washington, DC, area. That would be WTOP, the news station, and WMAL, an AM radio station. Then cable operators here in the Washington, DC, area listen to those two local Washington stations to receive the signal.

Mr. FLEISCHMANN. Thank you. Mr. Chairman, I yield back. Thank you.

Mr. DENHAM. Ms. Norton.

Ms. NORTON. No further questions, Mr. Chairman.

Mr. DENHAM. Mr. Penn and Mr. Barnett, recently the Corporation for Public Broadcasting entered into a public-private partnership to begin a pilot program to test out a mobile emergency alert system which would use the existing mobile digital TV, the DTV systems, for alerts. That system would be able to send not only text and audio but also maps, videos, and photos. Are you aware of this pilot, and do you believe this could be incorporated into the IPAWS system?

Mr. PENN. Sir, I am not personally aware of exactly the program that you are talking about. But there is, as I mentioned before, a lot of parallel development that is going on in the private industry for different products. We have a test lab that is set up through Science and Technology at DHS, where we can take technologies like that and ensure that they are compatible with the Common Alert Protocol and then label them as such so that the emergency managers in the field will know that they have a product that is

capable of interfacing with IPAWS. That particular product, I am not aware of.

Mr. DENHAM. Mr. Barnett.

Mr. BARNETT. Yes, sir, I am aware of the tests that have been going on. Nevada is one of the places I know where they have done some testing with that concept of being able to get maps and things out to first responders and those types of things. I don't know that they are having discussions about how that would work in the IPAWS, or if it would.

Mr. DENHAM. Ms. Goucher, you briefly talked about theDTV in your opening statement. Can you expand on that a little bit?

Ms. GOUCHER. I am sorry, Mr. Chairman, spoke about?

Mr. DENHAM. Mobile DTV.

Ms. GOUCHER. Mobile DTV and how that fits in. Absolutely. Broadcasters are rolling out mobile digital television capabilities throughout the country. It is available right now in Washington, DC. It is coming to more and more markets every day. And what this does is give just one more enormous capability of being able to stand on a street corner with a mobile device and watch a streaming TV signal with news and information and emergency alerts.

During the earthquake and subsequent tsunami in Japan, people were standing on the street in Tokyo watching this unfold live. It is an enormous capability and broadcasters are just extremely pleased to be able to deliver that capability to the American people, because we think it is just one more important pathway and an important enhancement to our ability to inform people in times of emergency.

Mr. DENHAM. Thank you.

And Dr. Check, you mentioned in your testimony limited ability of cable operators to alter the message received. For example, if a language translation is needed, IPAWS envisions data being transmitted that may contain information that includes translations, video, or other forms of information. Do you believe the upgraded equipment will allow cable operators to receive more than just short text or audio?

Mr. CHECK. Well, for multilingual messages, we will certainly be happy to pass that information through, and certainly with the IPAWS CAP system there is the ability for enhanced text messages. We believe, though, that for multilingual, the responsibility ought to be with FEMA or the message originator, either at the national or State level, to provide those different messages.

Mr. DENHAM. Thank you.

Mr. Penn.

Mr. PENN. Yes, sir, I agree. That is a challenge that we are working now, is how to integrate languages other than English into the system. A large part of the solution is going to be local, though, because local communities have different requirements and different languages that they need to speak. So our initial vision is that there will be the broadcasting of some standard message in different languages that tell people that there is an emergency and that they need to consult their local emergency service providers. We haven't broken the code and we haven't gotten to the point now

where we feel comfortable being able to give a multilingual message across the Nation.

Mr. DENHAM. Thank you. I would like to thank each of you for your testimony today. Your comments have been very insightful in helping today's discussion.

If there are no further questions, I would ask for unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing, and unanimous consent that the record remain open for 15 days for any additional comments and information submitted by Members or witnesses to be included in the record of today's hearing.

Without objection, so ordered.

I would like to thank our witnesses again for the testimony today. And if no other Members have anything to add, this subcommittee stands adjourned.

[Whereupon, at 10:44 a.m., the subcommittee was adjourned.]



STATEMENT OF
THE HONORABLE ELEANOR HOLMES NORTON
SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS
AND EMERGENCY MANAGEMENT HEARING ON
"THE EFFECTIVENESS OF OUR NATION'S PUBLIC ALERT SYSTEM"

December 13, 2011

Good morning. I join Chairman Denham in welcoming our witnesses to today's hearing on the effectiveness of our nation's public alert system. The emergency alert system was developed in the 1950s as a means for the President to alert the public in case of a national emergency, but today it is mostly known as the system used to provide local warnings, especially weather alerts. Although the system is tested monthly at the state level and weekly at the local level, it was never tested on a national scale until last month. For the first time, on November 9, 2011, the Federal Emergency Management Agency (FEMA) tested the nation's emergency alert system to determine its reliability and effectiveness.

FEMA took a big step forward in conducting the test, but it recognizes that the test could not be characterized as successful. At the same time, this long-awaited nation-wide test was critical because only a test could reveal the vulnerabilities that were exposed, such as parts of the country not receiving the message, inconsistent or delayed messaging, audio and video problems in some areas, as well as several other issues that require FEMA's prompt attention. I understand that final results of the test are expected from participants at the end of the month. We will need more detailed information on the test results, as well as FEMA's action plan to address the deficiencies exposed.

I am particularly concerned that, because the test lasted only 30 seconds, FEMA was not able to determine whether the equipment or the message itself could last longer than 30 seconds. The current equipment is several decades old and it is unrealistic to think that, in a real emergency, the President would be able to provide the relevant information to the American public -- what is happening, what people need to do, and when and how to do it -- in 30 seconds or less. The test was originally scheduled to last three minutes, but the week before the test, it was reduced to 30 seconds, in part because of uncertainty about whether cable providers could overcome some difficulties in broadcasting the message. However, this is a team effort of national significance and must have the resources and attention of all media providers. At issue is whether cable providers understand the importance of their role in a major disaster, and how to ensure their smooth participation in the future.

In September, I joined Chairman Denham in introducing H.R. 2904, the Integrated Public Alert and Warning System (IPAWS) of 2011, to require FEMA to consult and coordinate with stakeholders in developing a next generation public alert and warning system. A next generation system is necessary to ensure that our citizens have timely and effective notice of an impending disaster or emergency, or of how to respond after the fact. The recent test was critical to developing a system that utilizes multiple communication technologies that will be essential to alert the public of a national emergency. These technologies constitute an important component

of any national warning system today, particularly in accommodating the needs of the broad spectrum of Americans, including our elderly and disabled citizens.

The audio and visual issues that we know exist constitute a major flaw in the system, which needs urgent attention. I hope that FEMA and our witnesses today are consulting and coordinating internally and with the many segments of our diverse nation to resolve the issues discovered in the test.

I look forward to today's testimony, and thank everyone for testifying on this important issue.

Written Statement of
Damon Penn
Assistant Administrator, National Continuity Programs
Federal Emergency Management Agency
“EAS and IPAWS”



FEMA

Before the
Committee on Transportation and Infrastructure
Subcommittee on Economic Development, Public
Buildings and Emergency Management
U.S. House of Representatives
Washington, D.C.
December 13, 2011

Introduction

I am Damon Penn, Assistant Administrator for National Continuity Programs at the Federal Emergency Management Agency (FEMA). It is an honor to appear before you on behalf of FEMA, to discuss the Integrated Public Alert and Warning System (IPAWS) program and our recent nationwide Emergency Alert System (EAS) test.

FEMA serves as the nation's focal point for government continuity planning, guidance, and operations support, and is also responsible for ensuring the President is able to address the nation in any circumstance. The technology for these missions has changed several times, beginning in 1951, when CONELRAD, the Control of Electromagnetic Radiation system, was the chief federal communication method during a disaster. CONELRAD was replaced by the Emergency Broadcast System in 1963, followed by the Emergency Alert System (EAS) in 1994. IPAWS is a modernization and integration of the nation's alert and warning infrastructure.

Under 47 U.S. C. § 606 and regulations implemented by the Federal Communications Commission (FCC) (47 C.F. R. Part 11), *et seq.*, broadcast radio and television stations, cable television stations, direct broadcast satellite services, and satellite radio operators are required to carry national (Presidential) EAS alerts and support state and local EAS alerts and tests. Executive Order 13407 states, "It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people." To support these requirements, FEMA created IPAWS to be a 'system of systems' designed to: (1) Modernize the EAS and expand the Primary Entry Point (PEP) station system; (2) Create an Open Platform for Emergency Networks, or IPAWS-OPEN, which can be used at no cost by Federal, state, local, territorial, and tribal public safety partners; (3) Promote collaboration with industry to leverage existing standards or develop new standards, and to seamlessly integrate current and future technologies into IPAWS; (4) Expand traditional alerting and warning communications pathways, and; (5) Work with the Department of Commerce and the National Oceanic and Atmospheric Administration (NOAA) to deliver alerts through NOAA Weather Radio All-Hazards.

The Nationwide EAS Test

On November 9, 2011, at 2:00 p.m. EST, FEMA conducted the first-ever nationwide EAS test. This was the first time that an EAS test was coordinated nationwide, testing the capability to communicate emergency information simultaneously across the United States, and enabling FEMA to learn the limitations of the EAS on a national level. This test of the broadcast, cable, satellite TV and radio network was critical in identifying successes and room for improvement in strengthening FEMA's capabilities.

In preparation for the test, FEMA partnered extensively with the FCC, the broadcast, cable, satellite TV, and radio community, and the emergency management EAS community (particularly the state of Alaska Department of Homeland Security and Emergency Management Agency) to better understand the current EAS configuration. This test is an essential step in measuring and moving toward improving the EAS. Full results will be available to the FCC and FEMA on December 27, 2011. Sometime soon thereafter, FEMA will have the information and analysis to determine the extent of the EAS successes and limitations, and how to improve the system and its components. For example, making the EAS fully accessible for people with access and functional needs is one of our major points of focus, and we are working closely with the disability community towards this goal.

FEMA has remained engaged with stakeholders across numerous agencies, organizations, conferences, and private industry to promote IPAWS' capabilities and opportunities to integrate alert and warning technologies for people with access and functional needs. We have partnered with private organizations such as Signtel, Deaf-Link, Alertus, NPR, Readspeak, Roam Secure, VPN Voice Corp, and public organizations, such as NOAA, to demonstrate products that incorporate Common Alerting Protocol-enabled (CAP) technologies to alert persons with access and functional needs. These technologies and products are routinely incorporated into IPAWS demonstrations and have been displayed at events like the International Association of Emergency Managers (IAEM) Annual Conference, the National Association of Broadcasters Show, the National Council on Independent Living Annual Conference, the IPAWS Congressional Demonstration, and the National Disabilities Rights Network Annual Conference.

Commercial Mobile Alerting System/Personal Localized Alerting Network

In addition to improving the EAS, FEMA is developing PLAN (Personal Localized Alerting Network), also referred to as the CMAS (Commercial Mobile Alerting System), to allow individuals with an enabled mobile device to receive geographically targeted messages alerting them of imminent threats, AMBER alerts, or emergency messages from the President. Adding the CMAS/PLAN capability allows trained and authorized local public safety officials to pass 90-character emergency alert messages directly through IPAWS to participating wireless carriers for delivery from wireless towers to any CMAS-capable cell phone located in the geo-targeted area. CMAS/PLAN technology avoids wireless call congestion, so cell phones can receive emergency alerts even if wireless towers in their location are overwhelmed and can no longer support cellular phone calls or subscriber-to-subscriber text messaging.

By the end of this month, and with significant cooperation from the four Tier 1 cellular providers, the IPAWS Commercial Mobile Alerting System (CMAS) capability, also known as the Personal Localized Alerting Network (PLAN), is scheduled to become operational in New York City and Washington, D.C. Nationwide roll-out of IPAWS CMAS will begin in April 2012. FEMA is working with the cellular industry and S&T to conduct test and pilots of this capability over the next several months to ensure its success. IPAWS CMAS will enable cities to send geo-targeted, timely, and accurate emergency alerts and warnings through the wireless carriers to citizens with CMAS-capable cell phones.

In addition to the strong working relationship between FEMA and the wireless community, we have received great cooperation from the New York City Office of Emergency Management, Sprint, Verizon Wireless, T-Mobile, AT&T, and the CTIA Wireless Association, who have all fully supported making CMAS/PLAN available in New York City and Washington, D.C.

IPAWS Adoption of Innovative and Adaptable Technologies

A core IPAWS objective is to foster the growth and development of future alerting capabilities by continuing to support the adoption and promotion of common technical standards and protocols. IPAWS has moved from a requirements-based, single technology network approach to an applications-based, open standards platform approach. This ensures IPAWS can easily

integrate with a broad range of information processing technologies, networks, and equipment from existing private sector communication systems. Remaining compatible with existing television, radio, and NOAA Weather Radio All-Hazards systems by leveraging open standards platforms and protocols, IPAWS allows the same alerts to be sent to citizens on cellular phones, the internet, and in the future, other developing technologies as those technologies mature.

IPAWS leverages the industry-adopted Common Alerting Protocol (CAP) Emergency Data Exchange Language standard to improve its interoperability with a wide variety of technologies and other solutions. More than 79 private sector vendors and 15 public sector organizations registered to be developers of products that leverage IPAWS application capabilities. For example, for people with visual or hearing impairments, National Public Radio (NPR) has demonstrated and is working on using CAP-compliant messages to deliver alerts through NPR digital radio to prototype devices that activate a bed shaker, display an audio alert in text, and output the text to a Braille printer. We are also working toward developing capabilities to alert people whose primary language is not English.

FEMA IPAWS officially adopted the CAP Standard on September 30, 2010, after it was developed by a partnership between DHS S&T and the Organization for the Advancement of Structured Information Standards, an international standards body. Similarly, FEMA IPAWS adopted the CAP to EAS Implementation Guide in May 2010 after it was developed by the EAS to CAP Industry Group. The FCC regulates CAP compliance actions by EAS participants (such as radio, cable, and television providers, etc.).

The PEP system is a nationwide network of broadcast stations and other entities used to distribute a message from the President or designated national authorities in the event of a national emergency. FEMA continues to expand the number of PEP Stations across the U.S., from 36 PEP stations providing direct coverage to 67% of the American people in August 2009, to 63 operational PEP Stations and three PEP Stations under construction providing direct coverage to 84% of the American people today. By the end of 2012, 77 PEP Stations will provide direct coverage to more than 90% of the American people.

New PEP Stations use a standard configuration, saving maintenance costs and ensuring ease of movement between stations. Stations also have the ability to operate under extreme conditions and possess backup equipment and power.. Legacy stations will be retrofitted to meet the current PEP Station resiliency standards.

To achieve these and future accomplishments, FEMA relies heavily upon, and works closely with, DHS's Science & Technology Directorate (S&T), industry, state, local, tribal, and territorial emergency managers, and our Federal interagency partners at the Federal Communications Commission (FCC), and NOAA. I cannot overemphasize the importance of the many contributions from all our partners and stakeholders in this venture.

Conclusion

The ability to effectively communicate with the public before, during, and immediately following a disaster is essential to fulfilling FEMA's mission. Therefore, FEMA is fully committed to increasing IPAWS resilience through improved accessibility and reliability. Furthermore, we will continue to review the data from the nationwide EAS test and develop action plans to address identified limitation and metrics to measure our progress and success.

I thank the Committee for the opportunity to testify. I would be happy to answer any questions you may have.

FEDERAL COMMUNICATIONS COMMISSION

STATEMENT OF

James Arden Barnett, Jr. Rear Admiral (Ret.)

Chief, Public Safety and Homeland Security Bureau

An Update of FCC Public Alert and Warning Efforts

BEFORE THE
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON ECONOMIC DEVELOPMENT,
PUBLIC BUILDINGS AND EMERGENCY MANAGEMENT
U.S. HOUSE OF REPRESENTATIVES

DECEMBER 13, 2011

Good Morning Chairman Denham, Ranking Member Norton and other Members of the House Subcommittee on Economic Development, Public Buildings and Emergency Management. Thank you for the opportunity to appear before you on behalf of the Federal Communications Commission (FCC) to discuss the FCC's recent work in alerting and warning the public and our partnership with the Federal Emergency Management Agency (FEMA) and other federal partners in this vitally important area.

Introduction

One of the FCC's primary statutory obligations is to promote the safety of life and property through the use of wire and radio communications, and the FCC has a singular commitment to the protection of the public through constantly evolving alert and warning systems. We recognize that this should be a team effort and I am pleased to be here with my friend and colleague Damon Penn of FEMA. The FCC works closely with FEMA, the National Weather Service and other federal partners to bring the future of alert and warning systems to consumers now.

A crucial element of that FCC obligation is the ability to alert the public in times of emergency. Through various initiatives, the FCC continues to take significant steps toward implementing one of its highest priorities – ensuring that all Americans can receive timely and accurate emergency alerts and warnings over each communications platform they use.

Today, I will discuss the FCC's efforts regarding the Personal Localized Alerting Network, or PLAN (also known as the Commercial Mobile Alert System, or CMAS) and the Emergency Alert System (EAS).

The Personal Localized Alerting Network (PLAN)

Wireless devices have become ubiquitous across our nation. We can all see the increasing role they play in our daily lives. In fact, this year for the first time, cell phone penetration in the United States has topped 100 percent, and smart phones are outselling PCs. Those are astonishing facts. The need to provide an effective means to reach the public quickly and efficiently during an emergency must include these devices. Congress recognized this in 2006, when it passed the Warning, Alert and Response Network (WARN) Act. The WARN Act provided for the creation of a warning system that commercial wireless carriers could elect to use to send emergency alerts to their subscribers. This legislation required the FCC to undertake a series of actions to accomplish that goal. The FCC has met all of its WARN Act deadlines, and in conjunction with FEMA and the wireless industry, has taken significant steps to develop PLAN.

Our actions have been informed by input from the former Commercial Mobile Service Alert Advisory Committee (CMSAAC), an advisory committee of 44 stakeholders, representing a range of interests including state, local and tribal governments, wireless providers, manufacturers, commercial and noncommercial broadcasters, the disability community, FEMA,

the National Weather Service and other organizations. This advisory committee presented the FCC with recommendations for the technical requirements that would become the PLAN.

On April 9, 2008, the FCC adopted the rules for PLAN. Under these rules, participating wireless carriers must begin PLAN deployment by April 7, 2012. In May of this year, Chairman Genachowski, FEMA Administrator Craig Fugate, New York City Mayor Michael Bloomberg and top executives of the four major nationwide wireless carriers – AT&T, Sprint, T-Mobile, and Verizon Wireless – announced that PLAN would be available in New York City by the end of this year, months ahead of schedule.

PLAN is a new technology and service that will allow mobile devices to receive emergency alerts, transmitting potentially life-saving Federal, state, tribal, and local messages when there are threats to public safety. It will serve as an important complement to other alert and warning systems like the EAS. The alerts will be geographically-targeted, ensuring that they reach the right people, at the right time, with the right messages. A PLAN alert will be accompanied by a unique attention signal and vibration, which will help people with hearing and vision-related disabilities recognize the alert, and there is no charge to consumers for receiving alerts.

PLAN creates a fast lane for emergency alerts, so vital information is guaranteed to get through even if there is congestion in the network. As we have learned from past large-scale emergencies, a spike in consumer calls and text messages during emergencies can overload communications networks. PLAN effectively addresses this problem by using technology, akin to that used for radio broadcast, which is separate and distinct from that used for voice calls and traditional text messages, allowing PLAN alerts to get through as long as the network is operating.

To allay concerns raised by some, I want to make clear that PLAN does not allow the alert originator or anyone administering the system to know who receives a particular alert. PLAN, therefore, cannot be used to monitor wireless devices or to track where someone is. Pursuant to the WARN Act, subscribers may opt out of receiving all but the national emergency alerts.

The FCC's partnership with FEMA has been vital to the rollout of PLAN and will help ensure a successful nationwide launch. As reflected in the diagram attached as Appendix A, the PLAN architecture consists of two major components – the Alert Aggregator/Gateway and the Carrier Gateway and Infrastructure. The Alert Aggregator/Gateway is administered by FEMA as part of its Integrated Public Alert and Warning System (IPAWS). This component will receive and authenticate alerts from Federal, state, tribal and local governments; verify the originator of the alert; and send the alert over a secure pathway to infrastructure administered by participating wireless carriers. The wireless carriers will receive alerts and push them out to any PLAN-capable mobile devices within the targeted geographic area for the alerts.

I want to note that, pursuant to the WARN Act, participation in PLAN by wireless carriers is completely voluntary, and we are pleased that over 100 commercial wireless carriers have elected to participate. This means that by next April, PLAN will begin deployment in cities

across the country and not only by the largest nationwide wireless carriers, but also by many small and regional carriers. Some wireless carriers will offer PLAN over all of their service areas, others over part of their service areas, and still others over all or only some of their wireless devices. Ultimately, we expect that market forces will encourage more wireless carriers to make PLAN available in most of the country. In the meantime, the FCC recommends that consumers ask their wireless providers whether and where they will offer PLAN alerts to PLAN-capable handsets. For more information, we encourage the public to visit our website at www.fcc.gov/pshs.

The Emergency Alert System

I also want to update you on our efforts to enhance the reliability of the Emergency Alert System (EAS). For over 50 years, since 1963, what we now call the EAS has provided emergency alerts to the public, including the ability of the President of the United States to deliver a message to the public in the event of a national emergency. FCC rules require broadcasters, satellite radio and television service providers, cable systems, and wireline video systems ("EAS Participants") to install and operate equipment capable of delivering emergency alerts to their viewers and listeners. The current EAS has been in existence since 1994 and is used successfully and extensively by state and local government authorities for weather-related and other emergency alerts. The FCC, FEMA and the National Weather Service are charged with maintaining the EAS.

From 1963, until November 9, 2011, there had never been a nationwide EAS test, so we did not know how well the system would work on a national scale. To remedy this, on November 9, 2011 at 2 p.m. Eastern Standard Time (EST), FEMA and the FCC conducted the first ever nationwide test of the EAS.

Prior to the test, the FCC and FEMA, along with EAS Participants, state and local governments, and other stakeholders, took significant steps to educate EAS Participants, state and local government agencies and consumers about the test. For example, the FCC released a step-by-step guide for EAS Participants to conduct the test, sent materials and briefed over 40 organizations representing state, tribal and local governments about the test and over 100 community and consumer organizations, including those that represent the deaf and hard of hearing, and people who do not speak English as a primary language.

Under FCC rules, EAS Participants have until December 27, 2011 to submit their test results to the FCC. Once we receive the data, we will, in coordination with FEMA analyze it to determine what worked and what did not, and make recommendations for improvements as necessary. In the meantime, we are working with FEMA and EAS Participants to learn more about problems that have already been identified and what actions we should take to address them.

In addition to reviewing nationwide EAS test data, we continue to move forward with implementation of significant technical improvements to the EAS. The first step toward modernizing the EAS will be taken next year with the introduction of alert transmissions using the Common Alerting Protocol (CAP). Once implemented, CAP-based alerting will allow for

migrating the current EAS to a Next Generation alerting system that will provide a host of features not possible using current technology, including ways to better serve the deaf and hard of hearing community and those whose primary language is not English.

Next Steps for Emergency Alerting

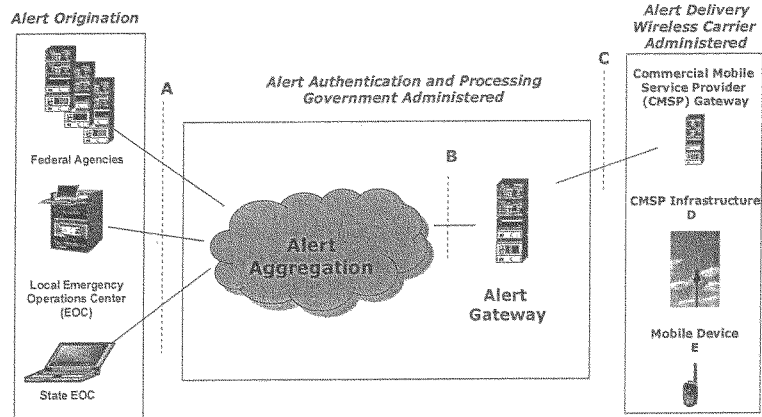
Looking to the future, the FCC will continue to explore whether other communications technologies can provide ways for Americans to receive alerts and warnings about imminent threats to safety of life. As recommended by the National Broadband Plan, the FCC will examine the role of broadband technologies, social networks and other Internet-based tools can play in emergency alerting.

We will continue to learn from experience at home and abroad. Earlier this year, Japan experienced a devastating earthquake and tsunami that resulted in significant loss of life and damage to property. Though these losses were severe, they may have been greater if not for Japan's earthquake detection and warning system, which relied on elements of broadband technologies to alert the public.

The FCC will continue to work closely with FEMA, the National Weather Service, industry and state and local governments to ensure that the public has access to emergency alerts and warnings over multiple communications technologies. Those efforts will of course include our continued work to ensure that the benefits of PLAN and EAS are available to consumers in all parts of the country and to ensure that the EAS continues to provide a reliable and effective method to transmit timely and accurate emergency alerts to the public.

Thank you for the opportunity to appear before you today. This concludes my testimony, and I am pleased to answer any questions you may have.

PLAN Architecture



Suzanne Goucher, President & CEO, Maine Association of Broadcasters
Chair, Maine State Emergency Communications Committee
Co-Chair, Joint National Association of Broadcasters-National Alliance of State
Broadcasters Associations (NAB-NASBA) EAS Committee

Hearing before the U.S. House Committee on Transportation and Infrastructure
Subcommittee on Economic Development, Public Buildings and Emergency
Management

The Effectiveness of Our Nation's Public Alert System

December 13, 2011

Good morning, Chairman Denham, Ranking Member Norton, Members of the Committee. My name is Suzanne Goucher. Since 1994 I have been the President and Chief Executive Officer of the Maine Association of Broadcasters. Thank you for the opportunity to speak with you today about the valuable, often life-saving services that full power local radio and television stations provide during natural disasters and other crises.

Local broadcasters are an indispensable source of vital emergency information for all Americans. For over six decades, local radio and television stations have served as the backbone of the nation's emergency warning system. Much of the recent policy discussions related to emergency communications have concerned improving the ability of fire, police, and other public safety authorities and emergency operations to communicate with one another during a disaster. While broadcasters strongly support this laudable goal, we also believe the time is ripe to expand the conversation to include improved emergency notification to the public.

For these reasons, I am particularly pleased that you have called for this hearing, and grateful for the opportunity to share the views of local broadcasters on the Emergency Alert System (EAS) and the Integrated Public Alert and Warning System (IPAWS).

**I. Broadcasting Is the Most Important Source for Critical, Life-Saving
Emergency Information for All Americans**

Broadcasters' commitment to public service is never more apparent than during times of crisis. During an emergency -- particularly one that arises with little notice -- no other industry can match the ability of full power broadcasting to deliver comprehensive, timely warnings and information to affected citizens. Local television broadcasters reach 99% of the approximately 116 million households in the U.S., while local radio reaches an audience of more than 241.3 million Americans on a weekly basis. The wide signal coverage of broadcasters ensures that anyone in a car, at home or even walking around with a mobile device can receive up-to-the-minute alerts when disaster strikes. As a ubiquitous medium, broadcasters understand and appreciate their unique

role in disseminating emergency alerts and information. Radio and television broadcasters are first informers during an emergency, and Americans know they can turn to their local broadcasters first for in-depth coverage.

Radio and television stations are also our nation's most reliable network for distributing emergency information. Even if the electricity is out, causing the Internet and cable television to go down, and phone service is lost because networks are clogged or cell towers or phone lines are down, free, over-the-air broadcasters can still be on the air and delivered to anyone with a battery operated radio or other receiver. Local radio and television stations have dedicated news and weather personnel who use their familiarity with the people and geography of their local communities to provide the most helpful, informative news to their audiences, whether that includes information on where to shelter-in-place, or which streets will serve as evacuation routes, or where local businesses may find fuel or generators. It is also common during larger disasters for a local radio or television station to serve as an information clearinghouse for citizens in search of family and friends.¹

Broadcasters deliver emergency information with passion. Let me give you some recent examples.

Hurricane Irene caused devastating damage to a wide swath of the country, but fortunately local broadcasters were on the job to help save lives and property. Even though the hurricane had been downgraded to a tropical storm by the time it reached Maine on August 28, the storm's high winds still knocked out power to 185,000 utility customers across the state. But Maine was comparatively fortunate – our neighbors in Vermont caught the rainy side of Irene, which caused the state's worst flooding in more than 80 years. The staff of WDEV-FM in Warren, Vermont, suspended regular programming to go live for 24 hours, operating on generator power, to bring information about the status of flooding and road closures, and to direct rescue personnel to those in need of rescue – announcer Tom Beardsley even left the studio for a brief time to help an elderly woman who was struggling through the flood waters near the station to flee her home and get to safety.²

Similarly, at WRIP-FM in Windham, New York, radio D.J. Jay Fink served as a lifeline for thousands of people who were cut off from just about all other forms of communication.³ On August 28, Mr. Fink began a 13-hour on-air marathon, during which he fielded calls from people trapped by the surging waters and provided vital

¹ Moni Basu, "Radio Stations Chug Along 24/7 in tornado-devastated Joplin," *CNN* (May 24, 2011).

² "Vermont's unsung hurricane hero," *Mobile.Boston.com* (August 31, 2011).

³ Susanne Craig, "Radio D.J. in the Catskills Offered a Lifeline During the Storm," *The New York Times* (Sep. 4, 2011). See also "Radio Offers Wall-to-Wall Hurricane Irene Coverage," *Radio Online* (Aug. 26, 2011) (describing the efforts of WCTK-FM, Providence, Rhode Island, to provide a weekend of continuous live news and information).

information on makeshift shelters. Mr. Fink served as a calm beacon of information during the worst of the storm. Julius Genachowski, Chairman of the Federal Communications Commission (FCC), specifically recommended local radio and television stations as key sources for important news and information on Hurricane Irene.⁴

And Chairman Genachowski was not the only government leader to point citizens towards broadcasting for emergency information. The cell-phone network in the mid-Atlantic area was so overloaded after the magnitude 5.8 Virginia earthquake on August 23, just a few days before Hurricane Irene struck, that Federal Emergency Management Agency (FEMA) Director Craig Fugate urged people not to rely on their cell phones during the hurricane, but instead to stay tuned to local radio and TV stations for “the best information real-time” on the storm.⁵

In the Washington, DC area, radio stations kept listeners informed immediately after the earthquake, as many could not reach loved ones because cellular networks were clogged. Although WiFi worked in certain areas, observers noted that people used their smartphones to listen to radio because they knew that only WTOP and other local broadcasters could quickly piece together all the aspects of such a large scale event.⁶

Earlier this year, in May, local radio station KZRG in Joplin, Missouri, began wall-to-wall coverage an hour and a half before the unprecedented tornado devastated the area. Immediately after the tornado, cell phones, the Internet and landline telephones all went down. KZRG's one-story office building remained standing. Zimmer Radio, which owns KZRG and five other stations in Joplin, combined multiple broadcasts into a single feed of nonstop disaster coverage.⁷ Music announcers and talk show hosts transformed into on-air first responders and informers.⁸ Employees drove to the station immediately after the tornado in order to provide information on where to find medical assistance, to help locate missing family members, and to direct residents to where they could buy gas and groceries.⁹ Seven of Zimmer Radio's staffers lost their homes, yet still they reported for duty to help their neighbors.¹⁰ In nearby Springfield, Missouri, Clear Channel's five

⁴ “FCC recommends, NAB praises broadcasting during Irene,” *Radio and Television Business Report* (Aug. 29, 2011).

⁵ “Staying connected during Irene,” *CNN.com* (August 25, 2011).

⁶ Paul McLane, “When Things Shake and Rattle, Radio Rolls,” *Radio World* (Aug. 23, 2011).

⁷ Matt Pearce, “Joplin Radio Stations Become a Lifeline for Tornado-Stricken Residents,” *L.A. Times* (May 25, 2011).

⁸ *Id.*

⁹ Doug Lung, “Broadcasters Inform Citizens During Weather Emergencies,” *TV Technology* (May 26, 2011).

¹⁰ “Radio's Multi-Platform Reach Informs, Alerts Joplin, MO Tornado Victims,” *All Access* (May 25, 2011).

radio stations collected nearly 50,000 pounds of food and \$20,000 in cash for Joplin victims from their listeners.¹¹

A month after the Joplin tornado, flooding in Minot, North Dakota, sent hundreds fleeing from their homes. Residents turned to local broadcast television stations for current information. One station, KXMC, replayed coverage of the floods over and over at the request of residents who wanted to see what was left of their neighborhoods. And as *The New York Times* stated, when the station "has not been showing viewers their submerged homes, it has been broadcasting news conferences, explaining the intricacies of dike construction and sharing viewer photos from around the town."¹²

Additionally, as a devastating storm developed near Springfield, Massachusetts, on June 1st, all three local broadcast television stations went wall-to-wall with news coverage. In an area not used to tornadoes, the stations captured dramatic images – including those from sky-cams of the tornado whipping up water from the Connecticut River – and broadcast them to viewers. Following the storm, the stations continued to report on the damage and recovery and provided information on relief and food supplies.¹³ And the four local radio stations cut all music and gave continuous news updates, including live phone calls from the Governor and the head of the Red Cross. The news director and an announcer also took calls from dozens of listeners looking for information on what to do and where to go.¹⁴

Local stations also offer hyper local weather alerts and information on multicast channels. TV stations are in the process of rolling out innovative mobile DTV services, which will enable viewers to receive live, local broadcast television programming—including local news, weather, sports, emergency information, and entertainment programming—on an "on the go" basis on mobile-DTV capable devices such as smart phones, laptop computers and tablets.

Mobile DTV is a reliable and spectrally efficient (one-to-an-unlimited-number) means of disseminating emergency information to viewers. To leverage this capability, the Corporation of Public Broadcasting and LG Zenith recently launched a joint pilot project to test mobile DTV capability to deliver alerts to citizens during emergencies. Unlike the still nascent Commercial Mobile Alert System (CMAS), which provides only short text messages via cellphones, a mobile DTV EAS system would provide a far more comprehensive and informative experience, including video and photos, to citizens during times of emergency. Broadcasters and manufacturers here in the U.S. seek to harness the power of mobile DTV that was demonstrated following the devastating

¹¹ "Radio Beams Regional Tornado Relief Message," *Inside Radio* (May 27, 2011).

¹² Brian Stelter, "This Just In: How Your House Is Faring," *The New York Times* (June 27, 2011).

¹³ Scott Fybush, "Radio, TV React to Mass. Tornadoes," *NorthEast Radio Watch* (June 6, 2011).

¹⁴ "CC Cluster in MA. Superserves During Last Week's Tornado," *Radio Ink* (June 7, 2011).

earthquake and tsunami in Japan. Mobile DTV served as a critical lifeline source of information, particularly in the wake of cellular network and power outages.¹⁵

In times of local crisis such as these, broadcasters provide astounding service to their communities.

Beyond anecdotal evidence, statistics paint a vivid picture of the power that the broadcast medium has to save lives. Following tornadoes that struck in Alabama in late April, Raycom Media conducted a survey of residents who were impacted. According to the survey results, a vast majority – 71% of adults – said they were warned about the storm by watching television.¹⁶ An additional 10% of those surveyed learned of the tornadoes via radio. A mere 6% of respondents learned of the tornadoes through Internet, smartphones, or Twitter/Facebook.¹⁷ This occurred despite the fact that 75% of those interviewed were at home during the tornadoes, presumably with access to the Internet and other sources of information.¹⁸ This reliance on radio and television for dependable, up-to-the-minute information was true even for young citizens ages 18 to 24. We might expect this demographic to rely more on the internet and social media for information, but fully 77% of them reported that they tracked the storms via radio or TV.¹⁹

¹⁵ See, e.g., Michael Plugh, "What I Left Behind In Japan," *Salon.com* (March 22, 2011), available at

http://www.salon.com/life/feature/2011/03/22/japan_i_left_behind/index.html. See also Live Blog: Japan Earthquake, *The Wall Street Journal* (March 11, 2011, 8:06 a.m. posting of Chester Dawson) ("Unable to use cell phones, many used their smartphones to tune into television broadcasts and find out what had happened. 'It's very convenient being able to watch live TV when the phones are down,' said Minoru Naito, an employee of Royal Bank of Scotland in Tokyo. 'Otherwise, we'd have no idea what is going on.'").

¹⁶ Alabama Tornado Survey, Billy McDowell, VP of Media Research, RAYCOM Media (May 2011).

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ 2010 was also a critical year for local broadcasters and the communities they served. For example, in early May of 2010, as record rainfall hammered the state of Tennessee, every local news station in Nashville preempted regular programming in favor of continuous, commercial-free weather event content for almost an entire weekend. Local radio stations provided constant weather alerts. During the flooding, Dennis Banka of WUCZ in Carthage, Tennessee, managed to single-handedly keep his station on the air for almost 48 hours straight for the benefit of local listeners in need. Mr. Banka and his station had vital contacts with emergency personnel and other authorities and were able to report critical information about the known instabilities of two local dams in a timely manner. Here in Washington, during the blizzards that hit the East Coast in 2010, broadcasters provided up-to-the-minute information that was critical to affected residents. For instance, Washington, D.C. station WRC-TV's wall-to-wall coverage and "potentially life-saving newscasts" were lauded by Maryland Senator Barbara Mikulski. John Eggerton, "As the Snowy World Turns," *Broadcasting & Cable*

And there are many more examples. Broadcast stations continue to provide emergency information and other services even though the costs -- in overtime for personnel, in meals and hotels, in equipment, and of course in advertising lost due to providing wall-to-wall news and information coverage -- are substantial. For example, one station reports that a single season's hurricane coverage cost \$160,000 *before* accounting for lost advertising revenue.²⁰ Another station reports that it lost 50 percent of its revenue for an entire month following the events of September 11, 2001, because its intensive news programming preempted so much of its normal programming.²¹ Emergency journalism clearly requires the commitment of substantial resources from the nation's local broadcasters.

II. Local Broadcast Stations Remain the Backbone of the Nation's Emergency Alert System

In addition to the ongoing, comprehensive coverage that broadcasters provide during emergencies, we are also the backbone of the Emergency Alert System (EAS). EAS is a largely wireless network that connects over-the-air radio, television and cable television systems. The in-place infrastructure of EAS allows the prompt dissemination of alerts to the widest possible audience, or to target alerts to specific areas, as appropriate. EAS is intended for use during sudden, unpredictable, or unforeseen events that pose an immediate threat to public health or safety.

Under EAS, local broadcasters put their facilities and their airwaves at the disposal of government authorities to transmit life-saving emergency warnings. EAS can be accessed or triggered by the President, and Governors or local authorities under certain conditions. The majority of alerts are originated by the local and regional offices of the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service (NWS). Broadcasters typically work in partnership with state, county and local emergency managers and public safety officials on how best to deploy EAS in each state.

The content of EAS messages can vary depending on the nature of the emergency, but may include information on evacuation plans and routes, shelter-in-place instructions, storm paths, and America's Missing: Broadcasting Emergency Response Alerts, or

(Feb. 10, 2010). As FCC Chairman Genachowski observed, "Not only were local broadcasters a lifeline for the community, WRC-TV used its robust Web site and Twitter feed to help residents who had lost power get up-to-the-minute information through their computers and phones." Prepared Remarks of Chairman Julius Genachowski, NAB Show 2010, Las Vegas, Nevada, at 2 (April 13, 2010).

²⁰ *The Economic Realities of Local Television News – 2010: A Report for the National Association of Broadcasters* (April 2010) at 24, attached to Comments of the National Association of Broadcasters, Examination of the Future of Media and Information Needs of Communities in a Digital Age, GN Docket No. 10-25 (filed May 7, 2010).

²¹ *Id.* at 24.

Child Abduction AMBER Alerts, which help expand the eyes and ears of local law enforcement when a child is abducted. Nationwide, since the inception of AMBER in 1996, AMBER alerts have helped safely recover more than 542 abducted children.²² In fact, the Amber Plan was originally created by broadcasters with the assistance of law enforcement agencies in the Dallas/Fort Worth area.

Clearly, EAS participation is an important component of broadcasters' public service. Although participation in EAS on a local level is technically voluntary, virtually all radio and television stations participate, and do so proudly. All EAS equipment is purchased by broadcasters at their own expense. All stations must test their EAS systems on both a weekly and monthly basis. We have all seen or heard the familiar announcement: "The following is a test of the Emergency Alert System. This is only a test."

In January 2010, and again in January 2011, the FCC and FEMA jointly conducted statewide tests of the EAS in Alaska to examine the ability of the federal government to relay an alert message to a state.²³ Radio and television stations in Alaska coordinated closely with federal and local authorities in Alaska to help ensure the success of these tests. Their efforts included a comprehensive public awareness campaign that provided Alaskans with repeated advance notice of the statewide EAS tests, and helped to prevent any undue surprise or confusion. These tests successfully confirmed the EAS as a reliable, effective system in Alaska, and the importance of broadcaster participation in the system.

Building upon the lessons learned in the Alaska tests, the FCC and FEMA conducted a nationwide test of the EAS system on November 9, 2011.²⁴ The broadcast industry supported this endeavor and lent our resources to the project. We worked closely with our federal and local partners to ensure that the national test was useful and informative. Broadcasters prepared for the national exercise by reviewing their internal EAS equipment and processes, including EAS message monitoring procedures, and if appropriate, upgrading software or hardware in advance of the national test. Broadcasters also conducted an extensive nationwide awareness campaign in the days leading up to the test, in order to ensure that Americans understood that "this is only a test." The test was discussed on numerous high-profile newscasts and morning shows, as well as repeatedly on radio talk shows. We also created and distributed a variety of Public Service Announcements (PSAs) that were aired thousands of times as the test approached.

²² See

http://www.missingkids.com/missingkids/servlet/PageServlet?LanguageCountry=en_US&PageId=2810#2 (last visited Dec. 7, 2011).

²³ See, e.g., "Alaska Plans EAS Test Using EAN Code," *Radio Magazine* (Dec. 31, 2009), available at

http://radiomagonline.com/studio_audio/EAS/alaska_ean_test_1231.

²⁴ See *Public Notice*, "Public Safety and Homeland Security Bureau Announces That First Ever Nationwide Diagnostic Test of the Emergency Alert System Will Occur On November 9, 2011 at 2 PM EST," EB Docket No. 04-296, rel. June 9, 2011.

The goal of the test was to diagnose the efficiency and reliability of a nationwide EAS alert, and identify areas in need of potential improvement. In my view, the test was a success. It was the first time an official "live-code" national alert message was purposely deployed end-to-end throughout the system, under conditions simulating an actual emergency situation.

Almost all broadcasters were able to successfully rebroadcast the EAS test message they monitored and received. There were some technical problems with the origination of the message. Apparently there was a "loop-back" of the digital message header codes emanating from one of the Primary Entry Point radio stations that caused the header codes to repeat about every six seconds. This caused some stations' EAS encoder-decoders to "seize" upon receiving the second set of header tones.

Additionally, it appears that FEMA's originating equipment had a clock error, so the time stamp on the alert message was 2:03pm (EST), even though the test actually began a few seconds after 2:00pm (EST). The time stamp caused some encoder-decoders to store the message and wait until 2:03pm (EST) to air it.

There were also a few scattered problems with reception of the test message through the Primary Entry Point network of radio stations. The test was not received or relayed by stations in two states. Again, those issues are being addressed.

The test did highlight an anomaly in the relay architecture of the national alerting system. FEMA's PEP system is a network of hardened AM radio stations across the country, connected by a dedicated telephone conference bridge. The PEP system is designed as a last means of resort for communicating with the American people. FEMA's goal is that a message sent through the PEP network will reach 90% of the population. However, at present, there are large swaths of the country, including all of northern New England, that are not reached by a signal from a PEP station. In order to ensure that the test message was relayed in all parts of the country, FEMA also sent the message via a satellite feed from National Public Radio.

For Maine, this was an elegant solution, since our State Primary EAS network is the seven radio stations of the Maine Public Broadcasting Network (MPBN) -- all other radio and TV stations in the state monitor MPBN for alerts -- so all MPBN had to do was make sure its EAS box was set up to receive the feed from NPR. However, other states had to undergo some last-minute reshuffling of their monitoring assignments in order to receive the test from either a PEP station or an NPR station.

As a result, there has been some post-test discussion within the EAS community as to whether this was a "true test" of the PEP network. It should be remembered, however, that the PEP network is designed only as a last-man-standing communications capability, not as a nationwide, end-to-end relay network. At the very least, it is hoped that the NPR overlay for the national test will raise the need for a transmission architecture that does not rely solely on the PEP network. To some degree, this will be addressed with the transition to the Common Alerting Protocol (CAP) and FEMA's use

of the internet as the backbone of its Integrated Public Alert and Warning System. However, the internet is not a hardened system, and it is subject to widespread failures.²⁵ Some other redundant pathway besides the internet and the PEP network is needed in order to ensure that a national alert can actually deploy completely across the country.

These issues demonstrate precisely why the EAS should be tested on an ongoing basis. We fully support the plan by FEMA and the FCC to test EAS on at least an annual basis. EAS is tested weekly by each radio and TV station and monthly within each state. Such tests allow message disseminators to confirm that their equipment is working properly, or to diagnose and fix any problems. It only makes sense that we should also be regularly testing the ability of the federal government to send an alert message throughout the nation. We also congratulate the FCC and FEMA on their efforts to implement the first nationwide test of the EAS.

III. The Development of IPAWS is Well Underway

Although broadcasters provide EAS and in-depth emergency information as part of their service to the public, and do so enthusiastically, participating in a reliable, functional EAS is not without certain challenges. For example, in June 2006, President Bush issued Executive Order 13407, entitled *Public Alert and Warning System*, which states:

It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people...establish or adopt, as appropriate, common alerting and warning protocols, standards, terminology, and operating procedures for the public alert and warning system to enable interoperability and the secure delivery of coordinated messages to the American people through as many communication pathways as practicable...administer the Emergency Alert System (EAS) as a critical component...ensure that under all conditions the President of the United States can alert and warn the American people.

In response, FEMA has served as the lead federal agency for developing this program, called the Integrated Public Alert and Warning System (IPAWS) Program. Among other things, IPAWS is designed to improve public safety through the rapid dissemination of emergency messages to as many people as possible over as many communications devices as possible. To do this, FEMA's IPAWS program is planning to expand the traditional EAS to include additional technologies, to capitalize on recent shifts in how many Americans consume information. IPAWS will enable Federal, State, territorial,

²⁵ As an example, the flooding from Tropical Storm Irene knocked out Time Warner's primary fiber optic cable in Vermont on August 28. The company switched to a redundant line, but three days later the flooding knocked out that line, causing 350,000 Time Warner customers in Maine, New Hampshire and Massachusetts to lose digital phone and internet service for about four hours.

tribal, and local emergency communication officials to access multiple broadcast and other communications pathways for the purpose of creating and activating alert and warning messages related to any hazard impacting public safety and well-being.

Among other capabilities, IPAWS will enable the dissemination of alerts via text messages to cell phones. It should be noted, however, that the cell phone alert aggregation system is an internet-based system, which is subject to reliability problems (including electricity blackouts), and that, with the exception of Presidential alerts, the cell phone alerting system is a voluntary opt-in system, which thus cannot be guaranteed to reach 100% of Americans. Text messages are also limited to 90 characters which inherently limit the amount of emergency-related information that can be conveyed. For these reasons, broadcasters are working closely with FEMA to ensure that EAS via free, over-the-air television and radio remains the central backbone of the next generation of public alerting.

Broadcasters are also leveraging social media and other message pathways to broaden dissemination of alert messages. When you receive an emergency alert via email, text message, or Facebook from your local radio or TV station, you know you're receiving reliable information from an authoritative source.

In Maine, and nationwide, radio and television stations do a commendable job assisting public safety officials in disseminating emergency information, whether through our on-air news programming, or through EAS. Regarding the latter, we fully intend to continue our efforts to devote personnel and attention to making sure that our internal EAS systems work properly. However, the ongoing reliability of the EAS network will depend on the success of several important developments.

First, the success of EAS will largely turn on the expertise and ability of local authorities to fully deploy EAS and act as a "civil authority" with full access to the system. In the past, some of the isolated instances where EAS could have been used more judiciously directly resulted from a lack of awareness or expertise on the part of local officials concerning EAS. Although the November 9 nationwide EAS test should help improve awareness of EAS among local authorities, in this day and age, it is unacceptable that some state and local emergency managers still require additional education and training on the benefits of EAS, how and when to trigger an EAS alert, and the proper crafting of alert messages. At present, the only training state and local authorities receive is the technical manual that comes with an EAS encoder-decoder. FEMA is taking steps to address this vacuum by creating a training and certification program for users of the system. We applaud this initiative.²⁶

Second, as mentioned above, FEMA is in the midst of implementing a next generation of EAS. This new system will modernize the technology used to deliver EAS messages

²⁶ To this end, it is critical that IPAWS continues to receive full funding through the authorization and budgetary process to achieve and maintain its public alerting missions.

from public safety officials to EAS Participants. Under the Commission's existing rules, broadcasters and other EAS Participants are required to process an EAS message that is formatted in this new "language," known as the Common Alert Protocol (CAP).²⁷

The FCC is in the process of reviewing its EAS Rules and has set a deadline of June 30, 2012, for all EAS Participants to install equipment capable of receiving a CAP-formatted message, at their own expense.²⁸ This will be a substantial burden for a number of broadcasters, as it will require the replacement of EAS equipment at most radio and television stations. The costs of such equipment are not insignificant, particularly to small radio and television stations still struggling from the recent severe recession.²⁹ It is critical that, as Participants are required to upgrade their equipment to *receive* a CAP-formatted message, local and state jurisdictions have the necessary funding and training to be able to *transmit* a CAP-formatted message. This will ensure that the public will benefit from the next generation of public alerting.

Third, authority for EAS is spread across multiple federal agencies with differing priorities, while the primary use of the system is by state and local officials. At present, there is no mechanism for the users of the system and the distributors of the messages to come together to discuss issues and work out problems. H.R. 2904 takes a great leap forward by creating an IPAWS Advisory Committee. However, this bill would sunset the Advisory Committee after about a year, thus restricting its ongoing efficacy. The next great technological advancement in public alerts and warnings may be five years down the road. Therefore, I respectfully request the Committee to consider adopting language making the Advisory Committee permanent and directing it to meet on a regular, ongoing basis, to ensure that the lines of communication remain open and that ideas for continuous improvement of the system have a forum in which they can be heard.

One other critical improvement can be achieved without expenditure of any funds. Specifically, broadcasters need credentialing from state and local authorities to allow them to access their facilities, such as studios and transmitter sites, during times of emergency. This will enable radio and television stations to repair or maintain their equipment and fully leverage their resources, local knowledge and training to keep the public informed during emergencies. While certain states accommodate broadcasters

²⁷ CAP is a messaging structure that allows emergency managers to provide in a digital format (protocol) detailed descriptions of an emergency event. It is an open, interoperable standard. See *Second Report and Order*, 22 FCC Rcd 13285 ¶¶ 22-25 (2007). CAP is also backwards-compatible to work with EAS and the NWS' SAME (Specific Area Message Encoding) protocol. *Id.* at ¶ 5.

²⁸ See, In the Matter of Review of the Emergency Alert System; Independent Spanish Broadcasters Association, the Office of Communication of the United Church of Christ, Inc., and the Minority Media and Telecommunications Council, Petition for Immediate Relief, *Notice of Proposed Rulemaking*, EB Docket No. 04-296, rel. May 26, 2011.

²⁹ The cost for new CAP-compliant EAS equipment ranges from \$1,200 to over \$3,000 per facility.

who need to access their facilities, such cooperation is not universal. Congressional action in this area could greatly enhance our ability to maintain operations and deliver vital information to our audiences.

Finally, several states are undertaking efforts to enhance their in-state emergency warning systems. In Maine, for example, we are undertaking an effort to substantially improve and modernize our emergency notification plan. Under this "perfect" notification plan, a managed "system-of-systems" would be created through which multiple systems would work together to deliver more alerts and warnings more securely, faster, and to more people. This statewide program would be designed to take advantage of existing investments and future initiatives, including a modernized EAS system, and would be poised for connection to any national system that is developed. At the same time, however, the plan would maintain primary responsibility for alerting at the local level and would include the ability to target alerts geographically.

The goal of this Maine statewide notification program would be to deliver alerts and warnings throughout the state with sufficient capability and speed, in advance of pending disasters, to help prevent loss of life and property. The program would be consistent with state and federal initiatives and standards. This program will also require funding. These funds would be used to create and manage the program, facilitate collaboration, develop operational and governance guidelines and training, purchase technology, and conduct public outreach. Maine has already undergone three rounds of state budget-cutting just this year. The state cupboard is bare, and a large question looms: How will the state pay for the system it needs to take advantage of these new technologies?

A properly working EAS is a fundamental and essential component of our nation's Homeland Security. It is crucially needed in our state of Maine to respond to the myriad of potential man-made and weather-related threats facing our region. One of the 9-11 terrorists began his fateful trip at the airport in Portland, Maine, on his way to Boston. We share a long, rural border with Canada that is difficult to secure. We have a large oil depot in South Portland that provides our winter heating supply. Bath Iron Works is a primary defense contractor to the U.S. Navy. The Seabrook nuclear power plant sits just 15 miles below our southwestern border. And we are experiencing seemingly more severe weather events in recent years, including 25 tornado warnings between 2009 and 2011, which have resulted in 15 confirmed tornado touch-downs. Even in a small, rural state like Maine, a hardened, fully capable alerting system is necessary to ensure the safety of our citizens and our infrastructure.

On behalf of the broadcasting industry, I am grateful to Chairman Denham and this Committee for hosting this hearing and for your interest in improving our communications to prevent the loss of life and property in the future. As we continue to discuss damage estimates, disaster-related costs, and rebuilding our communities after the recent severe storms, floods, tornadoes and wildfires around the U.S., we must take care not to overlook this opportunity to improve public warning and emergency

communications in advance of the next event, instead of during its aftermath. We should be planning for the next emergency, not preparing for the last one.

Thank you.



Expanding the Wireless Frontier

TESTIMONY OF

Christopher Guttman-McCabe
Vice President Regulatory Affairs
CTIA – The Wireless Association ®

December 13, 2011

Hearing on:

The development of FEMA's Integrated Public Alert and Warning System (IPAWS)
as well as the recent test of the nation's Emergency Alert System

House Transportation & Infrastructure Subcommittee on Economic Development,
Public Buildings, and Emergency Management



Testimony of Chris Guttman-McCabe
Before the House Transportation & Infrastructure Subcommittee on Economic
Development, Public Buildings, and Emergency Management
December 13, 2011

Chairman Denham, Ranking Member Norton, and members of the Subcommittee, thank you for affording CTIA¹ the opportunity to participate in today's hearing. My name is Chris Guttman-McCabe, and I serve as the Association's Vice President for Regulatory Affairs. In that capacity, I have been involved in the wireless industry's efforts to implement the Commercial Mobile Alert Service called for by the WARN Act, and I am pleased to have the chance to share with you today that the wireless industry is doing what is necessary to deliver a state-of-the-art alerting system by early 2012.

The Warning, Alert and Response Network or WARN Act became law as Title VI of the SAFE Ports Act² in October 2006. CTIA supported enactment of the legislation, which we believe struck a reasonable balance by attempting to augment the existing emergency alerting system without imposing new cost or technology mandates on the wireless industry. This approach was consistent with, and built upon, previous public-private partnerships that led to the successful creation of Wireless Priority Service (a collaborative effort between the National Communications System and the wireless industry) and the AMBER Alert program (a joint effort involving the Department of Justice, the National Center for Missing and Exploited Children, and the wireless industry).

In the WARN Act, Congress developed an innovative procedure to address the problem of emergency alerting by securing the participation of interested non-governmental parties in the development and deployment of what has been envisioned as a 90-character, geo-targeted, succinct alerting capability that would

¹ CTIA – The Wireless Association® is a nonprofit membership organization that has represented the wireless communications industry since 1984. Membership in the association includes wireless carriers and their suppliers, as well as providers and manufacturers of wireless data services and products. Additional information about CTIA may be found at <http://www.ctia.org/aboutCTIA/>.

² P.L. 109-347.

Testimony of Chris Guttman-McCabe
Before the House Transportation & Infrastructure Subcommittee on Economic
Development, Public Buildings, and Emergency Management
December 13, 2011

let consumers carrying a wireless device know that there is an imminent threat to health or safety. From CTIA's perspective, it appears that Congress' vision is working as designed.

In the first year after the WARN Act became law, the Federal Communications Commission ("FCC") established the Commercial Mobile Service Alert Advisory Committee ("CMSAAC" or "Advisory Committee") comprised of more than 40 individuals representing tribal, local, state, and federal government agencies (including FEMA and the NCS); communications providers; vendors; third-party service bureaus; broadcasters; consumers' groups; and other technical experts. I served on the Advisory Committee on behalf of CTIA. Over 11 months, the Advisory Committee generated more than 600 documents, held hundreds of meetings, and spent thousands of man-hours to develop a thorough, workable commercial mobile alerts system plan.

Following delivery of the Advisory Committee's recommendations, the FCC has issued orders largely adopting the recommendations developed by the CMSAAC. Among other things, the FCC's orders set forth the alerting service architecture proposed by the Advisory Committee and concluded that a federal entity should aggregate, authenticate, and transmit alerts to the participating wireless providers. FEMA will play this role. The FCC also has required that participating providers must transmit three classes of alerts – Presidential, Imminent Threat, and AMBER alerts – and that consumers be permitted to opt-out of the latter two but not the first. Importantly, the FCC agreed with CMSAAC that wireless carriers opting to deliver alerts should "not be bound to use any specific vendor, technology ... [or] device" to meet their obligations under the WARN Act.³

³ In the Matter of The Commercial Mobile Alert System, PS Docket No 07-287, adopted April 9, 2008, at paragraph 33.

Testimony of Chris Guttman-McCabe
Before the House Transportation & Infrastructure Subcommittee on Economic
Development, Public Buildings, and Emergency Management
December 13, 2011

Following issuance of the FCC's first report and order, wireless carriers had to elect whether they would participate in the delivery of wireless emergency alerts, well in advance of finalizing the technical specifications for implementing the alerts. I am pleased to report that mobile providers representing nearly 97 percent of wireless subscribers elected to provide wireless emergency alerts, demonstrating the success of this public-private partnership. Moreover, this figure is likely to increase as additional carriers elect to offer the alerts to their customers once the system is rolled out.

Since providers made their initial elections in September 2008, the wireless industry has been working, in close consultation with FEMA and the FCC, to make the investments and system modifications necessary to enable the wireless emergency alert system to be operational by April 2012. And, I'm pleased to report that providers have deployed and tested the elements of the wireless emergency alert system within their control and currently have the capability to deliver wireless emergency alerts to New York City whenever FEMA finalizes its connections to the gateway that allows alerts to be delivered from alert originators to the carriers.

While we believe the wireless industry is hitting all the marks necessary to deliver on the promise of the WARN Act, there are two key areas beyond wireless carriers' control that must be addressed if a seamless national deployment is to occur and be operational next year. First, FEMA must stand-up its wireless emergency alerts gateway and be capable of receiving and distributing alerts to participating wireless carriers. The wireless industry has worked closely with FEMA for well over a year to move this deployment forward and we commend FEMA for its effort to date. But now is the time to push the ball across the proverbial goal line if we are to ensure a

Testimony of Chris Guttman-McCabe
Before the House Transportation & Infrastructure Subcommittee on Economic
Development, Public Buildings, and Emergency Management
December 13, 2011

smooth launch of the system. Second, substantial and ongoing care must be taken to ensure that potential alert originators at the state, county, and local levels are properly trained about when and how alerts should be originated. This is crucial because it is these alert originators who are responsible for disseminating critical information to the public in a timely manner. If consumers receive confusing, irrelevant, or overly frequent alerts, then even the best alerting system will ultimately fail. We urge you to exercise your oversight authority to ensure that these objectives are achieved.

The wireless industry is committed to delivering wireless emergency alerting capability next year, and to working with FEMA and the FCC to ensure that subsequent generations of the system to support additional functionality and granularity. With this in mind, we do not believe that wireless carriers that participate in the wireless emergency alerting system should be subject to any new requirements that emanate from the implementation of IPAWS. While IPAWS may help to modernize the distribution of alerts on other communications platforms, CMAS is the proper path to deliver and modernize emergency alerts provided over wireless networks. We hope you will keep this in mind as you consider legislative efforts like H.R. 2904.

Thank you for the opportunity to appear on today's panel. I look forward to your questions.

**TESTIMONY OF DR. WILLIAM CHECK
SENIOR VICE PRESIDENT OF SCIENCE AND TECHNOLOGY
AND CHIEF TECHNOLOGY OFFICER
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

on

THE EFFECTIVENESS OF OUR NATION'S PUBLIC ALERT SYSTEM

before the

**SUBCOMMITTEE ON ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS AND
EMERGENCY MANAGEMENT
HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE**

December 13, 2011

TESTIMONY OF DR. WILLIAM CHECK**SENIOR VICE PRESIDENT OF SCIENCE AND TECHNOLOGY
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

Good morning, Chairman Denham, Ranking Member Norton, and Members of the Subcommittee. My name is William Check and I am the Senior Vice President of Science and Technology and Chief Technology Officer at the National Cable & Telecommunications Association. Thank you for inviting me today to testify on the cable industry's role in our Nation's public alert system.

NCTA is the principal trade association representing the cable television industry in the United States. Its members include cable operators serving more than 90% of the nation's over 67 million cable television customers, and more than 200 cable programming networks, as well as suppliers of equipment and services to the cable industry. The cable industry is the nation's largest broadband provider of high-speed Internet access after investing more than \$145 billion since 1996 to build out a two-way interactive network with fiber optic technology. Cable companies also provide state-of-the-art digital telephone service to millions of American consumers. I have worked in the field of telecommunications for over 30 years, including in the broadcast, satellite and cable industries.

Cable operators have been active participants in providing emergency alerts to their customers since the first cable systems were implemented, and we continue to be actively involved with FEMA, the FCC and other participants in further improving the Nation's emergency alert system (EAS). The cable industry recognizes the importance of a national public warning system that responds to the public's need for timely information during crisis situations.

On November 9, 2011, cable operators were among the participants in the first ever nationwide test of the emergency alert system. I am pleased to provide you today with some of our preliminary assessments of that test, as well as our thoughts on legislation that would assist in the further development of the Integrated Public Alert and Warning System (IPAWS).

Cable Industry Participation in EAS

The cable industry's role in providing emergency information to the public dates back to the 1960s, when some cable systems distributed to their customers warnings they received via electronic links to radio and television stations and federal, state and local agencies that participated in the "Emergency Broadcast System" (EBS). Pursuant to local franchise requirements, some cable operators began installing alerting equipment that could be activated by local government officials or law enforcement agencies to warn cable customers about emergency situations in their communities. This practice continued for several decades.

In 1994, as part of its modernization of the nation's emergency broadcast system, the FCC incorporated cable television in the newly established Emergency Alert System (EAS), which replaced the EBS. The technology in EAS provided federal, state and local officials with more sophisticated means to deliver important emergency information. For example, this allows National Weather Radio (NWR) signals to be decoded by the EAS equipment at broadcast stations and cable systems. Broadcasters, cable operators, and other EAS participants can then send NWR warning messages almost immediately to their audiences.

Under the FCC's current EAS regulations, cable operators are required to provide national EAS messages issued by the President (signaled by the Emergency Action Notification event code) and EAS messages issued by state governors. Cable operators also routinely use their EAS equipment to disseminate all types of alert information including weather, child

abduction ("AMBER") alerts, and other state and local emergencies. In practical terms, the cable operator provides these EAS messages, which may consist of a text message or video crawl, over all channels on the cable system.

The cable industry continues to work closely with the FCC and cooperate with FEMA to implement the latest emergency alerting technologies and we support ongoing efforts to utilize advanced digital technology to promote next generation alerts over a variety of communications platforms. Cable companies are preparing to meet the FCC's June 30, 2012 deadline to be able to receive messages delivered using the Common Alerting Protocol ("CAP") technology and disseminate those messages to their customers.

EAS National Test

On November 9, 2011, cable companies fully participated in the first ever nation-wide test of the EAS. The test consisted of FEMA initiating a Presidential-level "Emergency Action Notification" (EAN) message. The government's objective was to test the reliability and effectiveness of EAS, including identifying gaps in the current alert system. Prior to the test, NCTA took several important measures to ensure that consumers were aware of the national test. Among other things, we briefed our member cable operators and programming networks about the test, its impact on their operations and the importance of consumer education about the test. We led cable industry chief technology officers and engineers in discussions and consultations on the test, to ensure full technical support for the test in the field. We also provided operators with the text of a message that they could include in consumer bills notifying customers of the test, links to FEMA and the FCC's online resources, including consumer information about the test, and public service announcements providing consumer education about the test.

The cable operators themselves undertook significant outreach efforts, utilizing a variety of tools to promote and publicize the test to their customers. Their activities included running public service announcements; including an announcement on customer bills; advising news outlets in their markets about the test; publishing a blog post prior to the test; and using social media outlets such as corporate accounts on Facebook, Twitter, and LinkedIn to publicize the test to customers.

Our programming network members also participated in these outreach efforts, airing additional public service information, in the form of a text crawl or a PSA, immediately before and/or immediately after the November 9 test. At least 110 national cable networks, and 24 regional cable networks, reported their plans to run the public service announcements or the on-air “crawl,” giving viewers a “heads-up” that the test would occur shortly.

We are still in the process of gathering and analyzing the results from our member companies, who expect to provide data to the FCC of their results on December 27. We are pleased to report that preliminary data shows that most cable operators were successfully able to receive the transmitted Emergency Action Notification (EAN) signal and to disseminate the EAN message to their customers. Some operators did experience various issues within their service areas, although most of the major problems we identified originated “upstream” from cable systems and were therefore out of the operators’ control. For instance, some cable providers did not receive the emergency message from broadcast stations that they are required to monitor. When cable systems did receive the emergency message, the message audio was often low or distorted.

We also found that the 30-second time period used for the alert may not have been sufficient to accurately conduct the test, because it can take longer than that for the emergency

message to be transmitted throughout the entire EAS infrastructure: from FEMA to the Primary Entry Point (“PEP”) stations to the local primary stations and, in turn, to all EAS participants, including cable systems. If the time to get the emergency message to cable systems was greater than the 30- second EAS message itself, then the EAS audio message would have completed prior to the event code being received. In those cases, there was simply not enough time to transmit the message to viewers before the test concluded. Finally, we also noticed that in some cases the EAS equipment in the cable headend, or so-called “encoder/decoder,” itself contained outdated software or was configured incorrectly.

Cable operators continue to gather more information on the test findings and, as noted above, this information will be reported to the FCC on December 27. Longer term, we look forward to continuing to work with the FCC, FEMA and others in an effort to resolve the issues we identify so that cable system operators can continue to effectively transmit emergency alerts to consumers.

IPAWS Legislation

NCTA appreciates efforts to further modernize our Nation’s emergency alert system, and we support the goals of H.R. 2904 and H.R. 3563. We are pleased to note that the proposed legislation includes provisions that will help accelerate the delivery of emergency alerts through IPAWS. For instance, the bills would establish a training program to instruct federal, state, local and tribal government officials in system use. This training will be helpful in ensuring that officials who initiate alerts are fully aware of the emergency alert system’s capabilities. H.R. 2904 also contemplates the creation of an advisory committee that would advise government officials on the implementation of IPAWS. NCTA believes it is appropriate for federal officials to rely on the extensive expertise that private industry has developed in this area and we are

pleased that the proposed legislation specifically contemplates that a representative of the cable industry would be among the representatives chosen to provide FEMA with its expertise.

We respectfully suggest, however, that legislation should take into consideration the considerable work that has already occurred in this area and any costs or possible delays associated with changes to the plans that are currently being implemented. In particular, the cable industry has devoted significant resources toward complying with the upcoming deadline that requires systems to be able to receive emergency messages in CAP protocol. Any common alerting and warning protocols, standards, technology and operating procedures that FEMA would be required to adopt pursuant to new legislation should recognize and incorporate the work that has already been done and should be consistent with existing regulatory directives which have driven our efforts over the past several years.

In considering legislation, we ask that you keep in mind the means by which emergency alerts are delivered. As I mentioned before, cable companies currently transmit the information as they receive it. Most of the EAS equipment at a cable headend is pre-programmed by the cable operator to automatically respond to particular EAS header codes (which define the location and the nature of the emergency). Based on this architecture, cable companies do not alter the alert messages. So, for example, if a message is received in multiple languages, cable companies can and do pass along the emergency alert in multiple languages. However, there is no means by which we can translate messages received in one language to another. Legislation should make clear that the obligation to make messages accessible should rest with the message originator.

* * *

Thank you again for the opportunity to appear before you today on this important issue. The cable industry recognizes its important role in disseminating emergency information to the public, and we stand ready to work with this Subcommittee, Congress, FEMA and the FCC to meet its responsibilities. I would be pleased to answer any questions you have.



December 13, 2011

The Honorable Jeff Denham, Chair
 Subcommittee on Economic Development,
 Public Buildings & Emergency Management
 Committee on Transportation and Infrastructure
 Room 2165, Rayburn House Office Building
 U.S. House of Representatives
 Washington, D. C. 20515

Dear Chairman Denham:

I am writing to respectfully request that you include the attached information in the record of the hearing held by the Subcommittee on Economic Development, Public Buildings and Emergency Management today related to the emergency alert system (EAS). We believe that it will amplify the record of the proceedings.

The attachment describes an exciting pilot project in which LG Electronics and public broadcasters are planning to prove the potential of using mobile Digital Television (M-EAS) for emergency alerts. This groundbreaking pilot program will evaluate various factors related to emergency transmissions, including the feasibility, technologies, costs and ease-of-use compared to other EAS technologies. This next-generation system would utilize terrestrial "over the air" broadcast TV transmissions, so it will require no additional spectrum and not be subject to the congestion that has historically afflicted telephone cellular service during emergencies. Public broadcasting stations in Massachusetts (Boston), Nevada (Las Vegas), and Alabama (Birmingham and Montgomery) are participating in the pilot project. Other key participants include the Corporation for Public Broadcasting, Zenith, Harris Broadcast and Roundbox.

As the pilot project evolves, we will of course keep the Subcommittee informed about our progress. In the meantime, I appreciate your inclusion of the attached materials in the hearing record. If we can provide additional information, please do not hesitate to contact us.

Cordially,

John I. Taylor
 Vice President, Government Relations
 and Communications
 LG Electronics USA, Inc.
john.taylor@lge.com

Attachment

**Attachment – Letter to Chairman Denham regarding hearing held on
December 13, 2011**



**PBS Stations Named for Mobile Emergency Alert System Pilot
Project Designed to Deliver Video, Maps, Photos, Audio, Text to
Mobile Devices**

**LG and PBS Developing System to Harness Power of Mobile
Terrestrial Broadcasting to Enable Media Rich Emergency
Communications**

WASHINGTON, Nov. 30, 2011 – Beyond life-saving emergency broadcasts and simple text alerts, a next-generation emergency alert system is now in the works that could have far-reaching public safety benefits – both for first responders who need to access critical information, and for federal and state agencies to instantly reach millions of Americans with a single broadcast. Above all, the new system will benefit the public by giving them instantaneous, reliable, rich media alerts anywhere, anytime.

PBS announced today the public television stations participating in a groundbreaking Mobile Emergency Alert System (M-EAS) pilot project funded by the Corporation for Public Broadcasting and LG Electronics. WGBH Boston, Vegas PBS (KLVX) in Las Vegas, and Alabama Public Television stations WBIQ (Birmingham) and WAIQ (Montgomery) are participating in this innovative project to assess the potential of utilizing an enhanced method of information sharing through existing Mobile Digital TV services that are now being deployed throughout the country.

These public television broadcasters in Massachusetts, Nevada and Alabama have agreed to serve as test markets for the new M-EAS being developed now by PBS and LG Electronics. By using terrestrial "over the air" TV broadcasting, rather than cellular network connectivity, M-EAS is expected to meet critical needs for emergency alerts. The goal of the project is to prove the viability of M-

EAS, use existing standards with the cooperation of three public TV stations, and to create a template for deployment by any broadcaster – public or commercial. “If we’re successful, the results of the pilot will help usher in a new era of mobile alerting systems. They will be extremely valuable to federal, state and local emergency management agencies and the publics they serve and will extend the community service role of public and commercial broadcasters alike. We welcome the leadership of PBS stations to serve as the ‘test bed’ for these rich-media emergency transmissions,” said Dr. Jong Kim, president of Zenith R&D Lab, the U.S. research and development subsidiary of LG Electronics.

M-EAS Harnesses Power of Broadcast Transmission

“With the Mobile EAS service, we’ll be able to send everything from AMBER alert photos to detailed maps with escape routes, live video, and extensive information that viewers will find invaluable in a disaster. This goes way beyond just a text message on a congested cell phone network. It’s harnessing the power of ‘one-to-many’ transmissions from a TV broadcaster to the viewing audience,” said John McCoskey, PBS Chief Technology Officer.

The Mobile EAS project will evaluate system’s capabilities for delivering multimedia alerts (utilizing video, audio, text, and graphics) to cellphones, tablets, laptops, netbooks, and in-car navigation systems that avoid the chronic congestion of cellular systems in emergencies. In the spirit of its public service mission, public television is leading the way in testing the use of this critical new communication platform.

McCoskey said a key goal of the M-EAS project is to develop “a system that can be easily replicated by both public and commercial broadcasters throughout the country, and give access to vital emergency information to millions of viewers – regardless of the type of mobile device that they’re using to tune our channels. Whether utilized in times of national emergency, to warn of a local fast-approaching storm, or to advise the public of missing children, we believe that the new Mobile DTV system can be harnessed to do far more than just the delivery of linear TV channels,” he said.

Utilizing terrestrial “over the air” broadcast TV transmissions, rather than spotty cell phone systems, the M-EAS requires no additional spectrum and will be an additional use of existing TV transmitters and towers. Standard equipment used to upgrade stations for transmission of Mobile DTV signals will be utilized.

Mobile EAS using Mobile DTV could significantly enhance current capabilities for sending emergency alerts, because it does not have bandwidth bottlenecks that might overload current or planned cellular systems with millions of devices attempting to receive the alerts simultaneously.

Internet Protocol Transmissions Bring Rich Media to Emergency Alerts

The Mobile EAS pilot will use existing standards for implementation, including the digital TV standard and the A/153 Mobile DTV standard (both adopted by the Advanced Television Systems Committee) as well as the international Common Alerting Protocol (CAP) that specifies how messages are structured.

The ATSC A/153 Mobile DTV Standard uses Internet Protocol (IP), which allows the new application to be flexible and expandable. Streaming, data delivery, non-real-time delivery, and electronic service guides are included.

The project will evaluate a number of factors relevant to providing any next-generation emergency system, including feasibility, technologies, implementation costs, cost-sharing possibilities, the ease of using such a system compared to other technologies, acceptance by both the general public and emergency messaging managers, and expectations of future needs and system growth.

The current Emergency Alert System (EAS) is a national public warning system that requires broadcasters, cable systems, and satellite operators to provide communications capabilities to the President to address the American public during a national emergency. It has its roots in the early days of the Cold War. And since the 9/11 attacks, federal agencies have upgraded the nation's communications capability to respond to man-made and natural disasters.

Project Co-Funded by CPB and LG Electronics

PBS has identified key partners to support the landmark pilot project, including LG Electronics Inc. and its U.S. R&D subsidiary, Zenith, which will develop handheld mobile DTV devices to receive the new alerts and will provide funding for the project. Harris Broadcast and Roundbox also are providing key components and technology for the project. The Corporation for Public Broadcasting is providing matching grants to local public television stations for Mobile DTV broadcasting equipment and grant funding to assist PBS participation in this project.

About PBS

PBS, with its nearly 360 member stations, offers all Americans the opportunity to explore new ideas and new worlds through television and online content. Each month, PBS reaches 124 million people through television and 20 million people online, inviting them to experience the worlds of science, history, nature and public affairs; to hear diverse viewpoints; and to take front row seats to world-class drama and performances. PBS' broad array of programs has been consistently honored by the industry's most coveted award competitions. More information about PBS is available at pbs.org, one of the leading dot-org websites on the Internet, or by following PBS on Twitter, Facebook or through

our apps for mobile devices. Specific program information and updates for press are available at pbs.org/pressroom or by following [PBSPressroom on Twitter](#).

###

MEDIA CONTACTS:

M-EAS Pilot Project:

John Lawson, 703.347.7070, jlawson@convg.com
 Dave Arland, 317-701-0084, dave@arlandcom.com

PBS:

Jan McNamara, 703-739-5028, jmcnamara@pbs.org

LG Electronics USA:

John I. Taylor, 847-941-8181, john.taylor@lge.com