EMERGENCY WARNING SYSTEMS: WAYS TO NOTIFY THE PUBLIC IN THE NEW ERA OF HOMELAND SECURITY

HEARING

OF THE

SUBCOMMITEE ON EMERGENCY PREPAREDNESS AND RESPONSE

BEFORE THE

SELECT COMMITTEE ON HOMELAND SECURITY

HOUSE OF REPRESENTATIVES

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FOR THE RECORD

EMERGENCY WARNING SYSTEMS: WAYS TO NOTIFY THE PUBLIC IN THE NEW ERA OF HOMELAND SECURITY

Wednesday, September 22, 2004

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON HOMELAND SECURITY,
SUBCOMMITTEE ON EMERGENCY PREPAREDNESS
AND RESPONSE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:08 a.m., in Room 2261, Rayburn House Office Building, Hon. John Shadegg [chairman of the subcommittee] presiding.

Present: Representatives Shadegg, Weldon, Camp, Cox (ex officio), Thompson, DeFazio, Lowey, Norton, Etheridge, Lucas and Turner (ex officio).

Mr. SHADEGG. Good morning. The committee will come to order.

I would like to ask unanimous consent that opening statements be limited to the subcommittee and full committee chairman and the ranking members of the subcommittee and the full committee. Is there any objection?

Without objection, so ordered.

You may not be aware of this, but September is National Preparedness Month, an effort to heighten the importance of American families and businesses to be better prepared for emergencies, especially in this new era of Homeland Security. As a part of that effort, today we will be focusing on the emergency warnings communication system, that is, how we can get the best information to the public on what steps they should take to protect themselves in the event of an emergency.

You know, it was Paul Revere and his partner who is less well known, Robert Newman, who pioneered unknowingly the first emergency warning system in our country. Newman was the individual who hung lanterns. Of course, Paul Revere was the one who made the famous ride. One if by land and two if by sea, as well as a midnight ride warning that the British were coming, were effective means of spreading the word in the 18th century. However, in the 21st century, in a new war on terrorism and a new era of Homeland Security and technology, we must look at the most modern and effective ways to get emergency warnings to our citizenry.

Consider, for example, these statistics. There are 169 million cell phone users in the United States. There are 28 million high-speed Internet lines always on. There are 107 million households, well over 90 percent of those in the country, that have telephone serv-

ice, and there are over 11 million paging units in service. More and more, technology is becoming ubiquitous, and it would be foolish not to capitalize on these potential conduits for informing Americans about what to do in an emergency so that they can make an educated decision about how best to protect themselves.

Think about a potential release, for example, of a bio-agent or a dirty bomb. Based on global positioning technology, GPS technology, a cell phone user could receive a text message based on which cell towers he was closest to advising him of the event. Linked with plume modeling technology, an individual could be advised further as to whether to shelter where they are in place or to evacuate. And this sort of technology is already put into place.

For example, the States of Washington and my home State of Arizona have launched a multi–State AMBER alert web portal which has the ability to notify thousands of subscribers through e-mail, cell phones, pagers, and other devices that a child has been abducted. Fourteen additional States are set to join, including the State of Mississippi. This is a partnership of State, law enforcement, private companies, and the broadcast media.

But there are also questions when we start discussing notification systems. Keep in mind, for example, that the Emergency Alert System was never activated on September 11th. We need to consider who will control the content of the message? How will we know that it is completely accurate? Will it be nimble enough in order to take action in a timely manner? Will local law enforcement be willing to share information with the media? Will there be information overload? And, what happens if electricity is lost?

An efficient and effective all hazards alert system must bring together all available information in an accessible and reliable manner and disseminated to Americans in a timely manner via multiple technologies. In our examination, it is likely that we will learn that no single solution exists. Rather, we will have to rely on multiple modes and built-in redundancy.

Today, we will hear from Federal officials from the Department of Homeland Security as well as the FCC, the Federal Communications Commission; and we will be particularly interested in what the Department is doing to coordinate and build upon the message from seven different warnings systems that currently exist for all hazards and emergency notice and its latest emergency communication demonstration project in the National Capital Region.

Our FCC witness will provide perspective on the Commission's latest notice of proposed rulemaking on changes to the Emergency Alert System as well as the role of the media. Do local broadcasters have enough guidance from local, State, and Federal Government to operate an effective warning system?

And our second panel will provide insight on what technologies are available and other issues that should be addressed when considering emergency communications systems.

I would now call upon the Ranking Member, Mr. Thompson, for his opening statement.

Mr. THOMPSON. Thank you, Mr. Chairman.

I join the Chairman in welcoming the witnesses to this hearing, and I look forward to hearing your testimony on this important topic.

When our hearing concludes today, I think it will be very clear that our Nation does not have an effective warning system. More than 3 years after the attacks of September 11th, we still depend on a warning system that was created by President Truman in the 1950s. And while it is true that this system's technology has been upgraded over the years, the simple facts are these: We are still dependent upon the broadcast industry to distribute warnings; State and local governments do not have the authority to require broadcasters to distribute warning messages; and the current warning system reaches only the limited audience that is listening to broadcast radio or watching broadcasts on cable television at the exact time that emergency announcement is made.

It seems to me when we face the very real threat of more terrorist attacks within our homeland that this warning system is wholly unsatisfactory and demonstrates a huge gap in the administration's preparedness strategy. We can provide our first responders with all the training and equipment they need, but if we do not have an effective way to warn the public and provide them with the information that will help them to protect themselves and their families, we will fail in our duties to save lives in the aftermath of the next attack.

This is not a new problem created by the September 11th attacks. Numerous studies and reports have demonstrated that our warning system is not adequate. Yet, even after 9/11, nothing has been done to change the system.

Based on prior recommendations of several of today's witnesses, we know what an effective warning system should do. First, the system must distribute warnings through as many communication channels as practicable, including telephone, cell phone, and pagers. Second, the actual warning message must be a single, consistent, and easily understood language that can be used as a standard across all hazards and situations. Finally, ownership of and accountability for the system must be clear. Today, no one government agency is in charge of the system, resulting in outdated warning plans, missing communication links, and a lack of training and equipment for emergency managers.

The administration must devote the resources to implement these changes. We cannot wait for the next attack to demonstrate the shortfalls of our warning systems. The Federal Communications Commission has initiated this process by issuing a notice of proposed rulemaking on the Emergency Alert System. This notice raises some very important questions about the adequacy of the current system and the alternative systems that we should be considering. I hope the Commission uses this opportunity to make real changes in the alert system and does not simply patch an outdated approach to public warning.

Again, I thank the witnesses for appearing before this subcommittee, and I look forward to your testimony.

Mr. SHADEGG. I thank the gentleman.

The Chairman of the full committee, Mr. Cox, is now recognized for his opening statement.

Mr. COX. Thank you, Mr. Chairman; and thank you to the Ranking Member.

Good morning to our witnesses. Let me, too, commend you for your prepared testimony which you provided and for the wisdom that I know you are about to share with us.

I will be brief. I agree with my colleagues that it is imperative that our Nation address the question of how to upgrade and modernize our emergency communication systems. There are a lot of questions that attend to that. Of course, I will always, forever have stuck in my mind the emergency broadcast system test that we grew up with that puzzled us all. What the hell is that thing for? Because it has never been used. It is supposed to transmit Presidential messages to the Nation in time of emergency, never used.

We can do a lot better than that. We are doing a lot better than that. That system has been modernized and updated itself several times. Now it is known as the Emergency Alert System. But its origins are certainly reminders of another time and another place when we didn't have anything like wireless or digital or the Internet.

There are flaws in our current system. The Emergency Alert System itself, as I mentioned, hasn't been used. So in addition to upgrading the technology, we have got to ask ourselves, what are the circumstances precisely under which we are going to use these systems? Only half of the Nation's 14,000 broadcasters are voluntarily carrying warnings and alerts through this system. On September 11th, 2001, it wasn't activated, it wasn't used. One wonders what kind of emergency is necessary before we would find any use for that system. My home, California, has never used the system to warn people when their lives and their property are threatened by fires that are, if not predictable entirely, that are certainly frequent occurrences.

This Emergency Alert System is probably the best known, but there are seven distinct Federal warning and alert systems that I hope we will discuss here this morning.

The national warning system operated by FEMA disseminates emergency information to 22,000 national and regional State and local emergency management offices. The National Weather Service has several systems, weather alert systems, designed to report through the news media. The AMBER alert web portal provides actionable intelligence on a geographic basis to 32 States, two thirds of the country, to help them identify and track missing children. Each of these systems is designed for its own specific purpose, and I am quite certain that some overlap and some redundancy is not only unavoidable but desirable.

No single warning alert system is guaranteed to reach everyone, and so we can ask this morning how much overlap ought we to have in these systems. When we deploy them, are we properly focused on questions such as what if the telephone lines were done? What if the power lines are down? What if the cable TV is disabled? What about people with disabilities? What if you are hearing impaired? What if you are blind? How should the alerts be tailored to avoid unnecessary panic?

We have discussed this in other hearings, in other ways, with the national color coded warning system. Will frequent warnings desensitize the public to actual danger? How should instructions on what to do be effectively conveyed to the public? When precisely

should an alert be transmitted? Will the Federal system provide more meaningful information than is available through the 24/7 news media? And, if not, are we wasting a lot of resources on some of these systems? What role should the Department of Homeland Security play?

I know we are about to make some progress in answering these questions at this morning's hearing, so let me close as I began, by thanking you all for being here; and thank you, Mr. Chairman and Mr. Thompson, for being here.

Mr. SHADEGG. I thank the gentleman for his statement.

The Ranking Member of the full committee, Mr. Turner, is not with us at the moment. Should he join us, I will be happy to afford him an opportunity to make an opening statement.

At this point, I would like to introduce our first panel so we can begin the testimony and proceed.

Our first witness, Mr. Reynold Hoover, is the Director of the Office of National Security Coordination and the Emergency Preparedness and Response Directorate within the Department of Homeland Security; our second witness, Mr. Jim Dailey, is the Homeland Security Director for the Federal Communications Commission; and our third witness, Ms. Kathleen Henning, is a Certified Emergency Manager and a member of the International Association of Emergency Management.

You will each have 5 minutes to make your opening statement. We won't hold you strictly to that. Your entire written statement will be made a part of the record, and so you will know that your full statement is in the record if you choose to just summarize it in your oral statement.

Mr. SHADEGG. With that, Mr. Hoover, would you begin?

STATEMENT OF REYNOLD N. HOOVER, DIRECTOR OF NATIONAL SECURITY COORDINATION, DEPARTMENT OF HOMELAND SECURITY

Mr. HOOVER. Good morning. Thank you, Mr. Chairman.

Good morning, Chairman Shadegg and members of the committee. My name is Reynold Hoover. I am the Director of the Office of National Security Coordination within the Federal Emergency Management Agency, FEMA. Thank you for the opportunity to appear before you today to discuss the role and activities of the Department of Homeland Security and FEMA to support the important mission of public alert and warnings.

I would like to ask, as you mentioned, Mr. Chairman, that my full written statement be included in the record.

FEMA, through our office, serves as the lead agent for the Federal Government's Executive Branch Continuity of Operations and Continuity of Government Programs. We also serve as the executive agent for the development, operations, and maintenance of the national-level Emergency Alert System known as EAS and are responsible for implementation of the national level activation of EAS tests and exercises. To carry out that function, we serve as the EAS program manager within FEMA and work in close cooperation with the Information Analysis and Infrastructure Protection, the IAIP, Directorate for All Hazards Alert and Warning. I should also note that we work closely with the Federal Communications Commis-

sion, the FCC, and the National Oceanic and Atmospheric Administration, NOAA, which is a primary EAS user.

The Department is grateful for the alert and warning funds Congress provided to IAIP this year and look forward to passage of the President's 2005 budget which provides $2 million additional dollars for EAS. Your funding will help provide Americans with critical and timely information alerts and warnings that will save lives and property.

This morning I would like to take a few moments to tell you about EAS and the Department's efforts toward improving and building our capability to provide a nationwide alert and warning system.

The current EAS was established in 1994 and is essentially a cascade, trickle-down distribution system from the FEMA operations centers to 34 designated primary entry point, or PEP, radio broadcast stations. At the request of the President, we distribute a Presidential level message to the PEP stations, which in turn rebroadcast the signal to monitoring stations downstream which then broadcast the message over TV and radio. This Presidential message is mandatory and must take priority over other messages and must preempt other messages already in progress. All other broadcasts of emergency messages are voluntary. Nevertheless, State and local emergency managers can, and do, activate the EAS for State and local alert and warning messages such as AMBER alerts, hazardous material incidents and weather warnings. NOAA and the National Weather Service serve as the originator of emergency weather information and play a significant role in the implementation of EAS at the State and local levels.

But as efficient and useful as EAS has been, we in FEMA and the Department of Homeland Security realize that the alert and warning system that so many millions of people depend upon is not everything to everyone all of the time. With the alert and warning funding provided this year, FEMA and IAIP are making great progress in our ability to reach more of the people more of the time.

For example, we look forward to signing a cooperative agreement with the Association of Public Television Stations to launch a digital emergency alert system pilot project in the National Capital Region. This pilot will demonstrate how the capabilities of America's public broadcasters can be utilized to dramatically enhance the ability to provide the American people with critical and lifesaving information. This project will also provide the Department with an improved mechanism for distributing EAS and alert warning messaging via digital television and satellite to an expanded range of retransmission media such as cell phone service providers, computers, PDAs, and other wireless devices.

Through the use of a geo-targeted alerting system which uses reverse 911 technology, we will also test the ability to provide targeted warning down to the individual household or business. This proven technology will be conducted in the National Capital Region in cooperation with NOAA's Forecast Systems Laboratory and the Department of Homeland Security's National Capital Region Office.

But while conducting proof of concept pilots, we are simultaneously beginning to upgrade and expand the primary entry point broadcast stations from a ground-based dial-up system to satellite

transmissions. This upgrade will ensure their survivability in the event of a catastrophic attack on the homeland.

We recognize that there is no single solution set that will meet everyone's alert and warning requirements. That is why FEMA, IAIP, and the Department has teamed up with NOAA, the FCC, and the private sector to find the most appropriate interoperable solutions to develop an Integrated Public Alert and Warning System that we are calling IPAWS. We believe that IPAWS, using digital technology in combination with upgraded primary entry point EAS capabilities, will provide Federal, State, and local emergency managers and leaders with the tools they need to protect America from both manmade and natural disasters.

Mr. Chairman, these are just a few of the examples of how FEMA and the Department of Homeland Security have taken seriously its responsibility to provide quick and accurate dissemination of alert and warning information to our homeland security partners and the American public. Thank you for your invitation to speak, for your support of the Department's mission, and for your interest in the Emergency Alert System; and I will be pleased to answer what questions you may have.

Mr. SHADEGG. Thank you very much.

[The statement of Mr. Hoover follows:]

PREPARED STATEMENT OF REYNOLD N. HOOVER

Good afternoon, Chairman Shadegg and members of the Committee. I am Reynold N. Hoover, the Director of the Office of National Security Coordination (ONSC) within the Federal Emergency Management Agency (FEMA). Thank you for the opportunity to appear before you today to discuss the role and activities of the Department of Homeland Security and FEMA to support the important mission of public alert and warning.

FEMA, through my office, serves as the Lead Agent for the Federal Executive Branch's Continuity of Operations (COOP) and Continuity of Government (COG) programs, in accordance with Presidential Decision Directive (PDD) 67, Enduring Constitutional Government and Continuity of Government Operations. We also serve as the Executive Agent for the development, operations and maintenance of the national—level Emergency Alert System (EAS) and are responsible for implementation of the national level activation of EAS tests and exercises. To carry out that function, we serve as the EAS Program Manager within FEMA and work in close cooperation with the Information Analysis and Infrastructure Protection (IAIP) Directorate for All Hazards Alert and Warning. I should also note that we work closely with the Federal Communications Commission (FCC) which generally prescribes EAS technical standards, procedures and protocols, and the National Oceanic & Atmospheric Administration (NOAA) which is a primary EAS user.

The Department is grateful for the Alert and Warning funds Congress provided to IAIP this year and look forward to passage of the President's 2005 budget which provides 2 million additional dollars for EAS. Your funding will help to provide Americans with critical and timely information alerts and warning that will save lives and property. This morning I would like to take a few moments to tell you about the EAS and the Department's efforts toward improving and building our capability to provide nationwide alert and warning.

The current EAS was established in 1994 and is essentially a cascade, trickle down, distribution system from the FEMA Operations Centers to 34 designated Primary Entry Point (PEP) radio broadcast stations. At the request of the President, we distribute a Presidential level message to the PEP stations, which in turn rebroadcast the signal to monitoring stations down stream which then broadcast the message over TV and radios. The system is designed to provide the President the capability to transmit within ten minutes from any location at any time. This Presidential message is mandatory, must take priority over any other message and must preempt other messages in progress. All other broadcasts of emergency messages are voluntary. Nevertheless, State and local emergency managers can, and do, activate the EAS for state and local public alert and warning messages—such as AMBER alerts, hazardous material incidents and weather warnings. NOAA, and the

National Weather Service, serve as the originator of emergency weather information, and play a significant role in the implementation of EAS at the state and local level. While FEMA tests on a weekly basis the connectivity to the 34 PEP stations, the national level EAS has never been fully activated.

As you are well aware, the tragic events three years ago on September 11th caused a paradigm shift in how we think about homeland security and, in particular, alert and warning. As efficient and useful as the EAS has been, we in FEMA and the Department of Homeland Security realize that the alert and warning system that so many millions of people depend upon is not everything to everyone all of the time. With the alert and warning funding provided this year, FEMA and IAIP are making great progress in our ability to reach more of the people, more of the time. We believe in a very short period, using existing digital and other cutting edge technologies, the Department will be able to provide All Hazards alerts and warning to the greatest number of people, all of the time. This includes persons with disabilities and individuals for whom English is a second language.

For example, we look forward to signing a cooperative agreement with the Association of Public Television Stations to launch a digital emergency alert system pilot project in the National Capital Region. This pilot will demonstrate how the capabilities of America's public broadcasters can be utilized to dramatically enhance our ability to provide the American people with critical, and lifesaving, information. Utilizing open, non-proprietary architectures and applications, this project will provide the Department with an improved mechanism for distributing EAS and alert and warning messaging via digital television and satellite to an expanded range of retransmission media such as cell phone service providers, computers, PDAs and other wireless devices.

Through the use of a Geo-Targeted Alerting System (GTAS), which uses reverse 911 technology, we will also test the ability to provide targeted warning down to the individual household or business. This proven technology will be conducted in the National Capital Region in cooperation with NOAA's Forecast Systems Laboratory and DHS's National Capitol Region Office.

While conducting proof of concept pilots for improving alert and warning capabilities, we are simultaneously beginning to upgrade and expand the Primary Entry Point broadcast stations from a ground-based dial-up system to satellite transmission. This upgrade will expand the location of entry point receiver stations and will ensure their survivability in the event of a catastrophic attack on the homeland.

We recognize that there is no single solution set that will meet everyone's alert and warning requirements, that is why FEMA, IAIP and the Department has teamed up with NOAA, the FCC, and the private sector to find the most appropriate interoperable solutions to develop an Integrated Public Alert and Warning System (IPAWS). We believe that IPAWS, using digital technology in combination with upgraded Primary Entry Point EAS capabilities, will provide Federal, state and local emergency managers and leaders with the tools they need to protect America from both man—made and natural disasters. At the same time we are aware of the concerns of our state partners who have invested in their own alert and warning systems. With that in mind, IPAWS is intended to be fully interoperable with those systems using common alerting protocols

Mr. Chairman, these are just some examples of how FEMA and the Department of Homeland Security has taken seriously its responsibility to ensure the quick and accurate dissemination of alert and warning information to our homeland security partners and the American public.

Thank you again for the invitation to speak, for your support of the Department's mission, and for your interest in the Emergency Alert System. I will be pleased to answer any questions you may have.

Mr. SHADEGG. Mr. Dailey.

STATEMENT OF JAMES DAILEY, DIRECTOR OF HOMELAND SECURITY, FEDERAL COMMUNICATIONS COMMISSION

Mr. DAILEY. Good morning, Mr. Chairman and distinguished members of the subcommittee. I am James Dailey, Director of the Enforcement Bureau's Office of Homeland Security at the Federal Communications Commission, and I appreciate the opportunity to come before you today to talk about the Emergency Alert System.

For over 50 years, the United States has had a mechanism in place for the President to communicate with the public in the event

of a national emergency. Throughout this time, it has been the FCC's responsibility to ensure that the broadcast media had the capability to deliver Presidential emergency notification. That mechanism is the Emergency Alert System.

In general, the Commission's rules prescribe technical standards for EAS, procedures for radio and television stations and cable systems to follow in the event EAS is activated, and the EAS testing protocols. The current Emergency Alert System requires radio, television, and cable systems to deliver a Presidential activation of EAS, but their use of EAS and in response to State and local emergencies, while encouraged, is only voluntary.

Though the Cold War is behind us, we face a new homeland security threat, and the Commission is acutely aware of the importance to the American public of timely and effective emergency warnings. Exciting changes are occurring in all communications medium as the digital migration continues to sweep across the technological landscape. As a result of these changes, EAS has recently been the subject of extensive examination. A broad range of issues have been raised by citizens, the Commission's own Federal Advisory Committee, the Media Security and Reliability Council, public and private partnerships such as the Partnership of Public Warning, and our Federal and State partners.

To ensure that we do our part to contribute an efficient and up-to-date public alert and warning system, last month the Commission released a Notice of Proposed Rulemaking. The NPRM seeks comment on whether EAS is the most effective way to warn the American public of an emergency and, if not, how the system can be improved.

In the NPRM, the Commission raises broad questions about whether the technical capabilities of EAS are consistent with the Commission's mission to ensure that public warning take full advantage of current and emerging technologies. The NPRN also addresses the issue of the permissive nature of EAS at the State and local level and seeks comment on whether the voluntary nature of State and local EAS participation is appropriate in today's world.

Additionally, there are other various issues upon which the Commission seeks comment. For example, what the respective roles of the Federal departments and agencies involved in the implementation of EAS should be, how the delivery pipeline for public warning can be made more secure and how it can be tested, how both emergency managers and the public can utilize a public warning system in the most effective manner, and how a public warning system can most effectively provide warnings to the disabled community and communities for whom English is a second language. Indeed, a key focus is how to reach each and every citizen with the right emergency alert and warning information at the right time.

The FCC has and will continue through the NPRM proceeding to coordinate with DHS, FEMA, NOAA, and others. We anticipate that our Federal partners will be active participants in the proceedings. In addition to seeking comments from all interested individuals and Federal entities, we specifically seek the participation of State and local emergency management agencies and other interested parties; and, finally, we seek input from all elements of

the communications sector interested in developing a more effective alert and warning infrastructure.

As Chairman Powell noted in his statement supporting the EAS Notice of Proposed Rulemaking, the NPRN is, quote, one of many vehicles by which we collectively explore the most effective mechanism for warning the American public of an emergency and the role of EAS as we move further into our digital future, unquote.

We look forward to working with Congress, Federal, State, and local emergency managers, industry, the public, and others to ensure that we can provide such a warning system to the American people. I thank you, Mr. Chairman, for the opportunity to appear before you today, and I will pleased to answer any questions you and the members may have.

Mr. SHADEGG. Thank you very much, Mr. Dailey.

[The statement of Mr. Dailey follows:]

PREPARED STATEMENT OF JAMES A. DAILEY

EXECUTIVE SUMMARY OF JAMES DAILEY'S STATEMENT

Since the Cold War era, the United States has had a mechanism in place for the President to communicate with the public in the event of a national emergency. Throughout this time it has been the FCC's role to ensure that our licensees have the capability to deliver a Presidential level activation. Under the current Emergency Alert System, (known as EAS) all analog broadcast radio, television and cable systems are required to deliver a Presidential level activation of EAS, but their use of EAS in response to State and local emergencies, while encouraged, is voluntary.

Though the cold war is behind us, we still face homeland security threats and are acutely aware of the importance of timely and effective warnings. In addition, there are exciting changes in our communications medium as the digital migration continues to sweep across our country. As a result of these changes, EAS has recently been the subject of much examination. A broad range of issues have been raised by citizens, the Commission's federal advisory group the Media Security and Reliability Council, public/private partnerships such as the Partnership for Public Warning, and our federal and state partners. To ensure that we do our part to contribute to an efficient and technologically current public alert and warning system that can alert each and every citizen the Commission recently released a Notice of Proposed Rulemaking (NPRM) that seeks comment on whether the current EAS is the most effective way to warn the American public of an emergency and, if not, how the system can be improved.

In the NPRM, the Commission raises broad questions about whether the technical capabilities of EAS are consistent with the Commission's mission to ensure that public warning take full advantage of current and emerging technologies, particularly digital broadcast media. In the NPRM, the Commission also addresses the issue of the permissive nature of EAS at the state and local level and seeks comment on whether the voluntary nature of the state and local EAS structure is appropriate in today's world. Additionally, there are various miscellaneous issues upon which the Commission seeks comment. For example, what the respective roles of the federal government departments and agencies involved in the implementation of EAS should be, how the delivery pipeline for public warning can be made more secure and how it can be tested, how both emergency managers and the public can use and respond to a public warning system in the most effective manner, and how a public warning system can most effectively provide emergency warnings to the disabled community and communities for whom English is a second language. Indeed, a key focus is how to reach each and every citizen.

The issues addressed in the NPRM have been coordinated with the Department of Homeland Security (DHS) and its component, the Federal Emergency Management Agency, (FEMA), and with the National Oceanic and Atmospheric Administration (NOAA) and its component, the National Weather Service (NWS). The Commission values these agencies' continued participation in our review of EAS.

As Chairman Powell noted in his statement supporting the EAS Notice of Proposed Rulemaking, the EAS NPRM is "one of many vehicles by which we collectively explore the most effective mechanism for warning the American public of an emergency and the role of EAS as we move further into our digital future." We look for-

ward to working with Congress, our colleagues at other Federal and State agencies, and the public to ensure that we can provide such a warning system to our citizens.
Written Statement of James A. Dailey

INTRODUCTION

Mr. Chairman, Ranking Member, and Members of the Subcommittee:

Good morning. I am James A. Dailey, Director of the Enforcement Bureau's Office of Homeland Security at the Federal Communications Commission. I welcome this opportunity to appear before you to discuss the Emergency Alert System (known as EAS).

As Chairman Powell recently testified before the Senate Committee on Commerce, Science and Transportation, the FCC is committed to play our part in protecting our homeland and has designated Homeland Security as one of the Commission's six strategic goals, with particular attention to public safety and private sector readiness. The Commission is well aware that an effective public alert and warning system is an essential element of emergency preparedness, and that such a system is impossible without effective private sector participation. Accordingly, the Commission has been working with other Federal agencies and the private sector to ensure that the American public is provided with a robust, efficient and technologically current alert and warning system. This morning, I will provide you with a brief history of EAS and review the Commission's recent efforts to enhance and improve the system.

BACKGROUND

Since the early days of the Cold War, it has been the policy of the United States to ensure a mechanism exists whereby the President can notify the American Public in the event of a national emergency. This mechanism began in 1951 when President Truman established CONELRAD, which stands for Control of Electromagnetic Radiation. This early system had a two-fold purpose: one, to warn the public of an imminent attack; and two, to limit broadcasting and thus restrict the ability of enemy missiles to use broadcasters as targeting beacons. Subsequent systems, such as CONELRAD's replacement, the Emergency Broadcast System, established in 1963 by President Kennedy, and the current Emergency Alert System were not designed to thwart attack, but were still based on the perceived need to have a sole, last resort method for the President to contact the American public in time of emergency, when other communication channels may be unavailable. The national Presidential message that is the foundation of EAS relies on delivery through analog radio and television broadcast stations and wired and wireless cable systems, and when activated, would override all other broadcasts or cable transmissions, national and local, to deliver an audio message from the White House. This system, mandatory at the national level, is also available on a voluntary basis for states and localities to deliver local emergency notification.

CURRENT OPERATION OF THE EAS SYSTEM

The Federal Communications Commission, in conjunction with the Federal Emergency Management Agency (FEMA) and the National Weather Service (NWS), implements EAS at the federal level. The respective roles currently are based on a 1981 Memorandum of Understanding between FEMA, NWS, and the Commission, on a 1984 Executive Order, and on a 1995 Presidential Statement of Requirements.

EAS mandates only delivery of a "Presidential message" and the Commission's EAS rules primarily are concerned with the implementation of EAS in this national role. In general, the Commission's rules prescribe: (1) technical standards for EAS; (2) procedures for radio and television broadcast stations and cable systems to follow in the event EAS is activated; and (3) EAS testing protocols. Under the rules, national activation of EAS for a Presidential message is designed to provide the President the capability to transmit within ten minutes from any location at any time, and must take priority over any other message and preempt other messages in progress. Commission rules mandate EAS obligations only for analog radio and television stations, and wired and wireless cable television systems. Other systems, including, for example, low earth orbit satellite systems, paging, direct broadcast satellite (DBS), digital television (DTV), satellite Digital Audio Radio service (satellite DARS), and In-Band-On-Channel Digital Audio Broadcasting (IBOC DAB) currently have no EAS requirements.

Activation of the national-level EAS rests solely with the President. The Robert T. Stafford Disaster Relief and Emergency Assistance Act authorizes the President to make provisions for emergency preparedness communications and dissemination of warnings to governmental authorities and the civilian population in areas endangered by disasters. This authority has been delegated to the Department of Homeland Security's (DHS) Undersecretary for Emergency Preparedness and Response as

director of FEMA. FEMA acts as the White House's executive agent for the development, operations, and maintenance of the national level EAS and is responsible for implementation of the national level activation of EAS, as well as EAS tests and exercises. Further, the National Oceanic and Atmospheric Administration, through the National Weather Service, makes extensive use of EAS to report weather and other emergencies.

EAS is essentially a hierarchal distribution system. FEMA has designated 34 radio broadcast stations as Primary Entry Point (PEP) stations. At the request of the President, FEMA distributes "Presidential Level" messages to these PEP stations. As the entry point for national level EAS messages, the PEP stations are monitored in turn by other stations in the hierarchical chain. Broadcast stations and cable systems are required to monitor at least two EAS sources for Presidential alerts, as specified in their state EAS plans. Initiating an EAS message, whether at the national, state, or local level, is accomplished via dedicated EAS equipment. The EAS equipment provides a method for automatic interruption of regular programming and is capable of providing warnings in the primary language that is used by the station or cable system.

State Emergency Communications Committees and Local Emergency Communications Committees, comprised of emergency management personnel and volunteers from industry, may be established in each state and territory to prepare coordinated emergency communications systems and to develop state and local emergency communications plans and procedures making use of the EAS protocol and other Public Alert and Warning systems the state may use in combination with EAS. These committees also establish authentication procedures and the date and time of the required monthly EAS tests. FCC rules accommodate these state and local alert codes—such as the Amber alert code adopted by the FCC in 2002.

Along with its primary role as a national public warning system, EAS—and other emergency notification mechanisms—are part of an overall public alert and warning system, over which FEMA exercises jurisdiction. EAS use as part of such a public warning system at the state and local levels, while encouraged, is merely voluntary. Thus, although Federal, state, and local governments, and the consumer electronics industry are taking steps to ensure that alert and warning messages can be delivered by a responsive, robust and redundant system, at the state and local level the voluntary nature of EAS has resulted in an inconsistent application of EAS as a component of an overall public alert and warning system for the American public. The public receive most of their alert and warning information through the broadcaster's and cable systems' voluntary activations of the EAS system on behalf of state and local emergency managers.

CURRENT ISSUES

The communications landscape is now drastically different from the Cold War era when EAS and its predecessors were originally conceived. Thus, the top down, one size fits all EAS approach may no longer be appropriate. Also, the introduction of wireless and digital technologies has broadened significantly the media through which public alert and warning can be delivered.

Under Chairman Powell's leadership in the period after the tragic events of 9/11, the Commission, through the Homeland Security Policy Council, and more recently, the Enforcement Bureau's Office of Homeland Security, has worked to provide leadership to the industries the Commission regulates to evaluate and strengthen the Communications infrastructure. One of the most visible results of this effort is the Media Security and Reliability Council (known as MSRC), a Federal Advisory Committee created by the Commission in March 2002, and comprised of leaders from the radio, television, multi-channel video, public safety and disabled communities.

In March 2004, the MSRC's Public Communications and Safety Working Group reported on the efficacy of EAS as a public warning mechanism. The Partnership for Public Warning (known as PPW), a not-for-profit, public-private partnership incorporated in January 2002, with the goal of promoting and enhancing effective, integrated dissemination of public warnings, provided another analysis. Both MSRC's Working Group and PPW advocate upgrading, not replacing, EAS. In particular, PPW asserts that any new public warning system design should take advantage of the existing EAS infrastructure and should be able to accommodate existing EAS equipment, noting that it would be difficult to replace or rebuild such a capability today at a reasonable cost.

RULEMAKING PROCEEDING

Based in large part on the recommendations of the MSRC Working Group and PPW, the Commission, on August 4, 2004 adopted a Notice of Proposed Rulemaking (NRPM) to treat, in a comprehensive fashion, the efficacy of EAS and the role of EAS as part of an overall public alert and warning structure. The NPRM seeks com-

ment on whether EAS as currently constituted is the most effective and efficient public warning system that best takes advantage of appropriate technological advances and best responds to the public's need to obtain timely emergency information. The NPRM also seeks comment on rules the Commission may adopt to enhance the effectiveness of EAS. The Commission encourages commenters to take into account MSRC's and PPW's recommendations.

One of the central issues on which the Commission seeks comment is the current role of EAS in an age when the communications landscape has evolved from what it was when EAS predecessors—and EAS itself—were originally conceived. In the NPRM, the Commission also seeks comment on the future roles of the federal government departments and agencies involved in the implementation of EAS.

The NPRM asks questions about the technical capabilities of EAS. New technologies, such as digital television, cellular technology, and personal digital assistants are rapidly redefining the communication and broadcast landscape, making available to the public warning technologies that are far more flexible and effective than the analog mechanism currently employed by EAS. Because EAS relies almost exclusively on delivery through analog radio and television broadcast stations and cable systems, the NPRM asks whether EAS is outdated, how it could be made more efficient, and whether it should it be phased out in favor of a new model. Further, the Notice queries: If a new model were to be adopted, what legal and practical barriers must be overcome to ensure its implementation and effectiveness? What technologies should serve as the basis for such a model? Alternatively, should EAS requirements be extended to other services, such as digital TV, digital audio broadcast, digital audio radio, or cellular telephones? The NPRM also seeks comment on security issues relevant to EAS and on the important question of how best to supply an effective public warning system to the disabled community and non-English speakers.

The FCC already has begun—and will continue throughout this proceeding—to coordinate with DHS and its component, FEMA, and the Department of Commerce and its component, the National Oceanic and Atmospheric Administration's National Weather Service. We anticipate these federal partners will be active participants in the proceeding. In addition to seeking comments from all interested individuals and federal entities on the issues raised in the NPRM, we specifically seek the participation of state and local emergency planning organizations and solicit their views. Finally, we seek input from all telecommunications industries concerned about developing a more effective EAS. Comments are due October 29, 2004; reply comments are due November 29, 2004.

CONCLUSION

As Chairman Powell noted in his statement the EAS NPRM is "one of many vehicles by which we collectively explore the most effective mechanism for warning the American public of an emergency and the role of EAS as we move further into our digital future." We look forward to working with Congress, our colleagues at other Federal and State agencies, and the public to ensure that we can provide such a warning system to our citizens.

The FCC is also aware that the Congress is taking an active interest in the issue of public alert and warning, and would welcome Congressional guidance in this area that would bring added certainty to the industry. The Commission stands ready to provide whatever technical assistance that the Congress would find helpful in this regard.

I thank you, Mr. Chairman, for the opportunity to appear before you today. This concludes my testimony and I would be pleased to answer any questions you or the other members may have.

Mr. SHADEGG. Ms. Henning.

STATEMENT OF KATHLEEN HENNING, CERTIFIED EMERGENCY MANAGEMENT INTERNATIONAL ASSOCIATION OF EMERGENCY MANAGEMENT

Ms. HENNING. Thank you. Thank you, Chairman Shadegg, and Ranking Member Thompson and the distinguished members of the committee for allowing me the opportunity to testify on emergency warning for public responders and the public from the perspective of emergency managers.

I am Kathleen Henning. I am President of K.G. Henning & Associates. I am a board certified emergency manager. I have recently

retired from Montgomery County Maryland after 29 and a half years of service as the emergency manager; and I am here today to testify on behalf of the International Association of Emergency Managers, Daryl Spiewak, our President, and the 2,800 city and county emergency managers that make up our association. I appreciate your holding this hearing on what is a very important issue to us, and I would like for my full statement to be made a part of the record.

As they say, life is very short, and we should eat dessert first, so I am going to actually begin my statement with some of the things that I have put in my summary document.

There is clearly a role for the media, for government, for private and public partnerships when it comes to emergency warning, and we need to employ a comprehensive system, but we also need to make sure that it is integrated and that it is coordinated with State and local officials. While there are sirens that may work for some communities around nuclear power plants or chemical facilities, sirens are not going to be very effective in other jurisdictions, in large communities with multi-hazards. Weather radios—the NOAA weather radios work very well in most of the country, but the problem is that the citizens are not really using these radios to the best advantage. We really need to have a concerted national effort to get these important tools into vulnerable institutions such as hospitals and nursing homes and our schools and essential government facilities.

The EAS system clearly needs some work and has not been effectively utilized across the country. We need to have improved coordination with State and local officials, and we need to have mandatory capabilities for overriding and putting in emergency messages.

We are also challenged by the mobility of our communities today. People move across jurisdictional lines. As responders, we have to go across jurisdictional lines. So it is very important that we take advantage of all the technologies that are out there—the cell phones, the telephones, the reverse 911 systems, the automated notification systems, the blackberries and other technologies that are out there and must be made available on a 24/7 basis. We need to look at all of these systems, but the systems, in order to be effective, have to be reliable, effective, redundant, and appropriate to our community needs.

Some of the things that we would like to emphasize in looking at these systems are to make sure that we use an all hazards approach and that we stay connected. After September 11th, we as a community looked at homeland security issues. We need to stay connected with our Federal officials, need to stay connected with our State officials, need to stay connected with our local officials, need to stay connected, most importantly, with the clients we serve, who are the citizens. We have to not say "what if" but anticipate that there will be major disruptions to power and have systems that can work despite that.

We are facing new challenges. I was part of the EOC that responded to the sniper attacks that affected Washington, D.C., and one of the things that was very important to us and that was successful was getting messages out to the schools to make sure that they could lock down quickly.

We have already experienced the problems of bioterrorism, the anthrax attacks, for example. There were public health officials who couldn't talk to other public health officials directly across lines. And that is one of the areas, for example, where you are not going to be very effective if you are only using sound bites. You really are going to need to put out more detailed information to be able to share that information.

I have mentioned the mobility of our citizens and that FEMA is asking us to look at warning issues through mutual aid agreements and other plans. I think we need to improve our public partnerships.

The State Director of Emergency Management in Florida, Craig Fugate, said last year, you can purchase a lot of equipment, you can train your emergency managers, but if you can't reach the people at 3:00 in the morning, you are just not going to effectively improve the outcome. And that is what we need to do. We need to have a system that can reach our people 24 hours a day and that is integrated with State and local officials.

I want to thank you very much for the opportunity to come and testify today, and I am glad to answer any questions that you have at the end of our statements. Thank you very much.

Mr. SHADEGG. Thank you very much for your opening statement.

[The statement of Ms. Henning follows:]

PREPARED STATEMENT OF KATHLEEN HENNING

Introduction

Thank you Chairman Shadegg and Ranking Member Thompson, and distinguished members of the Committee for allowing me the opportunity to provide you with testimony on Emergency Warning Systems, and ways to notify the public from the perspective of the Emergency Management community.

I am Kathleen Henning, President of K.G.Henning & Associates, a certified emergency manager, and retired Program Coordinator of Montgomery County, Maryland Office of Emergency Management. I retired last February as the Emergency Manager after 29 1/2 years of service to the County. I am here today representing IAEM President Daryl Spiewak of Waco, Texas, and the International Association of Emergency Managers (IAEM). Currently, I am a member of the IAEM Governmental Affairs Committee and I come before you today to represent the 2800 city and county emergency management professionals in the 50 states and the U.S. territories who are its core members. IAEM's members are responsible for emergency preparedness, mitigation, response and recovery activities and report to elected officials to ensure the public is warned in times of emergency. We appreciate your holding this hearing and focusing attention on this important issue.

All Hazards Approach

The International Association of Emergency Managers takes the position that the focus for public alerts and warnings must maintain an All-Hazards Approach. We have all been reminded of the importance of warnings for hurricanes, floods, and tornadoes by Hurricanes Charley, Francis, and Ivan. IAEM President Daryl Spiewak, CEM, reminds us that in addition to dealing with these deadly and destructive storms, our emergency managers continue to deal with other all hazard issues such as extreme summer heat, wildland fires, power losses, early winter storms, hazardous materials events, transportation and utility disruptions, as well as terrorist threats and activities.

Need to Stay Connected

In a post September 11th world, where citizen populations and public infrastructure may increasingly be targets for acts of violence, it is critically important to remain connected to both federal and local sources of information.

Disruptions to power and utilities, whether from severe weather—or from threats to homeland security—require redundant emergency alert and warning systems.

New Era of Homeland Security

Citizens are facing new challenges on the home front. During the Sniper Attacks in the National Capital Region, Montgomery County, Maryland, relied on a number of means to alert its citizens. The Emergency Operations Center was activated as information was collected and evaluated from Police and Fire officials. Especially important was the existing emergency management partnership with the schools which allowed rapid dissemination of alert information to school officials to warn elementary and secondary schools to lock down. Federal Bureau of Investigation officials and County Police held televised joint press conferences to ensure information was shared among agencies and consistent information was given to citizens. Citizens and government officials relied on the broadcast industry for detailed coverage of the unfolding event. In addition government officials used the media to convey warnings about potential suspects and important safety information. The Sniper Attacks demonstrated how coordination would be handled across jurisdictional lines.

Bioterrorist Event

Similarly, in the event of a bioterrorist attack there would need to coordination among health officials and various governmental organizations. Quarantine and isolation measures might need to be quickly implemented to stop the rapid spread of diseases such as smallpox. Specific and detailed information would need to be promptly delivered to millions of individuals for certain public strategies such as quarantines to be effective.

Mobility and Interoperability Challenges

Warning information is important not only to the individuals in harm's way, but also to their families, employers, and others who travel through the area. Our citizens are highly mobile and often move between jurisdictions. Information about what is happening in other jurisdictions is also important to local responders. The efforts of the Department of Homeland Security and the Federal Emergency Management Agency to increase the use of mutual aid agreements make it critically important that there be a broader and more rapid sharing of emergency information among the jurisdictions which may be involved. The need to maintain readiness without compromising our capability to respond to threats of terrorism means this information may need to be rapidly and effectively exchanged in a secure environment among emergency management organizations. Some communities have the capability to provide warnings to their citizens from a broad range of hazards. But statewide warning systems are often incomplete or non-existent. Part of the warning system must include the ability of counties and large cities to provide rapid information to smaller municipalities and townships where appropriate. We need to expand our capability to activate cell phones, pagers, Blackberries, and call telephones on a twenty-four hour basis. As noted before, it is time to look to new technologies to meet the needs of our citizens.

Tools of the Trade

Local governments through their Offices of Emergency Management are accountable for warning the public of imminent danger and should have the tools to do the job. These tools vary and may include: partnerships with the National Weather Service and local broadcast stations; use of the Internet and World Wide Web access alert systems; automated notification systems; outdoor warning systems like sirens; and. when needed—door-to-door notifications by Police, Fire and other public safety officials. While sirens may work in some communities well versed in a single hazard such as a nuclear power plant, a chemical plant, or tornadoes, they are not effective for multiple hazards. A high degree of public awareness is vital to the success of sirens. It is time to look to new technologies to meet the needs of our citizens. Warning systems need to be reliable, effective, redundant, and appropriate to local needs with clearly devised messages. An integration of several systems is still the most effective overall strategy for warning systems.

NOAA Weather Radios and Vulnerable Groups

IAEM supports the partnership of NWS and the Emergency Alerting System (EAS), but encourages improvements to the current system. NOAA Weather Radio remains the NWS's primary input to EAS. The NWS provides weather, hydrologic and climate forecasts and warnings for the United States and its territories. Because we are linked so closely together as a country, our economy is impacted by weather and events that happen across state lines and on opposite sides of the country, and as such, it is important to maintain this national information source. State and local authorities want the ability to input messages for all types of hazardous events on EAS and be able to remotely access the equipment at all hours of the day. Craig Fugate, Director of Emergency Management for the State of Florida has said "You can purchase a lot of equipment and do a lot of training for first responders, but if you can't warn the public at 3:00AM, you haven't really improved the outcome

of the event." To support state and local officials, there is an immediate need for mitigation and prevention funds to support the purchase of NOAA Weather Radios for elementary and secondary schools, vulnerable facilities, and for essential governmental buildings. Some communities have used FEMA mitigation funds to purchase radios for schools throughout their district while others, such as the State of Maryland, used the FEMA mitigation funds to provide radios for schools throughout the state. In Kansas City, Project Community Alert partnered with a major grocery chain to sell over 30,000 radios to the community and used mitigation funds for three Kansas and five Missouri counties to purchase the radios for high risk facilities. We would like to see these types of programs expanded with partnerships with private industry to encourage the use of NOAA radios in all schools, day cares, nursing homes, hospitals, public safety buildings, and general public facilities. A concerted national commitment is needed to expand the use of these radios in all occupied structures but especially in vulnerable institutions and essential government buildings.

NOAA for Homeland Security Events

We would like to see the use of NOAA Weather Alert Radios as a major method of alerting the public on homeland security events. The Department of Homeland Security has been working with NOAA to designate them as a means of public warning and we would encourage the expansion and support of that project. Reaching vulnerable populations is critically important. NOAA radios provide the added protection of round the clock 24/7 immediate notice.

EAS

Emergency Managers need a fast, reliable way to inject messages into the Emergency Alert System (EAS). At this time no single technical solution has been federally mandated or funded to do this. Local jurisdictions adopt warning systems customized to meet their own needs. Decentralization has resulted in a lack of standardization of messages and confusion in public awareness. But there can be benefits to multiple interfaces. For example, using multiple interfaces with the NWS's Weather Forecast Offices? Advanced Weather Interactive Processing System (AWIPS) provides redundancy if a primary system goes down due to hurricanes or other severe weather. Having multiple centers on different servers can also provide a degree of protection from computer viruses and hackers. Another issue for EAS is the need for improved coordination and integration with state and local resources. While Homeland Security would clearly dictate the need to activate the system, there are numerous smaller events that warrant its use. Without more frequent use and testing, the system's inadequacies will not be corrected for use with homeland security. Improvements are needed for Emergency Operations Center and Public Safety Dispatch center installations, as well as training of personnel on its use.

Internet Access

Use of the Internet and World Wide Web is especially valuable in the preparedness phase of an emergency to advise citizens to update family emergency notification lists, restock disaster kits, and ensure special needs are handled. More importantly state and local emergency management and government websites provide specific and more detailed information customized for local needs. This includes evacuation and egress routes, site-specific data about environmental conditions, road closings, or hazardous conditions. The Internet provides access to Doppler Weather Radar, satellite imagery, and hazardous weather conditions critical to the safety of first responders, if the information can get to the responders in a timely fashion.

Media Role and Evacuations

There is a role for media broadcasters, especially in helping to educate the public. A positive role is providing pre-event storm messages to the public on the differences in meaning from weather advisories, watches, and warnings. Similarly they can assist in encouraging preparedness measures. However, during emergencies it is critically important that the media carefully coordinate with local officials for announcements about protective actions. This coordination is vital to avoid confusing the public with contradictory messages on important issues. In addition, images of newscasters standing on beaches during high winds may send conflicting messages about the safety of seeking shelter or following evacuation orders. Studies have indicated that people consider a wide variety of factors in making their evacuation decision. According to a study by Dr. Kirstin Dow "the media—especially the Weather Channel—is viewed as the most reliable information source? and is highly influential in making evacuation decisions. This points out how important the partnership must be between the media and city and county officials who are issuing evacuation orders.

NWS IT Interface
Among the diverse strategies available for warning is the National Weather Service's effort to implement a centralized point of collection for non-weather related emergency messages. These would be broadcast over existing NWS dissemination systems. The NWS is working on an All-Hazards Emergency Message Collection System called HazCollect IT system, expected to be released in the fall of 2005. HazCollect will provide an IT interface between state and local systems such as EMnet and the NWS Advanced Weather Interactive Processing System (AWIPS) through FEMA's Disaster Management Interoperability Services.

Cable Access
Due the changes in viewing habits, more and more citizens now watch cable and direct satellite programming, and it is equally important to reach this audience with EAS messages. In the past IAEM has objected to the practice of cable systems overriding broadcaster's programming of state and local Emergency Alert System messages. Mandatory messages would improve the early warning system.

Rural Communities
A great many communities across this country are sparsely populated, rural, and with limited financial resources. Among the resources they lack is a full-time dedicated emergency management agency director and emergency alert systems capable of reaching isolated populations. IAEM supports increases to the Emergency Management Performance Grants (EMPG)—the only source of all hazard federal funding supporting state and local government emergency management personnel and organizations.

StormReady Program
The International Association of Emergency Managers supports the NWS *StormReady* program, promoting adequate warning and alert systems, effective Emergency Operations Centers, and prompt dispatch of public safety resources. Encouraging communities to strive for *StormReady* designation is a partnership which will help communities be better prepared to save lives through emergency planning, effective warnings, education, and awareness of severe weather conditions.

FCC
IAEM has not yet taken a position on the new regulations introduced by FCC last month, but our members are reviewing the proposals.

Research and Development
There has always been a need for enhanced funding for research and development for public warning capability. We believe it has to be multi-faceted to be effective. We support research and development in the various phases and elements of warning systems, but we do not want it limited to promoting a single technology. Warnings need to be reliable, effective, redundant, and appropriate to local needs and flexible and adaptable to new technologies. We believe that having the ability to integrate several systems is still the most effective overall strategy, and research and development should look at the integration issues as well.

Summary
There is clearly a role for the media, private sector, and government, but those roles need to be coordinated and integrated. While sirens may work in some areas, they would not be effective in many other areas. Weather radios work well in most areas, but their use by citizens is limited at best. A concerted national commitment is needed to expand the use of NOAA radios in all schools, hospitals, nursing homes, day and elder cares and other vulnerable institutions. The EAS system needs work and improved integration with state and local governmental entities. Today we are challenged by the mobility of our population that moves across jurisdictions for homes, work, and schools. We need to expand our capability to activate cell phones, pagers, Blackberries, and call telephones on a twenty-four hour basis. As noted before, it is time to look to new technologies to meet the needs of our citizens. Warning systems need to be reliable, effective, redundant, and appropriate to local needs with clearly devised messages. IAEM supports an integration of several systems, in coordination with state and local governments and organizations, as the most effective overall strategy for warning systems.

Thank you again for the opportunity to participate in this important hearing. I would be pleased to answer any question you have and are available for any questions that you may have regarding this presentation.

Mr. SHADEGG. Mr. Hoover, let me begin with you.

I don't know if you referred to all of these, but I understand FEMA has four pilot projects going on. I know you mentioned the

digital EAS pilot project in the Capitol region with public television. There are three others, as I understand: the Integrated Public Alert and Warning System study, some $350,000; the EAS primary entry point satellite network upgrade; and the Geo-Targeted Telephone Alert and Warning System.

For consumers of this kind of information, how soon can we expect these pilot projects to take us to the next step, that is, the implementation of an improved warning system? As the Ranking Member said, we are still dealing with somewhat of an outdated, outmoded system, and it seems to me the American people deserve to know not only that we are making progress but what the time line for that progress is.

Mr. HOOVER. Thank you, Mr. Chairman, for that question. And we are making great progress, and I think you summed up actually the four projects that we are doing.

There are two very critical things going on at the same time. The first is this digital pilot that we are doing with public television here in the National Capital Region. That is a 6-month pilot; and we expect that the success of that pilot will then be able to take it nationwide. So within the next 6 months we ought to be looking at is that system working to provide us the digital backbone that the APTS has offered to the Federal Government and to the Department of Homeland Security basically free of charge to be good partners with us in Homeland Security. That can then form the backbone of a national digital system that is interoperable.

The other piece that is going on and is one of the findings that the MSRC and also PPW, Partnership for Public Warning, came up with was that we needed to improve and enhance the current EAS system, that is, those 34 primary entry point stations that I mentioned in my remarks. All of those folks have said we don't need to create a new system, we need to upgrade what we are doing. So with one of the four projects that you mentioned is to start the upgrade from the dial-up capability that we have now to a satellite-based system, and we believe we will have that in place by the end of next year.

Mr. SHADEGG. You mentioned in your testimony reverse 911. Can you explain reverse 911 for the committee and the public?

Mr. HOOVER. No.

Mr. SHADEGG. That was the answer my staff gave me when I asked that.

Mr. HOOVER. Mr. Chairman, my understanding of the reverse 911, it builds on the capability to dial back to you from your home, from your home phone number, similar to the caller ID. And with my technical folks, maybe we can get you a much better explanation.

But the specifics of what we are doing with this geo-targeting capability takes the reverse 911 capability kind of to the next level that we have—they have basically geo-coded down to the individual household and business all of the phone numbers in the area, and so we will be able to pinpoint exactly, using plume modeling or any other model that is out there, a telephone call back to somebody and give them a particular warning or alert message. So we are very excited about the technology that has already been proven and NOAA has been demonstrating—I think in Houston is where they

have used it—and now we want to take that and try to integrate that into the overall structure of the Integrated Public Alert and Warning System.

Mr. SHADEGG. AMBER alert has appeared to demonstrate pretty stunning success so far. There have been 150 children successfully recovered. Is AMBER alert the model for the future in terms of these warning systems, or are there things that should be taken from AMBER alert and expanded beyond that?

Mr. HOOVER. I think the second part of your answer, Mr. Chairman. AMBER alert is certainly one solution set that is out there. And what we need, and I think the members have pointed out, is we need to have a common alerting protocol so that as whatever the messages are that are common across the board from the State, from the local, and from the Federal Government as we use the system, the model that the AMBER alert folks have put forward, and certainly your State in Arizona with the AMBER alert portal, certainly seems to be something we are interested in; and we want to try to integrate a portal-like look to the digital pilot that we are doing here in the National Capital Region.

Mr. SHADEGG. Mr. Dailey, is your role limited to setting up the structure or are you active participants in creating the system? And I guess I am thinking of specifically the ability to use pagers, the ability to use this kind of a device for notification, the ability to use cell phones for notification.

Mr. DAILEY. We have multiple roles. The current system that is mandated for the Presidential delivery is in the FCC rules. The broadcasters must participate. They must install the equipment. We inspect the broadcast stations on a random basis to make sure the equipment is there and functional so that it can be used by the President when needed. And, as you said, it has never been used for that function. So when not used by the President, it can be used on a voluntary basis. But the equipment, the infrastructure is there.

So the questions that we ask in our Notice of Proposed Rulemaking is, fundamentally, what do we need to do to mandate or should we mandate participation in alert and warning at various levels or can the marketplace forces and the community forces be sufficient to provide an appropriate alert and warning system?

Because we are really talking about several layers of alert and warning. We have the Presidential or national alert warning or, for the command structure of the country, a system whereby the Secretary of the Department of Homeland Security can address the Nation. Then you want an alert and warning system that permits the governor the same option, and you want a system that permits the mayor or the county emergency manager or the county executive director to have that same option. So you are talking about a layered system, and how we would implement that and whether it needs to be mandated or not is really the broad question.

Mr. SHADEGG. Ms. Henning, although my time has expired, I will try to get you in the second round. You are the consumer on this panel who can tell us how these other gentlemen are doing their jobs.

I would now call on Mr. Thompson, the Ranking Member, for his questions.

Mr. THOMPSON. Thank you, Mr. Chairman.

And I would—Mr. Hoover, Mr. Dailey, you can choose which one would want to go first, but since a lot of what we are talking about came about because of 9/11, can you tell me why we didn't have a Presidential alert on 9/11?

Mr. HOOVER. The current EAS system was designed during the Cold War; and I think, as one of the members pointed out, in the 1950s it was designed to warn the Nation of an impending nuclear strike on the country. It was designed to put the President on a nationwide message to the country to tell them, you know, that missiles are inbound or perhaps the missiles have already struck and give critical information to the Nation in time of emergency.

This September 11th attack—and I was not in the government at the time. But the September 11th attack was not something that the system was necessarily designed to use at the national level but certainly could have been used at the State and local level. There are provisions, as Mr. Dailey pointed out, for State and local emergency managers to activate and use the system, as well as the State governors could use the system if they wanted to.

Mr. THOMPSON. Well, you know, some of us were directly involved in it; and we saw no warning of any kind. And if members of Congress didn't get any warning, you know, the public is assuming that this system should work. And I guess the question been answered.

The other part is, how many people actually got notified by our emergency warning system on 9/11?

Mr. HOOVER. Mr. Thompson, I don't know the answer to that, but we can try to find the answer for you.

Mr. THOMPSON. Well, then I will take it another step. How many could potentially have been warned under the existing system?

Mr. HOOVER. Mr. Thompson, under the existing system we believe that we can reach at least 95 percent of the Nation.

Mr. THOMPSON. At 9/11.

Mr. HOOVER. At 9/11, when the system that we currently have, which is the system that we had in place on 9/11, the system is designed through the 34 primary entry point stations to reach 95 percent of the American public.

Mr. THOMPSON. But it is your testimony today that we didn't use it.

Mr. HOOVER. That is correct. We did not use it on September 11th at the national level.

Mr. THOMPSON. Well, that is kind of startling to have it and not use it, and the public would assume—but we will go forward. I understand that we put a working group together to start looking at some of these issues around our emergency warning system, and the White House report recommended that this group be put together to do a single, consistent, easily understood terminology, biohazards and situations. Had we put that group together?

Mr. HOOVER. I am not sure which group you are referring to, but there have been a number of groups. The FCC has put together a Media Security and Reliability Council that we have been a part of to look at all of the issues surrounding improving the EAS. And perhaps Mr. Dailey can talk a little bit more on that.

I can tell you, from our perspective, we have brought together members of the State and local government, we have met with members of the media and our other partners within the government, NOAA and IAIP, to develop what we believe is a very useful and great potential solution to improving the current state of the—

Mr. THOMPSON. Well, the specific report was a White House report issued in 2000 that recommended a working group be established. And my question is whether or not, to your knowledge, was it ever established?

Mr. HOOVER. No, I don't think so. But I will go back, and we can check back on that.

Mr. THOMPSON. Okay. The report was entitled Effective Disaster Warnings, and it was quite clear that certain things ought to be handled.

The other issue speaks to the same White House report, recommended that warnings should be delivered through as many communication channels as practical so that the users who had risks, inside or outside, at work, home, school, or shopping, or in transportation—have we done that today?

Mr. HOOVER. Yes, sir, we have. We are moving forward with funding that was provided in the President's 2004 budget that was $10 million dollars to IAIP. We have now developed the capability to do that. We have not deployed that capability, and we believe that using the digital backbone that the public television service stations are offering to us, that we will be able to do it.

Mr. THOMPSON. Just to follow up. How far are we from having the system?

Mr. HOOVER. We are within weeks of deploying a digital EAS capability here in the National Capital Region, which will then be able to reach the re-transmission medium. And I should point out that we have also engaged the cell phone service providers to be involved in that project so that we can not only talk to folks or send messages out over the TV and radio but also call you on your cell phone, your pager, your PDA.

Mr. THOMPSON. I understand. Capital Region. But what about Mr. Cox in California?

Mr. HOOVER. Mr. Cox in California does not yet have the capability that we have—we are going to demonstrate here in the National Capital Region. We believe that it will be successful and that by the end of next year we will be able to take that digital backbone and go nationwide with it.

Mr. SHADEGG. By unanimous consent, the Ranking Member of the full committee was to be afforded an opportunity to make an opening statement. He has now arrived.

Mr. Turner, would you like to make any opening comments?

Mr. TURNER. I am fine. Thank you, Mr. Chairman.

Mr. SHADEGG. The Chair would call upon the chairman of the full committee, Mr. Cox, for questions.

Mr. COX. Thank you.

I would just like to continue with Mr. Thompson's inquiry. The digital capability that we are exploring is aimed in the pilot project here in Washington at cell phones?

Mr. HOOVER. Yes. Mr. Cox, what we are doing with the Association for Public Television Stations and the public and the digital

capability that they are offering us is we are trying to have an open architecture, non-proprietary system that will be interoperable with State and local government and other systems that States have already invested in.

Mr. COX. Did you say 60 days is the length of the pilot?

Mr. HOOVER. The pilot? Six months.

Mr. COX. Six months. And will you demonstrate within a 6-month period cell phone capability?

Mr. HOOVER. Yes. We have been in active discussions with T-Mobile, with Verizon and Nextel to be involved in and engaged in the pilot project with us.

Mr. COX. And do you know what happens if I am on a call?

Mr. HOOVER. I do not.

Mr. COX. Is this digital capability going to reach e-mail devices?

Mr. HOOVER. Yes.

Mr. COX. And will the capability be demonstrated, for example, on a Blackberry or on e-mail-equipped cell phones?

Mr. HOOVER. Yes. And I should point out as well, we have been in discussion with the Weather Channel, which has been a great partner with FEMA over the years, in using some of their capability. Because they also have that capability and have demonstrated a nationwide capability to alert you on your cell phone, on your pager, on your telephone of weather warnings in your area. That is a subscription service, and we are very interested in—next month in October—meeting with the Weather Channel as a follow-up to integrate them into this as well.

Mr. COX. How does the digital backbone open architecture pilot address Ms. Henning's main point, that you have got to reach people at 3:00 in the morning when they are asleep?

Mr. HOOVER. Well, that is certainly one of the challenges. And there are manufacturers that we are aware of that have developed some capability—maybe Mr. Dailey can address that—where that will turn on your television or turn on your radio or shake the bed. And there is other technologies.

Mr. COX. I was trying to make this an easy question. Most people in America have telephones. Isn't that the good news?

Mr. HOOVER. Yes, sir.

Mr. COX. Can't we just call them?

Mr. HOOVER. We can. And that is the reverse 911, that geo-targeting technology.

Mr. COX. Is that going to be part of this demonstration?

Mr. HOOVER. Yes, it is.

Mr. COX. So somebody can get a call at 3:00 in the morning as part of this pilot?

Mr. HOOVER. Potentially, yes, sir.

Mr. COX. Hopefully not potentially, or we haven't demonstrated much.

Now, on the existing system that was designed for the President, my understanding is that legally, even though other people can use this system, only the President can make it mandatory. Is that right?

Mr. HOOVER. Yes, that is correct. The Presidential message is the only mandatory message that is required to be carried over the system. But there are four priority messages. The State governor has

the capability to send a message as well. But the Presidential message will always take priority.

Mr. COX. When the governor decides to send a message, does that also—is that also command and control? So it is not discretionary for broadcasters?

Mr. HOOVER. It is discretionary. Only the President's message is a mandatory message.

Mr. COX. I am just now thinking about a real emergency; and if the ability to command the system is limited to the President or his constitutionally designated successor and there is something that happened to the President or the President just happens to be carried someplace where he can't access this, then we can't use it.

It is also limited to only 2 minutes. Isn't that right?

Mr. HOOVER. No, the Presidential message, Mr. Cox, is an unlimited message, and we do have the capability to reach either the President or the statutory successor President from anyplace to get that system activated.

Mr. COX. Well, provided there is nothing wrong with him.

Mr. HOOVER. Provided there is nothing wrong with the President?

Mr. COX. I mean, what you have got to operate here is either the statutory succession process or you have got to have the President constitutionally disabled. But anything short of that and just that system is not going to work.

What I want to ask you is how much of that is a regulation and how much of that can we clarify through executive action and how much of it needs to be fixed by Congress?

Mr. HOOVER. I would defer to Mr. Dailey to answer that question.

Mr. DAILEY. The short answer is I don't know. The basis of the Emergency Alert System is a Presidential statement of requirements that has been renewed over the years in which the President requests to have the capability to address the public within 10 minutes, and so the system is designed to do that. Whether or not it will take legislation or changes in the Presidential statement requirements to implement a more enhanced or expanded service—

Mr. COX. If you can get back to us, that is fine.

Mr. DAILEY. Okay.

Mr. COX. Now, the system is capable of being used regionally. Under existing law and regulations, can the President decide to use it regionally? Can we have a mandatory use of the system that does not operate nationwide?

Mr. HOOVER. I don't know the mechanics of that, Mr. Cox, but we can find the answer—and maybe you do. I don't know, if we turn it on at the national level, if that automatically every station has to carry or if it can be regionalized.

Mr. COX. My time has expired. I appreciate your answer and look forward to the follow-up information.

Mr. Chairman, I think it is very important that the President not be the only person in extremis who might be able to issue these warnings, that there ought to be a process that the President is comfortable with for this to operate without interruption.

I also think it is very important, as we have found in so many other hearings in this committee, that such a system be able to op-

erate regionally and that it not be a discretionary system in that situation.

Mr. SHADEGG. I think the regional operation is very, very important.

Mr. Hoover, you mentioned the ability to remotely turn on the television, and you actually touched on a topic that is very sensitive. Whenever I want to reach my wife, she has her cell phone off. And I have warned her that I am going to invent a cell phone that I can turn on remotely so that when I need to reach her I can remotely turn on her cell phone and reach her. And, apparently, somebody is already working on that, so I need to talk to those people.

Mr. HOOVER. Mr. Chairman, if I may, my technical folks and the guy that really runs the system tells me that the signal can be—the EAS message can be regionalized when we turn it on.

Mr. SHADEGG. I think most husbands in America would buy this cell phone and give it to their wives to turn it on remotely, because I am not the only husband who has this problem.

The Chair would call on the gentleman from North Carolina, Mr. Etheridge, for questions.

Mr. ETHERIDGE. Thank you, Mr. Chairman. I am not going to turn the test the cell phone, turning it off or on. I have enough trouble keeping mine off.

Thank you, and thank you all for being here.

Let me follow up on some of the questioning as it relates to notification. Because we had a system in the 1950s that hasn't been upgraded. It is quite obvious you wouldn't want to drive a car—there aren't many on the road—built in the 1950s, truthfully. My question is this. Because, as we deal with—our country has changed dramatically since the 1950s. Languages have changed, the ability to—are we looking at how we can send this signal out in more than English, especially regionally, where areas are changing dramatically in terms of patterns of language?

Mr. DAILEY. Yes, sir. That is one of the questions specifically that we ask in our Notice of Proposed Rulemaking, is how we can address that.

Mr. ETHERIDGE. Is that now being done currently, in the current warning system?

Mr. DAILEY. In the current warning system, the broadcast stations—our rules permit them to broadcast alerts and warnings in the primary language of the station. So we—previously, it was—the anticipation was that everything would be done in English. But we changed our rules years ago to permit a primarily Spanish language station—to permit it to carry its warnings in Spanish for its constituents.

Mr. ETHERIDGE. Well, it seems to me, having had a radio station at one time, it is very simple just to say to them when they send the message out, because it is broadcast by the Federal Government on emergencies—it seems to me to be a very simple matter. When you send it in English, repeat it in Spanish. That doesn't cost any money, right?

Mr. DAILEY. Well, there has to be the capability to do that conversion, which costs—I mean, you are talking about the staff time to do it.

Mr. ETHERIDGE. No, you misunderstand it. When you send it out to the radio and media markets, when you send one signal and you turn that signal on, the signal can be in English and it can be in Spanish, if that be the language that is predominant. That is not a problem, right?

Mr. DAILEY. That is correct.

Mr. ETHERIDGE. So why aren't we doing it?

Mr. DAILEY. The primary alert warning system input is spoken language, and so the simultaneous translation becomes the technology issue.

Mr. ETHERIDGE. That was not the issue. You can give it in English, and then you can give it in Spanish. It seems to me that is pretty simple. Would you agree?

Mr. DAILEY. Yes, sir.

Mr. ETHERIDGE. Who do we need to contact to get that done?

Mr. DAILEY. I think we have to talk to the Emergency Management Association. Ms. Henning may be able to comment on that. Because the people who have the information and who have the alert and warning are the people who can make that conversion, control the content.

Mr. ETHERIDGE. We are talking about apples and oranges here. What I am talking about, when the message comes out to the radio stations, the TV stations, the other media activate—it is activated somewhere. You test it on a monthly basis.

Mr. DAILEY. Yes.

Mr. ETHERIDGE. It seems to me it is very simple. When they read it, we could read it in English, and then we could read it in Spanish. Could someone help me with that? I mean, I really don't understand why that can't be done, because I have been on the receiving end when it was activated.

Mr. COX. Would the gentleman yield? I have a question.

If these are interruptions to normal programming, isn't it a fair assumption that somebody who doesn't speak Chinese isn't listening to a Chinese language station, or somebody who doesn't speak Spanish isn't listening to that Spanish language station? So that the approach, Mr. Dailey, I thought I heard you say you were taking already, would make more sense, which is that those messages get broadcast in the language that the person was just listening to before you interrupted.

Mr. ETHERIDGE. Reclaiming my time.

Mr. Chairman, I can agree with that. But when you are watching TV, in many cases—TV is a different medium than radio, because I would assume it would be on radio. But, on TV, that may be the only one you have. And it is a very simple matter, I think, to add it; and I hope you will check into that and get back to me in writing. I will settle for that.

Ms. Henning, let me ask you a question. Because when the Montgomery, Maryland, emergency problems were going on as it was with the sniper, you were there and involved in that. Let me give a couple questions and give you a chance to respond before my time runs out.

During the attack, would you describe some of the obstacles you had to overcome to get fast, accurate information to the schools and to the parents? Because the whole community was involved, but

this was a group that was really on the edge. And what did you do to overcome them?

And, secondly, what recommendations do you have to counties and municipalities to change the communication you are sending out that would really help make a difference? I think this is one of those areas we tend to forget sometimes, and you have a lot of people in an area that really don't get the information.

Ms. HENNING. Thank you, sir.

On that day, it was a very difficult and very challenging situation. The information came very quickly into our 911 center, and so we were able to put it out to the emergency fire department, to police, and other public safety agencies into the emergency operation center and through networks out to the schools, so that the schools and the administrators were getting the information.

But when you begin to talk about the information out to the public, that was an entirely different issue. We were not able to use the Emergency Alert System. It was not set up. The equipment was not in full operation at the time. We made calls from our public information office immediately to the broadcast industries who started putting the information out, and we got scrolls across the TV, and then the story was picked up. We were able to utilize the ability of having frequent press conferences to get the information out to the public and to advise the public to take the protective measures.

It would have been extremely helpful had we had the ability to put information out to pagers PDA devices cell phones, and others devices, but we didn't have that capability coming out of our 911 center, and we had to rely on what was going on in the standard broadcast industry. It also meant that people who were watching on the cable stations or who had the satellite TV were not getting those messages, because a lot of that was not being put out. So one of the things that we look for as State and local emergency managers is to have the mandatory messaging that will go out on a broad spectrum of media to help us out.

Mr. SHADEGG. The time of the gentleman has expired.

The Chair would now call on the gentleman from Pennsylvania, Mr. Weldon, for questions.

Mr. WELDON. I thank the Chairman.

I am going to take a different approach to my line of questions, because the focus by my colleagues is on the emergency warnings to public, and my line is going to deal with two specific initiatives that have caused me a great deal of frustration over the past dozen years that go to the first responder community and then directly to the public.

The first deals with forest fires in America, a major concern to our homeland. We spend a billion dollars a year in responding to wild lands and forest fires—on average, we spend $3 to $5 billion—and we lose the—loss of life, both civilians, significant property, as well as to firefighters themselves.

It was 8 years ago when I chaired the Defense R&D Subcommittee that I led the reallocation of money to create a program that used our classified and unclassified satellites that are used to detect rocket launches to detect the immediate start of a wild land forest fire the size of a quarter of an acre. That program developed

and was tested and became known as FIRESAT. The Raytheon Corporation became a prime contractor. It involved multi-agencies: Geological Survey, the Forestry Service, Interior, NOAA.

In 2000, after the test was done on the program, the Geological Survey abandoned the program for lack of funds. America is still burning each year, billions of dollars going up in smoke, requests for emergency appropriation measures after the fact when, for a few million dollars, we could have done the refined software to put the program in place.

I went to Joe Allbaugh when he headed FEMA 2 years ago and said, Joe, NOAA is not moving on this. Neither is the geological survey. He said, transfer the program to FEMA. I did that legislatively. FEMA, despite tremendous opposition from NOAA, took over the FIRESAT program.

Today, to my understanding, we still do not have the program that was first designed 8 years ago to detect the start of forest and wild lands fires which cost the taxpayers of this country between $3 and $5 billion a year. My understanding further is the software is sitting in boxes in Crystal City in Raytheon's offices.

So my question to all of you and the second panel—and I may not be here for that panel. I have, Mr. Chairman, the 20-some page brief on this program which I will enter into the record discussing both the strengths and the reforms necessary.

[Information is in the committee file.]

Mr. WELDON. If we are really concerned about notification of emergency response, why have we still not put into place a program that we have tested, that we know works, to give that information when a satellite detects a fire the size of a quarter of an acre to the first responder community to go put it out and save the taxpayers billions of dollars? Why has that not been done? Because a secondary benefit of that is, when you notify the responder community, you could also notify the public in that area. They can evacuate their homes. So it has a secondary benefit.

My frustration is we talk a good game in this city, but when it comes down to the substance of putting programs in place, it just falls apart. It is like sand. It goes through a screen, and no one wants to be held accountable for it. So that is my first question.

The second one results from an experience I had with an earthquake about 12 years ago, walking the freeway with the chiefs of San Francisco and Oakland, and they were looking for people that were allegedly still caught in cars and vehicles between the freeways, and they were talking about the use of dogs to detect people that were alive. And I said, why aren't you using thermal imagers that you could shoot through the crevices of the freeways? And the chiefs of Oakland and San Francisco said to me, Congressman, what are thermal imagers? I said, well, the Navy developed them 15 years ago to use to detect bodies on our ships. Now they are in every fire department in America. The chiefs of two of our largest departments in America weren't even aware that technology existed. So I came back and introduced legislation 12 years ago to have FEMA create a program to give the incident command officer a computerized ability to let the State and Federal agency network know what needs he had or she had on the scene.

Chief Morris could have used that in Oklahoma city when he came and faced an exposed rebar concrete structure, had a massive rescue and didn't know where to go to get the engineers to assist him.

To my knowledge, we still do not have a computerized inventory that an incident commander on the scene of a disaster can punch into with a PalmPilot or a laptop at the scene to know where to go to get some kind of specialized equipment or resources or consultation, that he doesn't know where to go.

So my question in both of these cases is this: Why haven't we followed through on either of these and why aren't they in place today? And I am not aiming this at this administration, because the previous administration was just as derelict.

Mr. HOOVER. Mr. Weldon, I think the only thing I can say to you is I am familiar with the FIRESAT initiative. I was Chief of Staff to Director Allbaugh when you came over and offered that to us.

With regard to the thermal imaging, you know, I don't think I have an answer for you on that one.

Mr. WELDON. Well, it is not just thermal imaging. It is any kind of technology.

Well, what is the status of FIRESAT?

Mr. HOOVER. I don't know. That is not something I deal with anymore. And what I would like to tell you is that, with plume modeling capabilities, with digital EAS and alert and warning capabilities that we have and the reverse 911 technology, using this geo-targeting, we think we can use that technology to warn homeowners of impending wild land fires.

Mr. WELDON. Mr. Chairman, with all due respect, the plume modeling program was developed by Lawrence Livermore Laboratories. I have seen it 8 years ago. Other labs have done the same. You can't do plume modeling until you know where the incident is. The plume modeling is helpful for the first responder and for the incident commander, but the most important thing is not to know where it is going to go, it is to know when it starts. And that is a whole different topic. What good is a plume model if you don't know where the fire is when it occurs?

And so my answer, Mr. Chairman, is this subcommittee and this committee ought to be holding the FEMA and the Homeland Security agency accountable. We have the technology. It has been developed. It has been tested. I put the document in the record. And my question is, we are spending billions of dollars after the fact and paying for these incidents. Why aren't we providing a couple of million dollars to put into place in front? Which is what Joe Allbaugh wanted to do when he headed up FEMA. Thank you.

Mr. SHADEGG. The time of the gentleman has expired.

The Chair would call upon the Ranking Member of the full committee, Mr. Turner, for questions.

Mr. TURNER. Thank you, Mr. Chairman.

Let me ask both Mr. Dailey and Mr. Hoover to give us a description of how much money is being applied in your agencies to carrying out the paths that we are talking about here today. What number of personnel, what kind of budget do you have, and how much are you going to accomplish in fiscal year 2005?

Mr. HOOVER. Mr. Chairman, within our office, within FEMA, we are the program office for EAS, for the national level EAS. I have a division that is—one of their primary functions is the upgrade of the EAS and the PEP stations. We are using—currently, we have allocated just over $4 million for several projects that Chairman Shadegg outlined to upgrade and improve the EAS system as well as, as I mentioned in my testimony, the IPAWS, the Integrated Public Alert and Warning System. There is an additional $2 million that is in the President's 2005 budget that is specifically earmarked for EAS upgrades. And I am not sure what IAIP additional funding they in the 2005 budget for alert and warning, but I understand there is some funding there, and we can get you those numbers.

Mr. DAILEY. Mr. Turner, as the regulatory agency we do not do grant programs and we do not supply equipment, so there is no specific funding for EAS enhancement. My office is a staff of 18 people. One of our primary responsibilities is the EAS program management, and so we are responsible for the rules and regulations implementing EAS, but we have no particular grant programs or any funding sources for implementation of EAS.

Mr. TURNER. I was looking at a survey that was done by this Media Security and Reliability Council, and I thought it was interesting because the results of the survey seem to indicate that our State activities in conveying the emergency messages doesn't seem to work very well. I was reading a comment by the State of New York State Communications Committee and they said that when a test is done of the EAS system, that the message, and I am quoting here, the message never made it more than 50 to 70 miles from Albany. Encoders were set incorrectly. The control room was not manned. Broadcasters just weren't passing the message along. The tests at the local level don't indicate success at the State level. In theory there is a statewide system, but in reality there is not.

Do you think that is a fair comment, Mr. Hoover?

Mr. HOOVER. I think there are issues regarding the reception capability of the EAS and I think we have known that for some time, and we are now correcting that as we move from a dial-up capability to satellite capability. And what we are also doing is we are expanding the 34 primary entry point stations so that there is a PEP station in every State, and we would also like to expand it to having an entry point at the emergency operation centers in all the States and Territories as well.

Mr. TURNER. But where are you going to get the funding to do that? The budget numbers you shared with me, I believe you said $4 million, doesn't seem like anywhere near the funding necessary to accomplish what you just described.

Mr. HOOVER. Well, for example, Mr. Turner, the upgrade to the existing 34 primary entry point stations to a satellite system is only costing us just over a million dollars, and that is part of that initial $4 million. And as I mentioned, there is another $2 million in the President's budget to continue that upgrade, and we think we can do that with that $2 million as well as the additional funding that IAIP has.

Mr. TURNER. So you are saying that you can accomplish everything you think we need to accomplish within the budget that you have for 2005?

Mr. HOOVER. Yes, I sure do.

Mr. TURNER. And the system will be up and running?

Mr. HOOVER. I would hope to have it up and running by the end of 2005, and I think the key there is we are not building any brand new infrastructure. We are building out, we are improving and upgrading existing infrastructure, whether it is EAS or using the digital backbone that public television is offering us. So we are not having to build from scratch an infrastructure. And once we get the signal in a digital format into satellite the reception capabilities, and I am not a technical guy, but the reception capabilities are endless for a very small amount of investments.

Mr. TURNER. I might ask, Ms. Henning, if you would comment on the report that I referenced, and the quote I read from the New York State Emergency Communications Committee.

Ms. HENNING. Thank you, Congressman. In fact, tomorrow, as I understand it, New York is having a press conference to talk about EAS. I haven't had a chance to talk with the director about the subject on that, but I understand that they have some concerns. One of the things that we are most concerned about is for the equipment to be able to reach out to all the various areas, to urban and rural areas. And once we have the capability and FEMA does provide the installation, there must be training of the personnel for this, and there must be a very simple installation process. Am I answering the question, Congressman?

Mr. TURNER. I mean are you saying there is needs at the local level in order to implement this?

Ms. HENNING. Absolutely, it is not going to end simply by providing this equipment to the States. In order for this to work to effectively, for the State to be able to talk to the counties, to be able to talk to the cities, we are going to have to look at improvements to the emergency operations centers and the equipment that is there, and that means a follow-up not only to the installation, but to providing the training and other needs.

Mr. SHADEGG. The time of the gentleman has expired.

Mr. TURNER. Thank you.

Mr. SHADEGG. Having made it just under the wire to question this panel, the Chair would now call upon the gentlelady from New York, Ms. Lowey.

Mrs. LOWEY. And thank you, Mr. Chairman. I do apologize to the panel for being delayed in another important event.

In its February 2004 report on emergency alert systems the Partnership for Public Warning noted that no government agency is in charge of the current EAS and recommended that the Department of Homeland Security take the lead in creating an effective national warning capability. Now, I am a New Yorker. It is 3 years after 9/11, 3 years after 9/11 and we are still asking these questions.

Why hasn't the Department played a greater role in coordinating and advancing efforts to create a working and useable national alert system? What is the Department in conjunction with other relevant Federal agencies and stakeholders doing to encourage the

creation or updating of State and local EAS plans? And what kind of enforcement exists at the Federal level to ensure the development of State and local EAS plans? Are there any Federal guidelines or standards that exist to help State and local governments develop these plans?

I must say, if my question is asked with a wide eyed glaze, it is because I find this, as many other issues, extraordinary, and my neighbors are absolutely concerned. They are worried. In fact the messages from the administration are, as you know, this could happen again, it could happen any day. We were lucky that we got by the convention in New York, thank God, safely. But perhaps you can answer this. I mean, why is it 3 years later and we are still talking about standards? When are we going to develop this. A lot of people walking around looking very important, but who is doing it?

Mr. HOOVER. Thank you for that question, and I would share your concern in terms of a lot of folks were walking around saying, you know, we need this, we need this, we need this. And a lot of folks—it was talk and we weren't doing anything. I can tell you that in the two and a half years that I have been involved with EAS we have done a lot of things and we have made some great progress in terms of upgrading and recognizing the deficiencies.

Certainly the Partnership For Public Warning's report came out and made a number of recommendations, and we think that we are implementing a number of those recommendations with regard to using digital technology, with regard to upgrading the existing EAS capability in the PEP stations. We have active involvement with the partner in the Media Security and Reliability Council of the FCC. Our office, in answer to your question who is responsible, I would say the Department of Homeland Security is responsible, and more specifically my office serves at the executive agent for the national level EAS and we take responsibility for that and we take it very seriously. And in fact last week I was in New York at Channel 13 and talked to the public television station folks up there about a pilot that they are doing, along with the National Geospatial-Intelligence Agency—it used to be the old NIMA—the NGA folks where they are using some spectrums specifically for two-way communications to first responders and looking at ways that we might be able to integrate that in this digital pilot. So specifically to New York we are looking and have been in talks with Channel 13 in New York as part of this public broadcasting initiative, and our office is responsible and we think we are making some great progress.

Mrs. LOWEY. If I could follow up, you said you have been in this position two and a half years.

Mr. HOOVER. Yes, ma'am.

Mrs. LOWEY. I feel a real sense of urgency. Can you give me an idea how long it will take to develop an efficient national warning capability, or will it be like interoperability? We still don't have the standards. The RFP still didn't go out. The police, all the first responders, firefighters, still don't have an adequate interoperable communications system. When will this get done with your best estimation?

Mr. HOOVER. Well, first of all, we already have in place a national level emergency alert and warning system and that is through the 34 primary entry point radio stations and we believe that system works and is operational. The upgrades to that are beginning within weeks in terms of upgrading the PEPs, the primary entry point stations, and as well as demonstrating the capability of using the digital broadcast capabilities that public television brings to the table, and I would hope to see great progress in that by the end of next year.

Mrs. LOWEY. Is it correct that the system has never been used?

Mr. HOOVER. The national level EAS system has never been activated, however—

Mrs. LOWEY. How do you know it works?

Mr. HOOVER. Because we test it every week from the FEMA operations center to the primary entry point radio stations, which is the first point of entry to the system. We test that on a weekly basis.

Mrs. LOWEY. Okay. Could you tell me what kind of enforcement there is at the Federal level to ensure the development of State and local EAS plans? Are there Federal guidelines, standards, directives?

Mr. DAILEY. The Commission's rules anticipate the development of the State and local plans for the implementation of EAS and when those plans are developed they are sent to me personally and my staff reviews them and we sign off on the plans and make sure that they comply with the national level of requirements.

Mrs. LOWEY. Excuse me. Are there requirements that the States do it?

Mr. SHADEGG. The time of the gentlelady has expired, so if you could finish your question.

Mr. DAILEY. They are not required.

Mrs. LOWEY. Why not?

Mr. SHADEGG. Maybe she didn't hear. The time of the gentlelady has expired quite some time ago, more than a question ago. So the Chair would call upon the gentlelady from the District of Columbia, Ms. Norton, for questioning.

Ms. NORTON. Thank you, Mr. Chairman, and I appreciate this hearing, regret that other business in the Capitol kept me from being here earlier. This is an especially important issue all across the country, but none—but there is no place much more important than in this region with its tunnels, with its subway systems, with the entire Federal presence here, for that reason. An amendment that I sponsored was elaborated in the Senate that requires the Department of Homeland Security to have a special coordinator for the National Capital Region, and that person is in place. I must say that that coordination was deeply called into question—has been deeply called into question, although I don't lay it at the feet of the coordinator himself. It is clear that when checkpoints were put in place along Pennsylvania Avenue and Constitution avenue there was no coordination within the city, much less this region, there was not even consultation with the local police department, which has all the cops, by the way. So I am not at all satisfied with the coordination aspect nor is the committee that has jurisdiction over the Capitol Police, which is going to have a hearing next week.

I have called for a citywide coordination plan so that the various sectors who have independent control can know what one hand or the other is doing. I think we are at terrible risk in the Nation's capital because there is no coordination of all the security officials.

In light of that I am particularly interested in a pilot project, a 6-month pilot, for a digital emergency alert system. That obviously would help with the coordination problem that is so plain in this region. I wonder if—I understand that it may have been mentioned before I came in by Mr. Hoover. I would like more details on that project. When will it start? If it is 6 months when does month one start? What technologies will be demonstrated? I would like to know who specifically is involved in—who are we talking about in this 6-month project? And I would like to know whether they will be working with the private sector, with State and local government. In other words, how in the world does this work?

Mr. HOOVER. Thank you, Ms. Norton, for the question, and perhaps we can give you a more detailed briefing and I can give you the kind of 30,000-foot view at this moment on—

Ms. NORTON. Yeah. Just give me the 2-foot.

Mr. HOOVER. Right. It is with—the pilot and we expect to start within weeks, within the next couple of weeks. We are just down to the final transfer of the funds actually to the Association For Public Television Station, who is the primary focus of our effort. We have through APTS brought in the private sector. We have had some active discussions with T-mobile, with Verizon and with Nextel in terms of having the cell phone service providers involved. Our office that is actually doing the coordination has worked with Ken Wall in the National Capital Region Coordinating Office within the Department to make sure that the Council of Governments is involved and the emergency managers in the area involved, and we are planning actually in October to have a kind of an umbrella session to bring all of the players together to be able to do that. I should also mention that the local public television station is involved. Channel 4, the network affiliate, and we have been in discussion with NBC to also be involved in the pilot project as well.

So it is taking in a broad spectrum of the population of not only the providers of but also the users because we want to be able to reach you and to be able to test the capability on as many retransmission mediums as possible.

Ms. NORTON. Thank you very much. Thank you, Mr. Chairman.

Mr. SHADEGG. I want to thank this panel, both for your written statements and also for your testimony here this morning. It is very, very helpful. Obviously we could continue this discussion at length. There is a lot of work to be done, though I think it is very encouraging to see how many different technologies are out there and are being explored to improve the current notification system and the possibilities that lie ahead, and I am glad we are making progress on those. And with that this panel is excused, and I will invite our second panel to join us.

That panel is composed of Dr. Peter Ward, the Founding Chairman of the Partnership for Public Warning and a retired member of the U.S. Geological Survey; Mr. Frank Lucia, Vice Chairman of the Washington, D.C. Emergency Alert System Committee and a member of the Public Communications and Safety Working Group

for the Media Security and Reliability Council; and Ms. Patricia McGinnis, President and CEO of the Council for Excellence in Government.

Welcome and thank you very much for your testimony here today. We appreciate your input. Several of your organizations have already been mentioned for their work in this area in the questioning on the first panel. Now we get to talk to the experts directly. So with that, Mr. Ward, Dr. Ward, would you begin?

STATEMENT OF DR. PETER L. WARD, FOUNDING CHAIRMAN, PARTNERSHIP FOR PUBLIC WARNING, U.S. GEOLOGICAL SURVEY (RETIRED)

Mr. WARD. I would like to thank the committee and especially Congressman Shadegg for calling us together to talk about public warning, an issue of really key importance during these troubled times. Warnings save lives. If you get people information about what is happening or what is likely to happen they can take action that will save lives, reduce loss, speed recovery.

One of the problems we have, as you have gotten to earlier here today, is the current warning systems, you put them all together, are pretty ineffective. You can do different estimates, but today if we needed to warn of a dirty nuclear device being exploded right now on the Mall, we could only reach at best maybe 30 percent of the people directly that needed to know. And we would probably reach a lot of people that didn't need to know. At night when there is a tornado coming down on a community we can only reach perhaps a few percent of those who need to know that that is in their path. And again, we may wake up a lot of people who really don't need to know.

So the problem is we don't have an adequate warning system and it is not well focused. Now, my name is Dr. Peter Ward. I have worked on warnings issues for more than 41 years of my career, mostly 27 years as a Federal Government employee for the United States Geological Survey, working on earthquakes and volcano issues. I have also had the pleasure and opportunity to work with a wide number of people, especially in the last few years, on committees looking at warning issues.

The executive summaries of two of the critical reports are in my written testimony and have already been mentioned today. This red book, Effective Disaster Warnings, was written by Federal employees from all the different Federal agencies and I had the chance to chair that committee. And this was released in 2000, after being approved by all of the Federal agencies involved, and it is considered the foundation upon which to build modern warning systems. Out of this has already come a common alerting protocol and several other major steps forward in developing warning systems and improvement to warning systems.

Another major report is the National Strategy For Integrated Public Warning Policy and Capability that came out of the Partnership for Public Warning. It was put together by experts from across the country to say what do we need to do to go forward with this? How soon can we make changes?

All of these reports and many more come up with four principle conclusions. First, we need to involve all the stakeholders. There

are many stakeholders in Federal, State, local government in emergency planning and emergency response, and in fact every one of us is a stakeholder when we are at risk.

The second major requirement is we need to have national standards, not only so we can communicate with each other, but so that industry can build new pieces or build into existing pieces of electronics the ability to receive those warnings. Once we have those standards there are all kinds of opportunities for industry to compete to do all kinds of new things to deliver those warnings the last mile.

Third major conclusion is that technology is not the issue here. It is not the problem. We are technology enabled. There are all kinds of technologies out there that when properly mobilized can get the warnings to the people at risk no matter where they are, no matter what they are doing.

The fourth conclusion is the most important. The weakest link currently in warning systems is the link between the people who have warnings to issue, the officials with warnings to issue, and the companies, organizations, groups that operate systems that can deliver those warnings directly to the people at risk.

What is needed here is a pipeline or a backbone, a place where the warnings can be put in by the officials and that will immediately disseminate those throughout, to all the different dissemination groups. This pipeline or backbone needs to consist of four key elements:

First a secure, reliable input from all official sources. Obviously, we don't want the system to be misused by terrorists or others.

Secondly, it needs a common alerting protocol, and the good news is that one already exists under the OASIS standards. It has been widely tested. It will need to be tested more, but there is a digital protocol into which we can put the warning information so it will go out in a standard way.

The third thing needed in this backbone or pipeline is a multistranded pipeline that can actually get information out. In the AMBER alert program I will talk about in a minute we are using Internet. For All Hazard alert we have to be able to deal with major catastrophic loss, and so the same information could be sent out by State emergency operation communication networks, by the Association of Public Television Stations, by all these different groups. There are many ships of opportunity in the communication world where without spending extra government money we can distribute the warnings, the information, and make sure that it is redundant enough that during the worst catastrophes information is still getting out.

And finally, we need a wide variety of delivery mechanisms that can take the warning from this pipeline and deliver it the last mile to the users. Believe me, industry is teeming with ideas. They say we need a standard and we need to have a pipeline of information that we know is official and that we have no liability in transferring that information to the public. Once that exists industry will wow us. Already RCA Television and other groups have televisions that will turn themselves on when they receive a signal that there is a warning that applies to that particular county where the tele-

vision is located, and will wake someone up in the middle of the night if necessary.

This is just the tip of the iceberg. There are many other devices out there, digital watches, for example, on the market now that could easily warn you with that information.

Now, over the past 20 months we have developed a pipeline, an example of this, how this pipeline could work that is for AMBER alerts. It is operational in the State of Arizona and in Washington State. Thirteen more States are being brought up in the near future and 20 others are expressing a strong interest. We simply say that this is a consortium of, many, many different people, the State police, State broadcaster associations, media, major corporations, emergency managers, departments of transportation, border control. ESRI has offered mapping software, Hewlett Packard, Intel, hardware and funds, Symantech security to make sure it works right, Limelight Networks and Proteus Digital Communications.

The capabilities are there and we have demonstrated we could do it. So I am really here today to ask the help of Federal people to not only work in your district and in your State to improve warning, but that by working together we can make very significant changes in public warnings in a very short time.

Thank you.

[The statement of Mr. Ward follows:]

PREPARED STATEMENT OF DR. PETER L. WARD,

I wish to thank the subcommittee and specifically Congressman Shadegg for calling this hearing to discuss public warning, an issue of great importance to public safety and Homeland Security in America today.

I personally have worked on public warning issues for 41 years and was a senior leader at the United States Geological Survey for 27 years. I chaired a Committee of Federal government employees under the Office of Science and Technology on warning and was founding Chairman of the Partnership for Public Warning. I am convinced we can improve current warning capability significantly in a very short time if we work together.

Hundreds of very knowledgeable and talented people throughout our society have sought ways to improve public warning over many years. Their work has come to focus on what I will discuss today. The fundamental problem is the need for teamwork among the wide variety of stakeholders and I sincerely hope this Committee can help bring the American people what they deserve and expect—timely, accurate, official information to help them deal with natural and manmade disasters. While the country has been fixated on terrorism since 9/11, recent events remind us that Homeland Security also involves responding to major, frequent, tragic natural disasters.

Warnings save lives. They empower citizens with knowledge of what is happening or what is about to happen. People at risk can then make wise decisions about what to do to reduce loss of life and property and how to best deal with adversity. First responders can then decide on the most effective ways to respond. The Media can provide more detail from a basis of up-to-date knowledge.

Today, if we needed to warn people that a dirty nuclear device had just been detonated on the Mall and that they should avoid downtown Washington, we could only reach directly perhaps 30% of those who need to know using all means of warning currently implemented. And the time delay could be many minutes when every second counts. If we needed to warn of a tornado in the middle of the night, we might only reach a few percent of the people directly at risk. Also current warning systems tend to warn more people not at risk than those directly at risk, dulling their response to future warnings.

We live in the midst of a digital revolution where tens of millions of our citizens carry cellular telephones and other devices that could warn them no matter where they are or what they are doing. Many types of electronic signals are being broadcast locally and from space that could trigger a wide variety of electronic devices

to warn people when they are directly at risk. We are technology enabled. **Technology is not the problem.**

It is a severe national problem that we are not using modern technology effectively to save lives and reduce losses from natural and manmade disasters in America. While I know there is a desire to do so, I believe it is frustrating for all involved that collectively we have not been able to make the simple fixes needed to solve this serious problem.

So what is the problem? Simply put, the problem is teamwork—getting the major stakeholders to work together. The need for teamwork or "unity of effort" related to Homeland Security were highlighted over and over in the recent 9/11 report.

An effective warning system involves most Federal Agencies, thousands of State and local agencies, dozens of industries, thousands of companies. An effective warning system sooner or later involves every person and organization across the country that is at risk.

I am sure each of you has been visited by companies who have THE solution for public warning. As founding Chairman of the Partnership for Public Warning, I received many telephone calls from company Presidents who said that we were irrelevant because they had already solved the problem. It usually took only a few minutes to help them realize that they had an important solution but that it was a small part of the larger problem.

There are hundreds if not thousands of American entrepreneurs who have developed impressive techniques for warning people. Technology is not the problem. The problem is the lack of a national warning infrastructure and the teamwork to implement it. When industry has a place from which to received official warnings securely and reliably, they can deliver those warnings in an impressive number of ways. You will unleash the immense imagination and capabilities of American industry when they can clearly see a market and when they can relay real-time warnings with no liability for warning content.

In just a few years we could reach the point where your car radio suddenly is interrupted or turns on to say:

"Major traffic accident 5 miles ahead at intersection of 495 and 50." Or

"Tornado 10 miles west heading toward you." Or

"Chemical explosion at 9:02 am near Metro Central. Stay at least 5 miles away."

This is not science fiction. This is all readily possible with current technology, with good old American marketplace competition, and with a national warning infrastructure.

What do I mean by a national warning infrastructure? This does not need to be some big government program. This does not need to be some massive pile of hardware built specifically for warning. We simply need to utilize better public and private systems we already have. We need to create a logical framework that will enable future systems being built and maintained for other reasons to provide warning capability.

Warning messages are very low bandwidth. They require very few bits and bytes of information. They can easily be multiplexed within digital signals broadcast for quite different purposes. For example, the public television stations of the Association of Public Television Stations (APTS) are implementing a fully digital television broadcasting network across the country. When finished, more than 95% of the American population will be able to receive these signals. APTS has made many presentations here on the Hill detailing its stations? offer to use a small piece of their digital spectrum not only to carry warnings, but to broadcast more detailed information about imminent disasters and disasters under way. These signals could be received by much more than televisions. These signals could be received by any type of electronics in your pocket, on your wrist, in your home, in your car, at work, at play. And this is just one example of a major national infrastructure built and maintained for other reasons that can provide a national warning infrastructure at no additional cost to Federal, State, or Local governments or to the American people.

A national warning infrastructure needs to consist of four critical components:

1. Secure reliable input from all official sources of warning information.
2. Encoding of messages into a standard digital format or protocol that can be readily distributed and processed by small computers.
3. A multi-stranded pipeline or backbone that can instantly and reliably send these messages to all types of delivery systems.
4. Wide varieties of delivery systems that can automatically re-broadcast or address these messages to those directly at risk and to others who need to know.

Many of these elements exist and a prototype national warning infrastructure is already operating in the States of Arizona and Washington and will soon be operating in a majority of States.

With cross-jurisdictional confusion on the Federal side, many concerned people, local government organizations, and private companies have banded together in a Consortium to implement an AMBER Alert Web Portal that exponentially improves delivery of warnings of abducted children and demonstrates clearly how each of the four critical components for a warning infrastructure can be implemented and can work together to improve warning systems immediately.

This consortium grew out of a pilot project led by the state of Washington in partnership with several other states including Arizona. It was started over 20 months ago with a combined investment in technology and development of $4 million dollars. What is remarkable is that all the key stakeholders State and local Police, the State Broadcasters Associations, media, major corporations, Emergency Managers, Departments of Transportation, Border Control agencies and many others openly agreed to participate and all contributed significant insight and have taken important leadership and ownership in its development and now its success. (You have a recent Press Release noting the successful activation and homecoming of a missing child.).

Major corporations like ESRI have contributed dynamic mapping software that plots in real time the region in which the abductor and child could be located. Symantec has contributed the security software and procedures to assure the system is not misused. Hewlett Packard and Intel have contributed hardware and financial support. Limelight Networks and Protus have contributed digital communications capability that demonstrates capacity to manage a national alert network. The AMBER Alert Consortium is based on a variety of agreements signed by all parties on who is responsible for what and how the various pieces all fit together. It has been very successful at building teamwork among a large number of companies and organizations that have and continue to contribute time, money and expertise. This has been done in a way where all software and hardware is in the public domain and controlled by the States.

The AMBER Alert Web Portal Consortium has been unanimously supported by the National Alliance of State Broadcaster Associations and is operational in both Arizona and Washington State. Final training and implementation is underway in 12 additional States and many more have expressed a desire to join. Most importantly, a number of States and stakeholders in the process have expressed publicly that they are looking forward to the expansion of the AMBER Alert Web Portal Consortium to respond to other alerting needs since all the major stakeholders are in place and the Portal was designed by its founders to be scalable. This Consortium demonstrates clearly how technology and teamwork locally and nationally can be combined successfully to implement a National All-Alert Warning Infrastructure.

While I greatly admire what the AMBER Alert Web Portal Consortium has done, I am not here today to promote any one system, I am here to assist you in crafting a vision of how a public warning capability in this country can be improved very rapidly with some leadership and with contributions from a broad spectrum of players. The methods demonstrated with AMBER Alerts can readily be scaled up to all-alert.

If we go back to the four critical components of a national warning infrastructure:

1. **Inputs:** All-hazard public warning requires secure reliable inputs from police, fire, emergency managers, Homeland Security, the National Weather Service, the U.S. Geological Survey, the U.S. Coast Guard, critical facilities such as chemical or nuclear plants, and many other sources. The AMBER Alert Consortium has demonstrated a secure format that enables the official to initiate an alert directly from the incident or information source.

2. **Standard format:** The Common Alerting Protocol (CAP) has been developed under the OASIS standards process specifically for transmitting all types of warning information. CAP is implemented in Internet Protocol, the common communication protocol used by nearly all digital electronics. The AMBER Alert Consortium is CAP compliant.

3. **Pipeline or backbone:** This has been implemented over wired, wireless, and satellite-based public Internet and private networks. It can easily be implemented over State Emergency Communication Networks, NOAA Weather Wire, NOAA Weather Radio, the Emergency Managers Weather Information Network (EMWIN), etc. The AMBER Alert Consortium has demonstrated that such a digital signal sent via Internet or any land or satellite-based digital network, can be used to directly trigger all Emergency Alert System (EAS) encoders across the country and thus be broadcast on all land-based radio and television transmitters or by cable television. A national presidential message of unlimited

length can also be streamed in this way. The AMBER Alert Consortium has tested such a network using Internet and is pursuing the use of a satellite system used by most commercial broadcasters to disseminate alerts.

4. **Delivery Systems:** These are already being provided by numerous vendors including email, pagers, fax, auto-dial telephone calls, auto-dial Short Message Service to cellular telephones, digital signs along highways and in other locations, websites, etc. Some NOAA Weather Radio receivers and some new televisions can turn themselves on and set the volume to announce warnings. New technologies such as wrist-watches and pocket computers are being introduced that can relay warning messages. Cell broadcast that can transmit warnings to all cellular telephones within one or many cells is being introduced in many states in 2004. All modern digital electronics such as radios, televisions, portable music players, computers, automobile navigation systems and such could easily turn themselves on and announce warning information specifically to those at risk once a standard signal is available across the country. The AMBER Alert Consortium has built this interconnectivity with these re-broadcasters and is providing them live feeds for all their different modes of communication. Industry is now beginning to see a market and how they can receive a secure official stream of warning information that they can relay without liability for content.

Thus a National All-Alert Warning Infrastructure can rapidly improve public warning and provide a smooth path to modernize the EAS and other existing national warning capabilities.

The purpose of an alert or warning is to get the attention of people at risk so that they can seek more detailed information and decide on appropriate action. The AMBER Alert Consortium demonstrates a web portal that contains all detailed information instantly after it is available to officials. This information shows up not only on an official website for each state, but is fed directly and automatically onto the website of media and others who request the links as well as news desks, emergency operation centers, etc. Thus a National All-Alert Warning Infrastructure can not only improve delivery of warnings, but can provide a continuing stream of official information as the crisis develops. Different delivery systems could offer different levels of detail as required by the user.

There is another very important function a National All-Alert Warning Infrastructure could provide: instant notification of officials nationwide or in any region. The system could address telephones, pagers, faxes, email, etc. to any list of government officials. An encrypted message could be broadcast nationally and as new receivers are being developed, could be received and released only to authorized officials within certain affinity groups. Many government agencies are buying such service now, but the services are typically not compatible between agencies. A National All-Alert Warning Infrastructure could feed the information to these service providers for dissemination. With appropriate planning, this means that in the future when most pieces of electronics are capable of receiving and announcing warnings, these same pieces of equipment when owned by legislators, first responders, emergency managers, health officials, and such could announce to them official messages not released to the general public.

Consider a scenario where terrorists planted a person infected with smallpox on a major international airliner and infected people were quickly scattered across the country. When the presence of the Small Pox virus was identified, all appropriate officials across the country could be notified instantly no matter whether at work, at home, traveling, or enjoying recreation.

A warning distributed in standard digital format can readily be used to trigger devices to warn the hearing or sight impaired. As new receivers are built, they could easily turn the digital codes into any language.

The options are many. The intent of the National All-Alert Warning Infrastructure is to deliver official information instantly to service providers who could disseminate the information to the people at risk. Public warning can be improved exponentially if we work together adopting some basic standards.

Finally, I would like to give you some background for what I have explained today. This comes from a long history of studies and pilot efforts by a wide variety of people. As I stated earlier, I personally have worked on warning issues for 41 years and was a leader in the United States Geological Survey for 27 years.

In the 1970's there was considerable scientific evidence that earthquakes might be predictable and Congress established the National Earthquake Hazard Reduction Program. I was fortunate to be able to do much of the staff work in developing and implementing that program. As Chief of the Branch of Earthquake Mechanics and Prediction, we worried in considerable detail on how do you tell people that an earthquake could occur soon that may kill 3,000 people, but we are only 5% certain?

What happens if you had warning information but failed to release it? What happens if you release it, no earthquake occurs, but significant loss resulted? These questions are quite similar to some issues we face today with respect to terrorism. Physical and social scientists worked intently on these issues. Many studies were done. Since World War II, a vast body of knowledge and experience has been developed on how to warn people in ways that they will take the most appropriate action. Unfortunately little of this expertise has been applied to Homeland Security issues.

In 1997 and 1998, I was fortunate to chair a working group under the Subcommittee on Natural Disaster Reduction within the Office of Science and Technology. We included the Federal government employees most involved with and experienced with warnings in each of the relevant Federal agencies. Our report "Effective Disaster Warnings" was reviewed by all relevant Federal Agencies before release. This report has been widely acclaimed. It explains what exists and what could exist. It is considered as the foundation upon which to build a modern national warning system. Chapter 6 (The Universally Encoded Digital Warning) was the basis for the Common Alerting Protocol, now a national warning standard under the OASIS Standards Process.

The primary recommendation of this Federal working group was the need for a Public/Private Partnership to move warning forward. In late 2001, after I had retired from Federal service, I heard of a group interested in forming such a partnership. I ended up being the founding Chairman of the Partnership for Public Warning. MITRE Corporation contributed start-up money. I volunteered 60-80 hours of labor a week for 18 months, and FEMA finally contributed some funds. Thus I personally funded about one third of the effort. We established a board of 16 trustees from leaders in warning in government, industry, and academia. We met regularly and held several multi-day workshops bringing together the people from across the country who were most experienced in warning issues. We interfaced with the Office of Homeland Security and all of the Federal Agencies with responsibilities for warning. We talked with many on Capitol Hill and worked with the Natural Hazards Caucus to put on a very well attended informational luncheon on warning. We published several reports that have been well received and that help us all focus on the key issues.

What I have presented today is a logical result of all of this effort and much more on the part of those across the country who are concerned with and experienced with public warning. There are thousands who work hard to keep current systems working as best as possible, who have worked on many committees to seek ways to improve current systems, and who are eager to make our homeland safer through effective warnings. Teamwork is not easy to build, but we all fervently hope you will join us in this effort to save lives, reduce losses, and reduce trauma from natural and manmade disasters throughout America.

ADDENDA:

Effective Disaster Warnings

Report by the Working Group on Natural Disaster Information Systems
Subcommittee on Natural Disaster Reduction
National Science and Technology Council Committee on Environment and Natural Resources
November 2000 (*www.sdr.gov/NDIS__*rev__Oct27.pdf*)*

Working Group on Natural Disaster Information Systems

Peter Ward -**Chairman,** Seismologist and Volcanologist, U.S.Geological Survey
Rodney Becker -Dissemination Services Manager, National Weather Service
Don Bennett -Deputy Director for Emergency Planning, Office of the Secretary of Defense
Andrew Bruzewich -CRREL, U.S. Army Corps of Engineers
Bob Everett -Office of Engineering, Voice of America, International Broadcasting Bureau, U.S. Information Agency
Michael Freitas -Department of Transportation/Federal Highway Administration
Karl Kensinger -Federal Communications Commission, Satellite and Radio Communications Division
Frank Lucia -Director, Emergency Communications, Compliance and Information Bureau, Federal Communications Commission
Josephine Malilay -National Center for Environmental Health, Centers for Disease Control and Prevention
John O'Connor -National Communications System
Elaine Padovani -National Science and Technology Council, Office of Science and Technology Policy, Executive Office of the President
John Porco -Office of Emergency Transportation, Department of Transportation
Ken Putkovich -Chief, Dissemination Systems, National Weather Service

Tim Putprush -Federal Emergency Management Agency
Carl P. Staton -National Oceanic and Atmospheric Administration, NESDIS
David Sturdivant -Federal Communications Commission
Jay Thietten -Bureau of Land Management
Bill Turnbull -National Oceanic and Atmospheric Administration
John Winston -Federal Communications Commission

EXECUTIVE SUMMARY AND RECOMMENDATIONS

People at risk from disasters, whether natural or human in origin, can take actions that save lives, reduce losses, speed response, and reduce human suffering when they receive accurate warnings in a timely manner. Scientists are developing more accurate and more numerous warnings as they deploy better sensors to measure key variables, employ better dynamic models, and expand their understanding of the causes of disasters. Warnings can now be made months in advance, in the case of El Nin~, to seconds in advance of the arrival of earthquake waves at some distance from the earthquake. Computers are being programmed to respond to warnings automatically, shutting down or appropriately modifying transportation systems, lifelines, manufacturing processes, and such. Warnings are becoming much more useful to society as leadtime and reliability are improved and as society devises ways to respond effectively. Effective dissemination of warnings provides a way to reduce disaster losses that have been increasing in the United States as people move into areas at risk and as our infrastructure becomes more complex and more valuable.

This report addresses the problems of delivering warnings reliably to only those people at risk and to systems that have been preprogrammed to respond to early warnings. Further, the report makes recommendations on how substantial improvement can be made if the providers of warnings can become better coordinated and if they can better utilize the opportunities provided by existing and new technologies. Current warnings can target those at risk at the county and sub-county level. The technology presently exists to build smart receivers to customize warnings to the users'; local situation, whether at home, at work, outdoors, or in their cars. It should also be possible to customize the information for trucks, trains, boats, and airplanes. The problem is to agree on standards and dissemination systems.

Disaster Warnings: Technologies and Systems

Disaster warning is a public/private partnership. Most warnings, including all official warnings, are issued by government agencies. Most dissemination and distribution systems are owned and operated by private companies. Liability issues make it problematic for private entities to originate warnings. Public entities typically cannot afford to duplicate private dissemination and distribution systems.

Effective warnings should reach, in a timely fashion, every person at risk who needs and wants to be warned, no matter what they are doing or where they are located. Such broad distribution means utilizing not only government-owned systems such as NOAA Weather Radio and local sirens, but all privately owned systems such as radio, television, pagers, telephones, the Internet, and printed media. If warnings can be provided efficiently and reliably as input to private dissemination systems, and if the public perceives a value and desire to receive these warnings, then private enterprise has a clear mandate to justify the development of new distribution systems or modification of existing systems. What if a warning-receiving capability were simply an added feature available on all radios, televisions, pagers, telephones, and such? The technology exists not only to add such a feature, but to have the local receiver personalize the warnings to say, for example, "Tornado two miles southwest of you. Take cover." What does not exist is a public/private partnership that can work out the details to deliver such disaster warnings effectively.

The Emergency Alert System (EAS) is the national warning system designed primarily to allow the President to address the nation reliably during major national disasters. All radio and television stations (and soon all cable systems) are mandated by the Federal Communications Commission (FCC) to have EAS equipment and to issue national alerts. The stations and cable systems may choose whether they wish to transmit local warnings and they may also delay transmission for many minutes. The warnings consist of a digital packet of information and a verbal warning of up to two minutes in length. The EAS interrupts normal programming or at least adds a "crawl" to the margin of the television screen. Program producers and advertisers want to minimize unnecessary interruptions. As a result, only a modest percent of severe weather warnings issued by the National Weather Service are relayed to citizens by available stations. The warnings that are relayed may only apply to a small part of the total listening area but are received by all lis-

teners. When people receive many warnings that are not followed by the anticipated events, they tend to ignore such warnings in the future.

The information and technology revolutions now underway provide a multitude of ways to deliver effective disaster warnings. Digital television, digital AM radio, and FM radio offer the capability to relay warnings without interrupting programming for those not at risk. Techniques exist to broadcast warnings to all wireless or wired telephones or pagers within small regions. Existing and planned satellites can broadcast throughout the country and the world. The Global Positioning Satellite (GPS) systems are providing inexpensive ways to know the location of receivers. The technology exists. The problem is to implement standards and procedures that private industry can rely on to justify development and widespread distribution of a wide variety of receivers.

Recommendations

This report provides the background information to justify the following recommendations:

1. **A public/private partnership is needed that can leverage government and industry needs, capabilities, and resources in order to deliver effective disaster warnings.** The Disaster Information Task Force (1997) that examined the feasibility of a global disaster information network has also recommended such a partnership. The partnership might be in the form of a not-for-profit corporation that brings all stakeholders together, perhaps through a series of working groups, to build consensus on specific issues for implementation and to provide clear recommendations to government and industry.

2. One or more working groups, with representatives from providers of different types of warnings in many different agencies, people who study the effectiveness of warnings, users of warnings, equipment manufacturers, network operators, and broadcasters, should develop and review on an ongoing basis:

- A single, consistent, easily-understood terminology that can be used as a standard across all hazards andsituations. Consistency with systems used in other countries should be explored.
- A single, consistent suite of variables to be included in a general digital message. Consistency withsystems used in other countries should be explored.
- The mutual needs for precise area-specific locating systems for Intelligent Transportation Systems andEmergency Alert Systems to determine where resources can be leveraged to mutual benefit.
- The potential for widespread use of the Radio Broadcast Data System (RBDS) and other technologies thatdo not interrupt commercial programs for transmitting emergency alerts.
- Cost effective ways to augment existing broadcast and communication systems to monitor warninginformation continuously and to report appropriate warnings to the people near the receiver.

3. **A standard method should be developed to collect and relay instantaneously and automatically all types of hazard warnings and reports locally, regionally, and nationally for input into a wide variety of dissemination systems.** The National Weather Service (NWS) has the most advanced system of this type that could be expanded to fill the need. Proper attribution of the warning to the agency that issues it needs to be assured.

4. **Warnings should be delivered through as many communication channels as practicable so that those users who are at risk can receive them whether inside or outside, in transportation systems, or at home, work, school, or shopping, and such.** Delivery of the warning should have minimal effect on the normal use of such communication channels, especially for users who will not be affected.

The greatest potential for new consumer items in the near future is development of a wide variety of smart receivers as well as the inclusion of such circuits within standard receivers. A smart receiver would be able to turn itself on or interrupt current programming and issue a warning only when the potential hazard will occur near the particular receiver. Some communication channels where immediate expansion of coverage and systems would be most effective include NOAA Weather Radio, pagers, telephone broadcast systems, systems being developed to broadcast high-definition digital television (HDTV), and the current and Next Generation Internet.

A NATIONAL STRATEGY FOR INTEGRATED PUBLIC WARNING POLICY AND CAPABILITY

PARTNERSHIP FOR PUBLIC WARNING, MAY 16, 2003

(*ppw.us/ppw/docs/nationalstrategyfinal.pdf*)

EXECUTIVE SUMMARY

Public warning empowers people at risk to take actions to reduce losses from natural hazards, accidents, and acts of terrorism. Public warning saves lives, reduces fear, and speeds recovery. Its success is measured by the actions people take.

Warning is an important element of providing for public safety. Public safety is a fundamental duty of municipal, county, and tribal government and, for larger hazards, of state and Federal government. Public safety is also the responsibility of citizens to take action not only to protect themselves and their loved ones, but also to make society safer through their jobs and community activity.

The American people believe that a public warning system exists. While current warning systems are saving lives, they are not as effective as they can be or should be. This document explains the inadequacies of our national warning capability and charts a course for improving current warning capability to provide what the American people need and expect.

The National Weather Service issues the majority of public warnings in the United States and has developed sophisticated warning procedures and systems. The National Oceanic and Atmospheric Administration (NOAA) Weather Wire System operated by the Weather Service and the National Warning System operated by the Federal Emergency Management Agency (FEMA) provide ways to collect and distribute warning information to emergency managers and other key personnel nationwide. The Emergency Alert System and NOAA Weather Radio provide ways to deliver warnings to some of the people at risk. A wide variety of other warning systems reach people at risk around critical facilities such as dams, chemical plants, oil refineries, and nuclear facilities. Many private businesses will deliver warnings to subscribers through telephones, wireless devices, and email.

A basic concern with current public warning systems is that they do not reach enough of the people at risk and often reach many people not at risk. Few local emergency managers or first responders have effective ways to input information and warnings directly into these systems. Warnings from different sources are rarely available to all warning systems in a given region. Many of the systems are not interoperable. There are very few standards, protocols, or procedures for developing and issuing effective and interoperable warnings. Warnings from different sources use different terminology to express the same issues of risk and recommended action. Even the national Emergency Alert System has increasing inconsistencies and increasing potential points of failure due to decreased funding, failure in some localities to develop state and local plans for proper utilization, and recent introduction of new codes in a non-standard manner.

All stakeholders involved in public warning should be represented in developing an effective national public warning capability. The Federal government needs to provide leadership, but cannot do it alone. The primary responsibility for warning resides with county, municipal, and tribal government, but they often need state and Federal assistance. Scientists, intelligence experts, and other authorities develop warning information on regional, national, and even international scales. The news media relay and explain warnings, and the broadcasters and cable operators operate the Emergency Alert System. Industry plays a key role in developing, building, refining, and operating warning systems. Certain industries also provide public warnings around critical facilities. Many professional and trade associations as well as nonprofit organizations and volunteers represent the needs of various groups involved in delivery or utilization of warnings.

Our national warning capability needs to be focused on the people at risk at any location and at any hour, be universally accessible, safe, easy to use, resilient, reliable, and timely. Numerous technologies exist to do this and in many ways technology is the easiest part of the solution. The bigger challenges are to provide accurate, understandable, specific, and informative warnings and to develop procedures and processes for collecting and disseminating those warnings in standard and secure ways.

For warnings to be readily available to all people at risk, no matter where they are or what they are doing, the warning capability should be ubiquitous, but in an unobtrusive manner that respects privacy and individual choice. This requires partnership and teamwork among all the different stakeholders. An effective warning strategy must enable industry to develop a wide range of market-based solutions.

Industry needs a clear statement of government intent and clearly articulated standards that specify required interoperability for a national warning capability. Industry will be naturally motivated to augment basic interoperability with competitive capabilities and refinements. Industry also needs an official stream of all-hazard warnings that industry can deliver without liability for the content. An effective warning strategy must also integrate efforts by government not only to issue warnings but also to deliver them..

States, counties and municipalities have developed disparate alert networks at a cost of hundreds of millions of dollars; these networks are not particularly effective, are not interoperable, and will be difficult to consolidate. To alleviate this unduly expensive and massive duplication of effort, national policy should be adopted calling for partnership in linking all stakeholders and the public with critical community-specific information that can be used to save lives and reduce losses. A public/private partnership is needed to develop the policies for and implementation of a national warning backbone that will deliver a stream of all-hazard warning information using standard terminology and procedures to a wide variety of warning delivery systems for any region. Such a capability should leverage existing and developing public and private network capabilities.

The President and Congress need to make public warning a national priority, assign lead responsibility to the Secretary of Homeland Security, appropriate the necessary funds to engage the suitable stakeholders effectively to develop national standards and protocols, and set deadlines for implementation. Public warning should also be made a priority for other federal programs so that information is gathered in a manner that will support this endeavor.

Working together in partnership, the stakeholders should assess current warning capability, carry out appropriate research, and develop the following:

- A common terminology for natural and man-made hazards
- A standard message protocol
- National metrics and standards
- National backbone systems for securely collecting and disseminating warnings from all available official sources
- Pilot projects to test concepts and approaches
- Training and event simulation programs
- A national multi-media education and outreach campaign

If we the stakeholders act now, each and every American at imminent risk can have immediate access to warnings, knowledge of how to take appropriate action, and a choice on selecting what information is delivered and under what circumstances. Although this document deals with national strategy, the authors of this draft feel it is important to estimate initial costs required to bring it to fruition. A significantly improved national public warning capability can be up and running within two years, at a Federal outlay of no more than $15 million annually. The majority of initial Federal funding should be used to initiate and support stakeholder involvement in developing interoperable standards and procedures for an all-hazard warning capability. Then state and local money can help in developing specific details of local warning input and industry can play a major role in developing consumer products for delivery of the warnings. Large amounts of additional Federal funding should not be required. Thus the strategy is that most federal government costs are up front. . .to prime the pump.

Many key stakeholders are already making an investment and effort and have laid the groundwork for a federal authority to step up to the challenge. All stakeholders have a shared duty and obligation to act. September 11th taught us that the unthinkable is no longer an excuse for delay. Future tragedies—whether natural or man-made—are not a matter of if, but when. Lives can be saved and losses reduced through effective public warning. Americans expect their government to protect them and believe an effective warning capability exists. However, an effective warning capability does not exist, and it is only as matter of time before our nation will come to wish it did.

Mr. SHADEGG. Thank you very much. Mr. Lucia.

STATEMENT OF FRANK LUCIA, VICE CHAIRMAN, WASHINGTON, D.C. EMERGENCY ALERT SYSTEM COMMITTEE MEMBER, PUBLIC COMMUNICATIONS & SAFETY WORKING GROUP, MEDIA SECURITY AND RELIABILITY COUNCIL

Mr. LUCIA. I thank the subcommittee and Congressman Shadegg for the opportunity to participate in this hearing.

I retired from the FCC in January 2001, after a 36-year career. My last 25 years were spent on public warning issues and Federal Government preparedness. At the FCC I served as Director of Emergency Communications and Senior Adviser, EAS. I oversaw the technical operations of EBS and EAS and participated in EAS State and local planning workshops across the country. I was one of the government employees on the OSTP committee and recently chaired the PPW committee that developed the EAS assessment report.

Presently, I volunteer as a member of the Public Communications and Safety Working Group of the FCC advisory committee, the MSRC, as the EAS representative to PPW, and as the Vice Chair of the Washington, D.C. EAS committee.

The key points of both the MSRC and PPW reports are that a single Federal entity should be responsible for assuring that public communications capabilities and procedures exist, are effective, and are deployed for distribution of warnings to the public by appropriate Federal, State and local government personnel agencies and authorities; that lead responsibilities are established at the Federal, State and local levels within the overall discipline of emergency management; and that a national uniform All Hazard risk communications warning process is implemented from a public and private consensus on what best meets the needs of the public, including people of diverse language and/or with disabilities.

MSRC and PPW assert that effective delivery of emergency information to the public should be achieved through a public-private partnership that makes coordinated use of mass media and other dissemination systems.

My written statement contains the specific recommendations that were developed by MSRC and PPW.

My main concern is that EAS and the warning structure in general are in need of resources so that they can become truly effective to warn our citizens. Through the years, volunteers have carried the load in developing EAS emergency plans. However, no one has taken responsibility to see that emergency management officials or other first responders know EAS is in place and available to deliver emergency messages. We know of no one who used EAS on 9/11, even though it was available. Very few emergency managers are connected to EAS. They need to be trained to use it. Some frustrated broadcasters set up the AMBER program and persuaded local law enforcement to use the idle EAS equipment to save abducted children. The remarkable and near instant success of the AMBER alerts is clear evidence about the efficacy of the EAS and the astonishing impact broadcasters and cable operators offer by making their audiences available.

Emergency personnel need tools to convey emergency messages to the populace at risk. EAS, NOAA and all weather radio, the

common alerting protocol, the AMBER portal and other industry systems need to be at their disposal to distribute warnings.

Presently the President's EAS message is transmitted by 34 primary entry point radio stations. These 34 radio stations can reach only portions of the public. On air tests need to be conducted to ensure that the message reaches every State and local area.

Early warning has been proven to reduce the loss of life and property. The National Weather Service provides excellent service by transmitting early warning messages over their communications assets. We need to extend similar capabilities to all emergency managers at the State and local levels.

When EAS was established the Internet and cell phone usage did not have a significant market share of the populace. These and other new distribution systems can now provide access to millions of our citizens. They all need to be connected to form a total warning structure.

After the end of the Cold War, government resources in the planning and warning area began to dwindle. The volunteer State EAS chairs need assistance to hold workshops, to update their plans, train industry personnel, refine test procedures and ensure that EAS is integrated with other warning capabilities at the State and local levels. States and localities need assistance with emergency plan development, equipment and training.

In today's environment the government at all levels must have immediate and reliable communications with the public. It is an important part of our Nation's defense.

[The statement of Mr. Lucia follows:]

PREPARED STATEMENT OF FRANK LUCIA

I thank the Subcommittee and Congressman Shadegg for the opportunity to participate in this hearing.

I retired from the FCC in January 2001, after a 36-year career. My last 25 years were spent on public warning issues and Federal government preparedness. At the FCC, I served as Director of Emergency Communications and Senior Advisor Emergency Alert System (EAS). I oversaw the technical operations of Emergency Broadcast System (EBS) and EAS and participated in EAS state and local planning workshops across the country. I was one of the government employees on the OSTP committee and recently chaired the Partnership for Public Warning (PPW) committee that developed the EAS Assessment Report.

Presently, I volunteer as a member of the Public Communications and Safety Working Group of the FCC Media Security and Reliability Council (MSRC), as the EAS Representative to PPW, and as the Vice-Chair of the Washington DC EAS Committee.

The key points of both the MSRC and PPW reports are that a single federal entity should be responsible for assuring;

That public communications capabilities and procedures exist, are effective, and are deployed for distribution of warnings to the public by appropriate federal, state and local government personnel, agencies and authorities,

That lead responsibilities are established at the federal, state and local levels within the overall discipline of emergency management,

And that a national, uniform, all-hazard risk communication warning process is implemented from a public and private consensus on what best meets the needs of the public, including people of diverse language and/or with disabilities.

MSRC and PPW assert that effective delivery of emergency information to the public should be achieved through a public/private partnership that makes coordinated use of mass media and other dissemination systems. My written statement contains the specific recommendations that were developed by MSRC and PPW.

My main concern is that EAS and the warning structure in general are in need of resources so they can become truly effective to warn our citizens. Through the years volunteers have carried the load in developing EAS emergency plans. In es-

tablishing EAS, the broadcast and cable industries complied with the FCC rules to install and test EAS equipment at a cost of millions of dollars. They installed EAS and special equipment at every broadcast station and cable system to make possible instantaneous communication to the public about any critical emergency. However, no one has taken responsibility to see that emergency management officials or other first responders know the system is in place and available to deliver emergency messages.

We know of no one who used EAS on 9–11 even though the EAS was available. Very few emergency managers are connected to EAS and trained to communicate the information that can save lives and property.

Some frustrated broadcasters set up the Amber program and persuaded local law enforcement to use the idle EAS equipment to save abducted children. The markable and near instant success of the Amber alerts is clear evidence about the efficacy of the EAS system and the astonishing impact broadcasters and cable operators offer by making their audiences available.

Understandably, resources are needed to equip emergency personnel with the tools needed to respond to a terrorist attack and other disasters. However, they also need tools to convey emergency messages to the populace at risk. EAS, NOAA Weather Radio, the Common Alerting Protocol (CAP), the Amber Portal and other industry systems need to be at their disposal to distribute warnings.

EAS was created to allow the President of the United States to communicate with the public in an emergency. Because of the failure to coordinate EAS at the state and local level, the efficacy of the system to disseminate the President's message is undermined. Presently, the President's message is disseminated by 34 Primary Entry Point (PEP) radio stations. Those 34 radio stations can reach only portions of the public; so the plan anticipates that other broadcasters and cable operators will relay the president's message. Yet no on air tests have been performed to insure that the message reaches every state and local area.

Early warning has been proven to reduce the loss of life and property. Casualties and property losses were greatly reduced as a result of early warnings prior to the arrival of the recent hurricanes and tornadoes. The National Weather Service provides excellent service by transmitting early warning messages over their communications assets. We need to extend similar capabilities to all emergency managers at the state and local levels.

When EAS was established, the Internet and cell phone usage did not have a significant market share of the populace. These and other new distribution systems can now provide access to millions of our citizens. They all need to be connected to form a total warning structure.

After the end of the cold war, government resources in the planning and warning area began to dwindle. The volunteer state EAS Chairs who have been working developing EAS plans need assistance to hold workshops to update their plans, train industry personnel, refine test procedures, and insure that EAS is integrated with other warning capabilities at the state and local level. States and localities need assistance with emergency plan development, equipment and training.

In today's environment, government at all levels must have immediate and reliable communications with the public. It is an important part of out nation's defense.

MSRC Public Communications and Safety Committee Recommendations

1. A single Federal entity should be responsible for assuring:
   - public communications capabilities and procedures exist, are effective, and are deployed for distribution of risk communication and warnings to the public by appropriate federal, state and local government personnel, agencies and authorities.
   - lead responsibilities and actions under various circumstances are established at Federal, State and Local levels within the overall discipline of emergency management
   - a national, uniform, all-hazard risk communication warning process is implemented from a public and private consensus on what best meets the needs of the public, including people of diverse language and/or with disabilities, including sensory disabilities.

Effective delivery of emergency information to the public should be achieved through a public/private partnership that makes coordinated use of mass media and other dissemination systems to quickly reach large numbers and diverse groups of the public at risk to deliver emergency information to the public.

2. Consistent with best practices in emergency management and business continuity planning, local and State governments and the media should cooperate to create, review and update emergency communications procedures, such as EAS,

Amber plans and their components, to quickly disseminate critical information to the largest possible audience.

- Effective use should be made of current, emerging, and legacy systems, including television, radio and weather radio that includes EAS.
- Local media must be included in the creation of the communications and warning plan and understand their key role in its successful implementation.
- The skill set of both federal and local agency participants should include training and process knowledge of how to work with and the benefits of utilizing the media to inform the public in a timely fashion during emergencies. Emergency managers should have a working knowledge of how to access EAS and other public warning systems.
- Local media should assist government to create and deliver more effective public education about emergencies and preparedness.
    - Local Media should assist State and Local government to develop a public education program that includes actions that the public can take (and refrain from) that will assist in the response to and recovery from disasters.
    - State and Local public education programs should be coordinated with Federal government programs of public information and education.
- Local media should agree to develop consistent presentation guidelines to ensure that all emergency delivery systems work well together to accurately deliver emergency information to the entire community.
- Government and local media should conduct regular testing and rehearsals of emergency communications plans.
- Appropriate policies for the judicious use of Emergency Communications should be created to preserve public confidence and the integrity and urgency of such communications.

3. All local media should form emergency jurisdiction / market cooperatives to assure delivery of local government emergency messages in a coordinated way to all constituencies in the community.

- Local media in each market should be encouraged to create media pools for risk communication and warning; in markets where pools exist, a working committee should take the pool to the higher level of security, isolating it from the traditional news coverage pool concerns.
- Local media should consider the creation of an Emergency Communications Coordinator position to serve as single media point of contact for government and develop a cooperative relationship with the local government lead agency.
- State and Local government should consider equipping their Emergency Operating Centers (EOCs) with the basic audio and/or video equipment that allows them to provide feeds of local government officials to the local media

Government and Media representatives from their technical staffs should meet regularly to ensure that joint plans and procedures have been implemented properly and that the supporting infrastructure is maintained in good working condition.

- Media and government jurisdictions should agree to take pre-planned actions upon authenticated notice from authorized government agencies, and incorporate these pre-planned actions in overall emergency management training exercises.
    - Local media and appropriate public safety and other government agencies should establish local and state emergency communication committees to plan well-coordinated community responses for disasters.
    - Local media should engage in coordinated activities to assure the flow of emergency information using multiple languages and means to make this information available to persons with disabilities in their communities.
- Pre-planned coordinated activities / roles appropriate to local conditions for each media under various scenarios (e.g. the type & number of delivery systems continuing to function) should be created, developed, rehearsed and tested.
    - In particular, emergency communications plans must take into account the probability of widespread power outages when AM and FM radio is the only way to communicate to battery powered receivers in the community.

4. As the nation's current means to issue timely warnings through mass media, the Emergency Alert System should be periodically tested, upgraded as necessary, implemented and maintained at the local, state, and national levels.

- EAS equipment should be uniformly implemented to make use of the latest EAS codes approved by the FCC.
- Written State and local EAS plans should be brought up to date with close participation by broadcasters and cable operators.
- Wired and wireless paths to EAS entry points from warning sources designated in State and local EAS plans should be in good working order.

• State and Local EAS plans should consider the use of the FM radio sub-carriers as a means of providing additional entry points on a cost effective basis.
• The Primary Entry Point system that gives the President the ability to address the Nation through EAS should be in good working order and be regularly reviewed and improved if necessary in terms of reliability, reach and robustness.
• Ongoing development of Presidential emergency communication systems and procedures should be coordinated with the ongoing development of new and legacy state emergency communication systems and procedures, including EAS.

5. Research into development of alternative, redundant and/or supplemental means of communicating emergency information to the public should be accelerated.
• An expanded government partnership with the media, consumer electronics and computer industries should harness free market innovation, foster competition, and enhance interoperability to meet changing national warning needs.
    • The partnership should explore the use of emerging new technologies to improve and / or complement existing infrastructures and to leverage emerging new infrastructures.

6. Local jurisdiction / market cooperatives should be encouraged to share their locally developed best practices for coordinating their efforts, delivering risk communications and warnings to their diverse public constituencies, and joint continuity planning to maintain communications under crisis conditions.

PPW EAS Assessment Report Recommendations

Based upon this assessment, the Partnership for Public Warning makes the following recommendations regarding the future of the Emergency Alert System:

The Department of Homeland Security should assume a leadership role for creating an effective national public warning capability. DHS, in concert with other appropriate federal agencies, should strengthen the Emergency Alert System by doing the following:

1. Provide leadership and oversight as necessary to manage the EAS system.
• Evaluate and support the implementation of new and emerging technologies, which provide greater bandwidth capabilities and reach large segments of the population.
• Ensure that any new technologies are backward compatible with the existing EAS/SAME equipment at 15,000 broadcast stations, 10,000 cable head ends and 1,000 NWR transmitters.
• Integrate the EAS and NWR systems with the emergency management community, by providing a cost effective, reliable, and secure method of activating the EAS system by state and local emergency management agencies.
• Institute reporting requirements for system activations to allow for the development of effective after action and service assessment reports.
• Develop and administer procedures and standards for the requirement, analysis, evaluation, and approval of state and local plans and a needs assessment of system equipment and connectivity.
• Require mandated compliance with EAS system upgrades within 180 days of official notice or regulation adoption date.
• Provide training resources for all EAS stakeholders designed to insure that the EAS system is maintained in an operational status, and that all participants are trained and qualified as necessary to perform their role in the use of the system.
    • Distribute and promote these resources through course offerings at FEMA's Emergency Management Institute, and by providing regional, state, and local training workshops as necessary, including on-site assistance.
    • Involve strategic partners in this training effort such as NEMA. IAEM, SBE, NAB, SCTE, NCTA, and state broadcaster associations.
    • Attend and participate in broadcast and cable industry events and conventions to form a closer alliance with the broadcast and cable communities.
• Develop and administer an education initiative using public service announcements to raise public awareness of the role of the EAS system in public warning.

2. Strengthen and improve the PEP system.
• Improve delivery methods to enhance system security, reliability, and robustness.
• Increase testing (to include on air tests as necessary) to ensure that the PEP system is maintained in a ready state.

- Expand the reach of the system by adding PEP stations and including major broadcast networks, national cable program suppliers, and satellite based media outlets.
- Implement policies and procedures at the activation points to allow the use of the PEP system for the purpose of public warning.

3. Update the existing Memorandum of Understanding that defines a framework for a cooperative effort for developing and evaluating state and local plans, to more accurately reflect current EAS capabilities and to clearly delineate management and oversight responsibilities. As appropriate, the MOU should also incorporate other federal and non-federal agencies participating in the EAS.

4. Find avenues to provide appropriate federal government funding and resources to support and operate the EAS and ensure that the federal government does not impose un-funded mandates on state and local governments, or the broadcast and cable communities. Study incentives for industry to participate voluntarily.

5. Support a public private partnership to develop the standards, policies and procedures to integrate the EAS into a comprehensive national public warning capability.

Mr. SHADEGG. I thank you very much, Mr. Lucia, for your testimony. And now Ms. McGinnis.

STATEMENT OF PATRICIA McGINNIS, PRESIDENT AND CEO, COUNCIL FOR EXCELLENCE IN GOVERNMENT

Ms. MCGINNIS. Thank you very much, Mr. Chairman, and members of the subcommittee for including me in this hearing. I want to congratulate you on focusing on this important issue—really getting to the heart of the matter to think about and look at what would actually happen if we had to mobilize the public in real time in an emergency. I think that is a great test of our Homeland Security enterprise.

The Council for Excellence in Government is a nonprofit organization which for 20 years has focused on two goals, improving the performance of government and engaging citizens. I think those are your goals in this hearing and in this subcommittee.

Last fall we launched a very ambitious effort called Homeland Security from the Citizens' Perspective. We looked at the whole enterprise, Federal, State and local, public-private, the volunteer and civic community from the bottom up, through the eyes of ordinary citizens, and we did that by holding a series of seven town hall meetings across the country in St. Louis, Miami, San Diego, Houston, Fairfax Boston and Seattle.

In addition to having those conversations with hundreds, actually thousands of citizens across the country, we conducted a national poll based on what we heard from citizens to test their ideas and gauge their concerns in terms of whether they were representative of the whole country. We had experts from the public and private sector in working groups looking at citizens' concerns and ideas to help us produce this report, which you have a copy of, called "We the People: Homeland Security from the Citizens' Perspective."

The major finding of this work is very pertinent to what we are talking about today, and that is that there is a tremendous communications gap between government and citizens in homeland security, and we think that citizens, the public, ultimately is the most important and most untapped resource not only in an emergency response situation, but also to help prevent and prepare for emergencies. Repeatedly in the town halls, and this was so powerful, we had State and local and Federal officials together in conversations

with the public, representatives from both parties, very—this was a very constructive conversation. They were very proud of the plans that they have come up with, particularly at the local level, and the hard work that has been done bringing different agencies together. And then when we asked the people in the audience and in our polling in the local areas if they were aware of these plans, if they had any idea of what to do in an emergency, if they knew where to get the information, and the answer is a resounding no. And that is a huge issue.

And the thing that was striking in the moment of these discussions was that the officials in charge were surprised by that because the plans are on their Web sites. There is information out there. A lot of information has been mailed to people. But it is simply not user friendly. Everyone is not going to a Web site. We have a huge communications gap. We asked people how they would get their information in the absence of knowing or thinking ahead of time about what to do, and they say they would turn on the television first, and the Internet for guidance. But if power is shut down, what would they do, and how many people have battery powered radios and who knows what stations to turn to if we need information immediately. And, as we talked about before, how many of our televisions, radios and other equipment can receive these digital signals in the kind of emergency alert system that we envision that would get information out in a very broad way in real time?

Information sharing emerged as the top concern in every single town hall meeting and the top recommendation of the public. People want the government to have the tools necessary to share information and communicate with them, and this gets to both the issues of interoperability in terms of sharing and analyzing the information and making decisions before you get to a point where you can issue an instruction, an emergency instruction. That has to be right because the information has to be reliable. It has to be geographically specific. And then you have to be able to get it out to everyone regardless of language or location or disability.

We made a number of recommendations in four areas, and I think they can serve as principles for your work. Collaborative leadership, information sharing, engaging citizens in the process and measuring readiness. And I am not going to go through all those recommendations. You can read them. But I am going to highlight a few.

We need an updated National Strategy for Homeland Security. The National Strategy for Homeland Security was prepared in 2002. It is excellent but it has not been updated and needs to be updated to provide a framework for State and local plans, for workplace, school, hospital, other kinds of plans, and it needs to be very specific in terms of goals, assignments of responsibilities, performance measures, and the vulnerability assessments which have to be part of that planning should include examining emergency alert systems. The critical infrastructure owned mostly by the private sector, should definitely include private broadcasters and we should be focused on their plans and coordinating them with the national strategy. We need plans and we need to practice them.

In terms of information sharing, we have talked a lot, and we absolutely agree that we need the standards and protocols so that decisions can be made and communications with the public can take place. We absolutely agree and made some recommendations that information should be shared through many channels. You really need to think from the perspective of a citizen in terms of how they are going to get their information. And so all the channels that we have talked about from radio to television, to the Internet, to cell phones to personal computers and—we need to have all of that.

In terms of engaging citizens, and this is a point I will make generally and we have a lot of specific recommendations, we think that citizens need to be part of building this, understanding it and practicing it, because right now if you have an emergency the response is likely to be quite chaotic regardless of how effective even a digital emergency alert system is if people aren't aware of what they are supposed to be listening for and what they should do under a variety of scenarios.

We suggested that local government should provide people with information that is really boiled down, maybe to an index card that gives them an idea of what they have to have and what they should do and where they should turn in different scenarios of emergencies. In some cases you would shelter in place. In some cases you would evacuate. And if you think that through ahead of time and talk with your family about it, practice it in your schools, workplaces, et cetera, there is going to be a lot more calm, ability to tune in, get the instructions and follow them.

The readiness measure—

Mr. SHADEGG. If you could wrap up as quickly as you can.

Ms. MCGINNIS. I will wrap up. I will just say that what we are working on now is the notion of measuring readiness and creating scorecards for a variety of institutions and actually having a readiness index for the public.

Thank you.

[The statement of Ms. McGinnis follows:]

PREPARED STATEMENT OF PATRICIA MCGINNIS

Thank you Mr. Chairman and members of the Subcommittee for inviting me here today to participate in this important discussion about emergency warning systems and communicating with the public in this new era of homeland security. I congratulate you on getting to the heart of the matter—to look at what would actually happen—or not happen—in the real time mobilization of the public as an emergency unfolds.

As a nonprofit organization, which for 20 years has focused on improving the performance of government and engaging citizens, the Council for Excellence in Government shares your concern about the timely and effective communications with the public in emergency situations.

In the fall of 2003, the Council launched an ambitious effort called *Homeland Security from the Citizens' Perspective.* We looked at the entire homeland security enterprise from the bottom up—through the eyes of ordinary citizens. Our goals were to solicit ideas and articulate a vision of safe and secure communities across the country, and to identify the communications and actions necessary to get us there.

To foster dialogue between citizens and leaders, we organized seven town hall meetings across the country in St. Louis, Miami, San Diego, Houston, Fairfax, Boston and Seattle. In doing so, we reinvented the traditional town hall by adding interactive polling technology and the internet to gauge citizens' views and encourage questions, feedback and participation. We arranged to have many of the town hall meetings broadcast live on radio and television, allowing countless others to participate from home.

In tandem with these town hall meetings, we convened working groups comprised of thought leaders from the public, private and nonprofit sectors. They took the ideas and concerns from the town hall meetings and provided guidance about approaches and solutions to achieve the safety and freedom that citizens want. Our national poll amplified and clarified what we heard both in the town hall meetings and in the working groups.

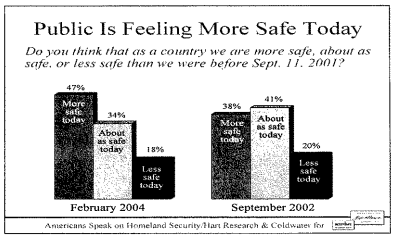
A major headline of this work is the existence of a tremendous communications gap between government and citizens, whom we believe are the nation's most important and most untapped resource to help prevent, prepare for and respond to a terrorist attack in this country.

Repeatedly in our town halls, we asked the audience whether they were aware of their state, city, work, or school emergency plans. Time and again, I saw the panelists—local and state homeland security directors, police and fire chiefs, and federal officials too—quite surprised that the people in their communities have little or no awareness of their plans, how they

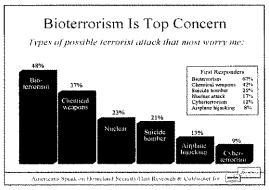
would get information, especially if there is a power outage, or what they should do in an emergency.

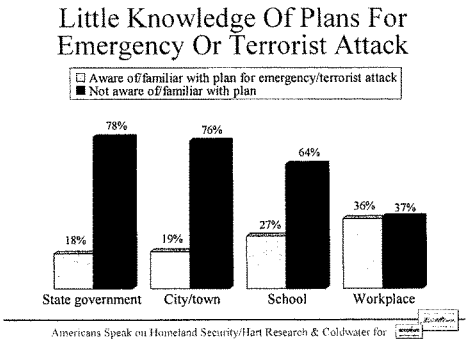
Other related findings:

- Although we feel safer today than three years ago, three-quarters of us think there will be another terrorist attack at home or overseas in the next few months, and half of us are concerned about terrorism near where we work or live. Despite that fact, very few of us would know what to do if something terrible happens.

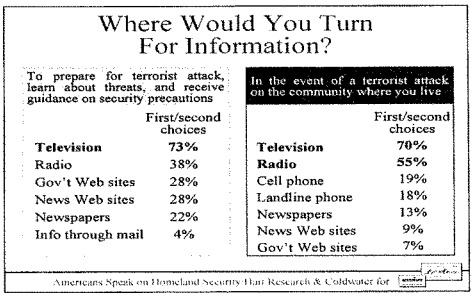


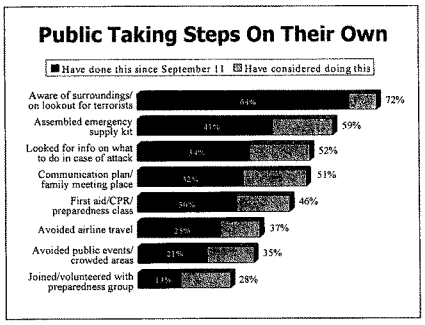
- We fear the unknowns: bio-terrorism, attacks on power plants, water facilities and other critical infrastructure. Yet most of us have not even put together emergency supplies or made a plan for our families. Most of us are not familiar with the emergency plans of our children's schools or family members' workplace or places we shop and spend our time. In addition, most of us are not familiar with local evacuation routes, mass transit policies, or emergency alert systems!





- We say we would turn on the television first or the Internet for guidance, but if power is shut down, how many people have the good old-fashioned battery-powered radio? And who knows which stations have the information we need immediately? How many of our televisions, radios or other equipment can receive the digital signals from the kind of emergency alert system we are talking about today?



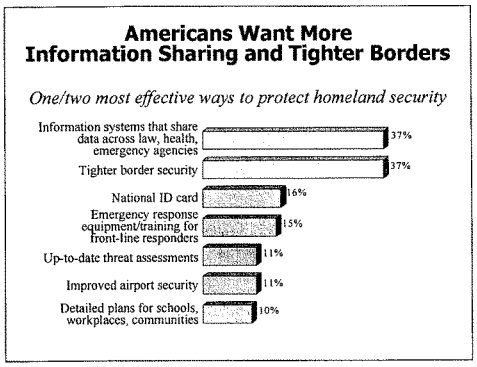


While many local, regional, state and federal agencies, as well as, school systems and work places have existing emergency plans and other excellent preparedness information to the public on websites and in publications, these plans are neither well known nor rehearsed. Furthermore, plans are generally not linked to one another. This lack of awareness and coordination is likely to lead to confusion in the event of an actual emergency. For example, parents have little understanding of their children's school plans, and have not considered contingencies if an emergency occurs while they are at work and their children are at school.

Information about homeland security is available to citizens on numerous websites. But, it often takes fewer mouse clicks to balance your checkbook than to find the emergency plans of some of the nation's major cities on the web, and that is, of course, if you have internet access at home and at work. To encourage use, this information must be marketed and made available through many channels of communication, through a variety of trusted messengers and "ambassadors", including the media, schools, workplaces, faith and community organizations.

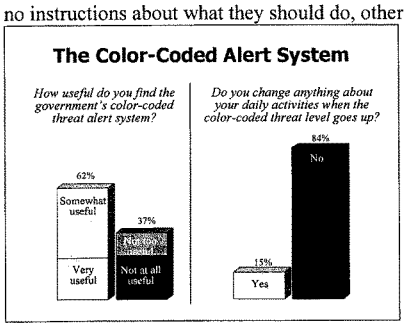
Americans say they are ready and willing to participate in homeland security. Three in five (60%) say there is a role for the average citizen, and roughly as many (62%) say they would be willing to volunteer time in their communities to help. One in five (20%) go so far as to say they would dedicate 3 to 5 hours per week to these activities. If even half of these well-intentioned citizens followed through on such a commitment, this would provide an incredible resource for increasing homeland security.

Information sharing emerged as a top concern in every town hall meeting and in our polling. Savvy citizens know that information sharing across government agencies is critical to effective homeland security, and they want government to have the tools necessary to prevent terrorist attacks and to communicate with the public. As a resident of Cambridge MA, asked, "How can we ensure all public safety agencies are communicating and working together effectively breaking down the barriers of fiefdoms and jurisdictional concerns?" In our poll, the public ranks information systems that can share data across agencies as the most effective measure that can make us safer.



First responders also voiced strong needs for the capacity to share information. They cited lack of funding for interoperability as the top-ranked potential barrier to effective communication between government agencies. Just 18% of first responders are very satisfied with the government's performance in sharing information among different agencies.

Although the color-coded alert system is the main vehicle through which the Department of Homeland Security informs the public of a change in the threat level, this system is primarily intended for local and state governments and front line responders, rather than citizens. We found time and time again that the color alerts have no meaning for ordinary citizens. There are no instructions about what they should do, other than to watch and worry.



In order to make a warning system effective for citizens, it must take into account the psychological and physical realities of day-to-day life. It is not clear to the public what or who the authoritative sources are for emergency warning and preparedness. We must make sure that any warning system is well known, reliable, and trusted in order to communicate in real time with specific details about who should do what, when, where and why.

We believe preparedness must be a community driven effort, owned and understood by the friends and neighbors who may find themselves on the front line, trying to protect their families and each other. Local media, businesses, schools and government must collaborate with citizens so that they are informed and on the same page, and practice makes perfect. Exercises must be practiced and the lessons learned - good or bad - shared with the public. There are several cities where this kind of collaboration has been successful. These dialogues highlight personal preparedness, volunteer opportunities, and expectations for individuals, the community, and the government.

To make emergency preparedness a community centered activity; to move away from the anxiety of preparing in isolation, the building and testing of emergency alert systems can be communicated in schools, workplaces, neighborhood organizations, places of worship and civic groups, as well as through PSA's and websites. Local officials across the country should offer citizens a service that will send homeland security information or alerts to cell phones, email addresses, pagers and other personal communication devices. The D.C. Office of Emergency Management and Arlington County have this capability in place. An example of a similar system currently in place are the free weather warnings that can currently be directed via wireless emergency notification services to almost any wireless device.

The country is making progress in enabling a homeland security capability that builds upon a "dual-use" approach of our existing "all-hazards" infrastructure. Our *Homeland Security from the Citizens' Perspective* report highlights examples from all over the country of innovation at work. Nevertheless, there is much more work to be done to transform today's homeland security enterprise. Achieving citizens' vision of safety, freedom, and trust will require changes in four key areas:

- Collaborative Leadership
- Information Sharing
- Informed and Engaged Citizens
- Readiness Measures and Rigorous Evaluation

Several of our specific recommendations in each category are quite relevant to building effective emergency alert systems.

Collaborative Leadership

We need coordinated and effective plans, smart funding, and accountability for results throughout the homeland security enterprise. We also need effective public/private partnerships that can blend government and industry capabilities and resources to implement effective solutions.

- The President should direct the Department of Homeland Security to convene leaders from federal, state, and local government, the private sector and civic organizations to update the National Strategy for Homeland Security developed in 2002, with input from citizens.

- State, regional, and local government leaders should update their plans in the context of the national strategy so that they are linked and consistent.
- These plans should be based on location-specific assessments of threats and vulnerabilities, and include specific goals, assignments of roles and responsibilities, performance measures and should include information on emergency warning systems. These vulnerability assessments should examine emergency alert systems and specific performance measures should focus on the nation's ability to alert the public and effectively inform them of safety actions to take in different scenarios.
- Schools and workplaces should develop, communicate, and practice their plans and alerts, following the same principles of strategic linkage and collaboration as states.
- We also recommended that managers of privately owned critical infrastructure facilities, including broadcast and telecommunications, should coordinate their plans with the appropriate government officials in the homeland security enterprise.

Our toughest problems do not center on technology. Rather, we need collaborative leadership and teamwork among all stakeholders to get the job done. An effective national homeland security strategy— which has to include an effective public alert and warning system—must involve federal agencies, all states and localities and hundreds of private sector companies spanning several different industries. The AMBER Alert Web Portal, designed to improve delivery of warnings of abducted children, is a great example of how government and industry can come together and get something done with shared leadership, commitment, and resources.

Information Sharing

Of course, in order for the public to be effectively mobilized in an emergency, the right information must be collected, analyzed in a timely manner, and effectively shared by the authorized individuals and organizations. This was the number one suggestion we heard from citizens in our town halls and in our national poll. Information communicated to the public through emergency warning systems needs to be accurate, timely and geographic specific.

Standards and protocols are especially important to enable strategic information exchange and use. For example, market based, open technology standards are essential for achieving effective data sharing across different information systems and communication devices. Standards for data formats, communication protocols, and user interfaces are critical to achieve true interoperability. These standards are usually set by widely accepted standards organizations or become de-facto because of the large number of commercial companies that voluntarily follow them. The Common Alerting Protocol (CAP) has been developed under the OASIS standards process specifically for transmitting all types of warning information.

In the homeland security enterprise, market based open standards are also needed for common definitions, how data is defined and stored and unified incident command management and operating procedures. An all hazards public warning system is dependent upon consistent, reliable, and secure data inputs from the variety of government players involved in initiating and communicating alerts based upon specific incidents.

We have specifically recommended that

- The National Homeland Security Strategy should clearly set the goal of nothing less than a seamless national network where authorized public safety officials have appropriate access to voice, video, and data communications at a level of reliability and security that can withstand the demands of a national emergency.
- Progress reports to the public should show measurable results and next steps.
- All information sharing should be done in a manner that ensures proper security and authorizations are in place for its use.
- Congress should pass legislation requiring the allocation of more radio spectrum to public safety officials as soon as possible.
- Local officials should set up a mechanism (such as a homeland security information system analogous to or part of the 311 or 911 systems) for citizens to report homeland security threats and emergency information.
- As part of a national emergency warning system officials should offer citizens a service that will send homeland security information or alerts to cell phones, email addresses, pagers, and other personal communication devices.

On this latter point regarding delivery systems, we must recognize that information delivery in today's technology enabled society requires multiple channels of delivery that are specific to the population and geographical area at risk. With the advent of digital technologies in radios, televisions, cellular phones, pocket computers, geographical navigation systems, a much more robust national infrastructure can be empowered to announce warning information to the public. It could also be used to notify public officials in a much more coordinated and secure way. Nevertheless, we still need a standard signal format and compatible technology devices, not only in the hands of authorized emergency officials, but also with the public.

As we strengthen information collection, analysis, and dissemination for homeland security purposes, we must be mindful of the American public's concern about personal privacy. The threats posed by terrorism and associated changes in information management practices raise new challenges in the areas of privacy and information security. The public wants government to have the tools it needs to effectively protect against and respond to terrorism, but it also wants strict assurances that personal information is used in appropriate manners

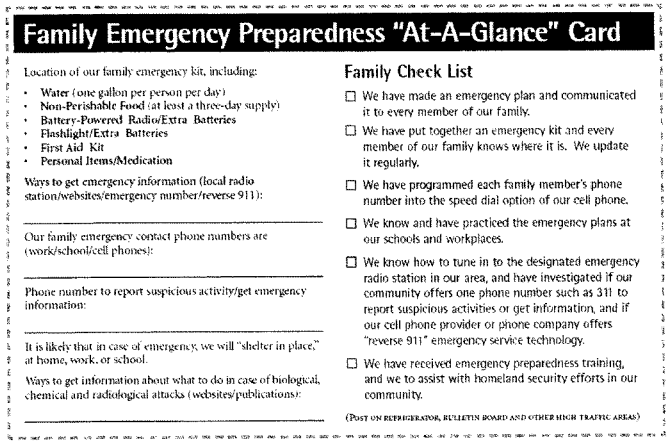
Informed and Engaged Citizens

Citizens have expressed a great willingness to be part of homeland security solutions through their interest in better preparedness and volunteerism.

- Following our recommendation, the Administration has officially designated the month of September as "Homeland Security Preparedness Month". Clearly, Governors, mayors and other local leaders should make discussions of effective emergency warning systems part of their September 'Homeland Security Preparedness Month' outreach events and efforts.
- Schools should engage parents and students in their emergency plans and communications during "back-to-school" activities and PTA meetings. A recent study by America Prepared Campaign of the 20 largest school systems in the country shows mixed

attention to this important issue. Fortunately, there are some model schools districts, such as nearby Fairfax County, Virginia and Montgomery County, Maryland that have done excellent work in putting in place emergency response plans. Clearly, an ability for schools to receive timely and accurate emergency alerts and warnings is paramount to knowing what type of emergency response plan to put in place.

- Local governments should produce an index card with "all hazards" emergency preparedness information in a user-friendly format that can be distributed in multiple languages through many channels to homes, workplaces, and schools.



Family Emergency Preparedness "At-A-Glance" Card

Location of our family emergency kit, including:

- **Water** (one gallon per person per day)
- **Non-Perishable Food** (at least a three-day supply)
- **Battery-Powered Radio/Extra Batteries**
- **Flashlight/Extra Batteries**
- **First Aid Kit**
- **Personal Items/Medication**

Ways to get emergency information (local radio station/websites/emergency number/reverse 911):

Our family emergency contact phone numbers are (work/school/cell phones):

Phone number to report suspicious activity/get emergency information:

It is likely that in case of emergency, we will "shelter in place," at home, work, or school.

Ways to get information about what to do in case of biological, chemical and radiological attacks (websites/publications):

Family Check List

- ☐ We have made an emergency plan and communicated it to every member of our family.
- ☐ We have put together an emergency kit and every member of our family knows where it is. We update it regularly.
- ☐ We have programmed each family member's phone number into the speed dial option of our cell phone.
- ☐ We know and have practiced the emergency plans at our schools and workplaces.
- ☐ We know how to tune in to the designated emergency radio station in our area, and have investigated if our community offers one phone number such as 311 to report suspicious activities or get information, and if our cell phone provider or phone company offers "reverse 911" emergency service technology.
- ☐ We have received emergency preparedness training, and we to assist with homeland security efforts in our community.

(Post on refrigerator, bulletin board and other high traffic areas)

- Local governments should actively involve citizens in the development and updating of emergency plans and alert systems to communities, schools, and workplaces.
- State and local governments should also include reporters in homeland security training exercises as active participants and that broadcast media organizations partner with businesses and local governments to get public service announcements effectively out to citizens containing critical information about preparedness and response.

Innovation @ Work

The Texas Education Agency now has the ability to simultaneously communicate with multiple people within a district or across the state on various self-selected communication devices, such as email, telephones, cellular phones, pagers, and fax machines. In addition, the system is capable of initiating a voice-only alert via the public telephone network and of connecting to other communication system.

Innovation @ Work

Arlington, VA

As part of a larger campaign, 'Arlington Prepares', a joint education team of Citizen Corps and the Office of Emergency Management in Arlington County has provident hundreds of presentations to the public, including television presentations and plans and upcoming door-to-door campaign.

Readiness Measures and Rigorous Evaluation

Of course, the future of the homeland security enterprise depends on our collective ability to innovate, recognize what works, learn from our mistakes, establish pilot programs to test new ideas, and to insist on measuring the readiness of communities, schools, hospitals, workplaces and emergency alert systems.

- Federal, state, and local governments should encourage and support rigorous evaluation of various approaches to homeland security, including emergency warning systems. Clearly, as event scenarios and drills are conducted across the country, information on response times, communications effectiveness, governance structures, security of information networks, and decision-making quality should be shared. The Department of Homeland Security has set up Centers of Excellence and a lessons learned web portal (www.llis.gov) for the first responder community, which is a great way to communicate these findings.

- We also suggest the development of readiness scorecards for use by local and state governments, workplaces, schools, hospitals and other organizations. Such scorecards should be developed with input and ownership by key stakeholders. Measures could include, for example:

Readiness Scorecard

Interoperability:
- Use of standard information sharing and incident command procedures
- Degree to which emergency responders can share data and talk to each other in real time
- Security of information systems; privacy protection
- Use of open, non proprietary standards
- Adequate equipment and training
- Established chains of command, following NIMS for information sharing and incident management
- Integration of critical databases
- Adequate, reliable spectrum for wireless communications by public safety officials
- Ability to communicate emergency warnings and official guidance to public through many channels

Quality of homeland security plan, encompassing public safety, public health, education
- Linked and consistent with plans of other agencies, levels of government, private sector
- Accessible and understandable
- Well-known

Vulnerability assessment, which assigns risk to potential targets, including critical infrastructure, such as, transportation, utilities and public warning systems
- Is it strategically linked, shared and used by others at local, regional, and federal levels

Exercises and practice drills under a variety of scenarios
- Measure frequency, effectiveness of communications and information sharing, security of networks, understanding of roles and responsibilities, effectiveness of decisions protocols, involvement of right players, including health, hospitals, schools, media and public, where appropriate
- Capture of lessons learned

Innovation and best practices
- Capture and sharing of best practices
- Benchmarking of others' best practices

Communication with public
- Capacity to reach the public through many channels in real time
- Use of measures such as the public readiness index, described below

A public readiness index should be created in tandem with a readiness scorecard, which would include key measures to track and communicate progress and gaps in public preparedness. Drawing upon a model such as the Consumer's Confidence Index, the Public Readiness Index (PRI) could, for examples, measure key indicators such as:

- % of individuals and families who have emergency supplies
- % who have plans to shelter in place, communicate with family members, or evacuate, depending up on the scenario
- % who are familiar with their workplace plan
- % who are familiar with the emergency plan on children's schools
- % who have discussed and practiced plans at home, school, and workplace
- % who are trained as volunteers
- % who know how to report suspicious activities
- % who know where to get information and guidance in an emergency, if the power is out.

This index could be developed and refined through roundtable discussions with government, business and school leaders, focus groups with citizens, and polling to se the baseline, and allow tracking of progress at the national, regional, and state or local levels.

Conclusion

There is clearly a great deal of work necessary to achieve the citizens' agenda for homeland security emergency warning system and communication with the people.

The collaborative process – and our effort is just example of many terrific and important efforts – should continue in order to keep this dynamic picture focused on the American people – the most valuable resource in homeland security enterprise.

The citizens' agenda has been identified and now articulated. Another level of collaboration will create real solutions. This will be the work of government, the private sector, schools, civic organizations, first responders and citizens working together. We know what needs to be done. We know that informed and engaged citizens are committed to transforming the homeland security enterprise with dynamic leadership, effective communications and bold innovation and action.

We the people can do this. The security of our communities and the strength of our democracy depend on it.

Mr. SHADEGG. Thank you very much. I want to thank each of you for your testimony and for your written testimony as well.

I want to begin with you, Mr. Lucia, because quite frankly I am a little confused. A great deal of the discussion here today has been on the EAS system, and your points about needing more resources were well taken. It was a system that was created, as has been explained earlier here today, to warn Americans of an impending nuclear attack. Quite frankly, over time that became a remote possibility, quite fortunately, and now I think we need a better system. Quite frankly, I think you are right about needing more resources.

However, one of the things that I was concerned about is that you made reference to the system not being activated as often as it should be or not having been activated in the 9/11 incident except that as I understand it, and here is my confusion, as I understand it, the current EAS system can only be, I guess, activated or utilized by the President. And Mr. Cox pointed out in his earlier questioning, it seems to me, there ought to be a capability of regional activation. And I think that is what you said in your testimony, is that correct?

Mr. LUCIA. Yes. It is set up technically so that it can be activated regionally. It depends on which of the 34 stations are activated to bring the President's message. So it could be done regionally. Using that method. FEMA can control which of the 34 are going to put out the message.

Mr. SHADEGG. But should it be able to be activated at a much lower level? For example, the AMBER alert system can be activated by a local police department when a child is abducted.

Mr. LUCIA. Right. The AMBER plans are excellent examples of how you can take an originator who makes up a message, have connection capability to the broadcasters and cable operators in a given area and put on an AMBER alert instantly. There are other systems that go with that, you know, the AMBER portal and so forth.

But the problem is the local, State and local EAS plans are now done voluntarily. And several years ago—and I keep going back to the past—we had a program where we do workshops around the country to develop these State and local plans and make sure that they were effective. Now, they are still being done, but I think there needs to be more government resources to lift that planning program, you know, off of dead center and get started again really.

Mr. SHADEGG. Dr. Ward, in your testimony you said that technology is not the problem, and I would agree with that. But the weakest link is this link between people who have a warning to put out and those who actually disseminate the warning, and there are many mechanisms for the dissemination of the warning. The question is how do you implement that? Would you agree that there needs to be the capability of a regional warning?

Mr. WARD. Yes, there needs to be a capability of a regional warning. There needs to be a capability of focusing that warning on a specific region, not just which of the PEP stations are activated but a specific geographic region. I think one of the really remarkable successes of the AMBER Alert Web Portal is the way it can focus on exactly the areas it needs to go and how it can get these from either the State police or from any patrolman on duty who can get

approval from the State police to enter that information can go out immediately everywhere it needs to go.

Mr. SHADEGG. I think this committee, this subcommittee, is interested in actually taking action. I know the full committee is interested in that. On that point is there a need for a specific legislation? Mr. Cox in his earlier question said is this an executive branch issue, or is this a legislative branch issue? I think there is frustration here that we through the AMBER alert model have a much better mechanism to notify people, but we apparently don't have that for incidents that don't involve the abduction of a child. The kind of incident of 9/11 I am not sure you would want to have issued an alert nationwide. You certainly needed the more important alert regionally, here for example, on Capitol Hill, during that gap between the first three planes crashing and where the fourth plane was going. You didn't necessarily need a national alert but you certainly needed a regional alert, and I guess the question is there something this committee or this Congress can do to move the ball down the court?

Mr. WARD. As I said earlier, one of the biggest problems everybody has identified is teamwork, the need to work together. The fact is for local warnings, local people have the responsibility to do it, and they want to do it. So the Federal Government can't just tell them what to do, and one of the problems with EAS is the fact that it is mandated on the broadcasters, and while many of them do it very voluntarily and want to do it, it is not evenly mandated. So I think what you need to do from the Federal level is somehow empower the local groups to solve this problem.

Again, I think the AMBER Alert Web Portal Consortium has given us a model for how you can get all of the different stakeholders involved. They put the agreements together as to how to—who is going to be responsible for what; how is it going to work. They then get the system going and it works very nicely. So I think we do have an excellent pilot out there that shows how we can get around all those different groups and get them working together.

Mr. SHADEGG. Now there was Federal legislation to get AMBER Alert going. Is there a need for similar legislation here?

Mr. WARD. What there is a need for now, for example in the AMBER area, is to expand that effort to be an All Alert, and there is a need for Federal interest to do that. In talks with FEMA there is definitely an interest there. It is a question of going forward and getting it done.

Mr. SHADEGG. So you think there is a need for Federal enabling legislation to convert essentially AMBER Alert into an All Hazards Alert so you could warn of anything, not just the abduction of a child?

Mr. WARD. Yes. It is a question of exactly how much legislation is required for the purpose of just getting forward and getting the job done. I mean for very small amounts of money this could be put nationally because you are not building new things.

Mr. SHADEGG. I think every member of this subcommittee would like to see the job done, if not every Member of Congress. I think one of the issues is that the American public isn't consciously aware of how inadequate the warning system is right now and even probably not consciously aware of the importance, the increased

importance of a warning system today following 9/11 versus in the nuclear era.

My time has expired. The Chair would call upon the ranking member, Mr. Thompson, for his questions.

Mr. THOMPSON. Thank you, Mr. Chairman. I agree with you on the inadequacy of the system and just in the testimony of the two panels we have heard a little bit about the inadequacy. Mr. Hoover testified that we can notify 94 percent of the people in this country with our existing system, and I have heard two gentlemen say we can do about 30 percent.

So can you help me out so at least we will leave today with some—

Mr. WARD. Let me first explain reverse 911. When you pick up the telephone and dial 911, in the center for the 911 calls your address is physically displayed on the screen. Now, this requires a database that has to be updated. More than 10,000 telephone numbers change every day in the United States. There is a major effort to keep that database operational. Anyway, there is a database and of course cell phones add a whole other problem here. But there is a database that links your phone number to your physical location. You could use that to dial out but if you—as soon as you start dialing thousands of people you overload the switch system. As soon as you start sending short messages service, messages to Blackberries and cell phones you overload the switching system to get it out there. You need to broadcast the information. Now, there are hundreds of companies out there that will provide the service of calling telephone numbers, sending faxes, sending e-mails. What we are talking about in this pipeline is empowering all those companies to do their thing, to do it any way they want. But here is the official information, and they all will have it instantaneously.

Mr. LUCIA. With respect to the 90 percent, 30 percent, the 34 radio stations that are a part the PEP system, their signal coverage is about 95 percent of the country. The problem comes in when the volunteers develop a State EAS plan, they develop a monitoring structure whereby all the stations and cable systems in that State monitors in such a way to form like a pyramid so that the governor can put messages into that system. Similarly that State EAS entry point monitors a PEP station. So what you need to do is to ensure that each of those PEP stations is being monitored by each State EAS entry point, and then that message can then flow down to all the stations and cable systems in that State.

Mr. THOMPSON. So is that being done now?

Mr. LUCIA. Well, some of the States have developed—can reliably monitor those 34 PEP stations. Some State EAS entry points cannot.

Now, Mr. Hoover said they were going to add more PEP stations and they were going to put in a satellite system. That would solve the problem of getting the EAS national message to each of the State EAS entry points. The problem still exists below in the State EAS plans there are a lot of communities that need their own EAS structure, D.C. being one, and we are working on a plan for D.C. right now. So cities like New York, Chicago, St. Louis, they need to have State and local plans, and not only include EAS. It has got

to include all of these systems working together because no one system can reach everybody. So that is—

Mr. THOMPSON. So do we need to from a legislative standpoint, in your opinion, and I will throw it out, just mandate that operation in one agency, or—

Mr. LUCIA. Well, it appears DHS is that agency. The only question is the development of the State and local warning plans, integrated plans. That is still a voluntary thing.

Mr. THOMPSON. Right.

Mr. LUCIA. I don't—I mean, if—and when you do the plans voluntarily, I think you get a better cooperation from all of the industries. If you mandate it, I am not so sure it will be done, but I am not so sure that—I don't know if the effects would be as well taken by the State and local officials, if you know what I mean.

Mr. THOMPSON. Well, if you were trying to get a uniform system

Mr. LUCIA. Correct.

Mr. THOMPSON. Mandating it wouldn't give you—

Mr. LUCIA. Well, the national system is mandated. In other words, the code that the President uses on the EAS system will automatically take over all the EAS equipment that it sees, that it gets to. All the other codes. Tornado warnings, evacuations, all those codes presently in the FCC regulations are used on a voluntary basis. The officials request the broadcasters to put out a tornado, you know, the Weather Service requests the broadcaster to put out a tornado warning. The local emergency manager requests that the broadcaster put out an evacuation order. But these are done on a voluntary basis. And when you have a plan where the originator says, well, do you agree with me, Mr. Broadcaster, that we should put tornado warnings out and the broadcaster says, sure, I will do it. So when you have that plan structure and when you have that cooperation in advance, I think it works better that way. But the question is, how do we get it done across the country that way?

Mr. WARD. The only mandate that exists at the moment for Federal agencies is to deliver the President's message. Both the FCC and FEMA have that mandate. Nobody has the clear mandate to make sure the public is warned.

Mr. THOMPSON. Thank you.

Mr. SHADEGG. The time of the gentleman has expired. The Chair would call on the gentleman from California, the chairman of the full committee, Mr. Cox.

Mr. COX. Thank you. I wonder if any of our three witnesses would care to describe with some particularity how the Internet might be used as part of the digital warning system.

Mr. WARD. The AMBER Alert Web Portal that is now operational in Arizona and Washington State is using the Internet, and it is quickly confused. It is not just a Web site. The information shows up on many Web sites. But that is just the window into what is going on behind that. What happens is there is a form that the local policeman can fill out. When he hits return, it immediately goes out over the Internet to hundreds of locations, to news desks, to—it can—we have shown it could drive the EAS system. It can go anywhere you want to go.

Mr. COX. Well, I want to ask the question a little differently, because I am obviously well aware of that. But what we have been talking about here is how, for example, in your own testimony, we can be driving along and our radio is turned on and gives us a message, or our radio, if we had it on, already is interrupted. Likewise that is the way our emergency television broadcast system is going to work. What is the Internet equivalent?

Mr. WARD. Well, what the Internet does is get the information to the people that can operate those systems. It is the pipeline from the warning originator to the people that operate those systems. So, for example, it is through Internet and other digital networks that would get it to the Association of Public Television Stations that would broadcast it nationwide. Or whatever—

Mr. COX. Well, I understand how we can e-mail one another essentially. But what I am asking is whether there is a real time interruption capability that we could introduce for use on the Internet or whether that is not envisioned by any of our three witnesses.

Mr. WARD. No, you can send high speed messages immediately, either by Internet or by all kinds of public and private digital networks. That will immediately trigger these issues. Now, if the Internet is clogged that is one reason you can't—

Mr. COX. Mr. Ward, do you understand my question though?

Mr. WARD. Yes, I believe so.

Mr. COX. Let's say that you have your computer turned on. We will make this easier. It is already turned on and you are actually using the Internet. You are viewing a Web site. Is there any push technology that will pop something up on your screen that anyone envisions that will provide this kind of emergency warning in a comparable way to the example that you gave in your own testimony about the driver going down the highway whose radio is interrupted with this kind of a message?

Mr. WARD. Yes. Many of us now when we get e-mail a little pop up comes up on the screen and says you have new e-mail. That same capability could take over the screen and give you that warning.

Mr. COX. Now I know that is theoretically possible. Is there anything in prospect that you know that anyone has developed?

Mr. WARD. Yes.

Mr. COX. Who is that?

Mr. WARD. I can't give you the name of the companies, but many companies are working on that. Many networks are working on it. It is—you can send it to the screen and there are already over Internet systems that you can download that will put it up there.

Mr. COX. How is that going to work external to the computer with nothing pre-installed?

Mr. WARD. The important part at the moment is that the Internet is used to communicate that out and you are going—it will eventually be built into the systems to be able to display it in any way you want. Maybe not even display it on screen, to give you sound. But what the Internet and all the digital networks give us is the capability to get the information there. When we have it there in standard ways, there are all kinds of companies that can give us ways to sound that, to turn it into words, to make it visible.

Mr. COX. I think the question that Mr. Thompson put both to the first panel and to this panel is getting us close to the nub of the problem. We have the potential to reach almost everyone in the country if time were not of the essence, because so many people do have televisions. So many people do have radios, and so on. But at any given moment they may not be watching television. They may not be in the place where they can listen to the radio. We are a good example right here in this room. I mean we have got a screen up there. We have got all sorts of wiring and broadcast capability right in this room and none of it is turned on. So if we were to hear something about an emergency, a dirty bomb has gone off in the Capital, evacuate, it would have to be external to us, somebody would have to come in the door and tell us or we would have to hear the thundering herds rumbling down the hallway because they have gotten their notification in some other way.

So the task is to take advantage, and I think much of your testimony has touched on this, is to take the technologies that is already deployed because we are all using so much of it so often. You know, I have a cell phone in my pocket. Some of us have pagers, some of us have Blackberries. There are all sorts of other equipment, and get that message out to as many people as possible right away, not through intermediation. If all we are using the Internet for is to send an e-mail to somebody who might broadcast it through some separate service that we are not watching anyway, we haven't come close to solving this problem, it seems to me.

Mr. WARD. There is already a system being demonstrated this summer in several months across the country. It is operated by the U.N. in Iraq and other areas that can broadcast a signal to all cell phones, every cell phone, without knowing who the people are, within a cell, within a specific geographic region. Those are the kind of technologies that are readily available to be implemented once we have the standard source of data coming over the networks.

Mr. COX. Now I am a little bit troubled by something you said earlier, which is that we are going to overload the system with SMS messages, and SMS are tiny bandwidth. But if that is going to overload the system—you also said if you call everyone on their cell phones that is going to overload the system. Why is it then that you say this is readily available?

Mr. WARD. If you need to address an individual telephone, it takes several seconds to do that through the network. If you broadcast to all cell phones in the area without addressing a telephone, you can get to all of them instantaneously.

Mr. COX. It is going to overload the system. My time has expired, Mr. Chairman. Thank you.

Mr. SHADEGG. I cut off Ms. McGinnis, and in all fairness even though you are the full committee Chair I think I have to proceed. The Chair would call upon the gentlelady from the District of Columbia for her questioning.

Ms. NORTON. Thank you very much, Mr. Chairman. I had indicated my own concern about this region. That really went to implementation. I suspect that we probably have as good an early alert system as you are going to find. I know you have a lot of technology in this region, as you might expect. I am interested that—I guess

it was Mr. Ward said that the technology is not the problem. There should be, you say, a single Federal agency responsible for assuring that these communication procedures exist throughout the country. I mean, I would hope that that is what the Homeland Security Department is there for. The notion that you have to recommend it at this point is itself troubling. In this city we now have with the region interoperability, we can talk all through the region. We can talk deep into burning buildings and the rest of it. On tomorrow the District of Columbia is going to demonstrate a broadband digital wireless network, the first in the country, that will really allow you to see, for example, inside a tunnel if something is happening. They are leading a Spectrum Coalition For Public Safety and are going to demonstrate this tomorrow here in the Capitol.

So you know, you would think, technology seems to be gathering steam. But let me show you where I think the technology falls real short.

When the Orange alert came to the District of Columbia, the Capitol Police and the security officials reverted to 19th century technology, you know, closing up streets, closing up a street, checkpoints. My grandfather entered the D.C. Fire Department in 1902. That is exactly what he would have done. So I wasn't very impressed with what they were doing to prevent a disaster. And I think this notion of communication and early warning goes far more to the notion that you want to prevent a disaster from getting anywhere close to targeted areas than it does to hey, you know, the British are coming, so everybody get under your desks.

I asked the security officials here, the Sergeant at Arms, both sides, the Capitol Police, whether there wasn't some technology that could keep us from, you know, peering into—you know, having checkpoints that lined cars up, peering into the back of cars because I understand what they were after, and they said no. I said I just don't believe that. The one, quote, technology they used or tested after the Orange alert was very low technology indeed. But it is rather interesting and common sense that as—the way in which this would work is if there were a large vehicle, like a truck coming toward the targeted area, the Capitol, they could turn on lights red, they say, and they tested this, and stop this truck or get to this truck. And that is not exactly 21st century technology, but that is the only thing they have shown us. I am very interested in whether or not there is early warning technology that gets us somewhat—that does not require that warnings and action be taken as the event is about to occur.

Ms. NORTON. So that we send the signal to everybody, baton down your hatches.

I am interested in what you can tell me about technology or methodology for, for example, an orange alert, or a situation where you really want to communicate to people that—or use technology to keep an area safe and communicate to people that they should perhaps should not come into an area or should use another area. I am not impressed, if this is a test of what we do when we are trying to prevent an event, if what is happening around the Capitol is a test. All I can say is I think we have failed the test. And I would look to technology, I would look to whether or not, for example, in place of a checkpoint, there is some technology you could use

that would allow cars to come up, at least the average car if not the large cars, to come up. I would look to some technology that could keep you from closing streets.

And I wonder if in the work of any of you, you have seen either technologies or methodologies that would in fact safeguard such areas well in advance of the event through the use of technology or other approaches.

Mr. WARD. The technology we need is for an emergency manager or other authority, when they have the information, whenever they get it, whether it is long before or just as it is happening or whatever, to be able to get that to the people who need to know it. That is the warning system we are talking about.

And, again, we have that technology, but it is in many scattered forms; it is not integrated into a system. And what we are talking about is the need to have that system to integrate it so that the emergency manager doesn't have to worry about how the technology works, just knows that if they put the information here they can designate exactly where that information will go.

Ms. NORTON. Does anyone else have any—for example, what we have around the Capitol also, we have these pop-up, what do you call it, barriers. That is good. But that means something is coming right at you right now, I suppose; or it means that maybe just trying to stop something in case something comes at you. And, of course, we have the barriers that are around here.

But, again, you would think at this point there would be some way to more quickly scan the kinds of vehicles you are concerned about, the kinds of people you are concerned about. And yet I really don't see any evidence of that anywhere. And we are really stopping up the society. This is a commercial society. Things need to go happen. Even if they don't have to happen in the Capitol, they need to happen in the rest of the world. I do not see much evidence of that in the use of technology in particular.

Mr. SHADEGG. Does anybody wish to respond?

Mr. LUCIA. Well, the only thing I think I can offer is the first responders have to have the capability to communicate messages to the systems that will then notify the public. If they need special systems to do that, like around, you know, the nuclear plants or wherever, then that needs to be done; because without it, they are not going to be able to get their messages to the people at risk.

Mr. SHADEGG. Ms. McGinnis, did you want to comment?

Ms. MCGINNIS. I think this is a subject for probably another hearing, because it is a different sort of technology that you are talking about in terms of scanning, you know, devices that we are seeing now in airports and having to do with baggage and cargo and that sort of thing.

But I guess the one thing I would offer in terms of prevention is we recommended that there be a way, a simple way for the public to report suspicious behavior into a system like a 311 or a 911 system that would be received locally, but in which the information would be shared, as appropriate, so that it could be turned into an alert, if that were necessary, or used by intelligence officials or others.

So it is not just getting information out to people in a timely way, but it is also having a simple, well-organized system to receive information and use it appropriately.

Mr. SHADEGG. Mr. Ward, I want to clarify one point. In the discussion with Mr. Cox, I think you had said that if you have to dial every phone number, that that could overburden the phone system and bring it down—as actually happened here in the Capitol Hill area on 9/11 when our cell phones became useless. And I understand the same would be true if you had to dial a phone number for every single cell phone number.

What I understood your testimony, however, to be was that there are systems in place—you mentioned in Iraq—where, by not dialing each individual number but, rather, sending a radio signal, you could in fact send a signal to all cell phones at least without clogging the system. Is that correct?

Mr. WARD. Yes. It is actually a transmission from the cell tower which dominates an area of a few miles. And any cell phone within that, that is communicating with that tower, will get that message immediately. That is one example. There are many technologies to do that.

Mr. SHADEGG. I want to conclude with one kind of question and ask each of you to comment on it. To a certain degree, I at least—and I think this may be true of other members of the panel—feel some degree of frustration. All of us feel the system is not adequate. All of us would like to see it be better. We have heard encouraging testimony about the technology that can make it better.

But if I understand the overall thrust of the testimony, it is that while there is a Federal alert system, its implementation requires voluntary work by local entities. And in the sense that we don't have one right now that we can use in the event of a next terrorist attack, it appears that at least passing a bill at the Federal level won't solve the problem. So that is somewhat frustrating for us because we are here to solve problems. And we want to have a single mechanism that will allow all Americans to be notified, whether it requires a national notice or whether it requires a regional notice, because there is a terrorist attack or a dirty bomb on Capitol Hill or in north Phoenix where I live.

I guess my—given that circumstance—and let me give you each an opportunity to say, if you can encourage this subcommittee and the full committee to do one thing, would you make a recommendation; and, if so, what would that be? For each of you.

Mr. WARD. I should say on the National Strategy for Public Warning, there is on page 29 a clear recommendation of what the President and Congress should do and what Homeland Security should do. Without going into all that, the biggest issue we face is this frustration that you mentioned of getting people to work together.

To me, having worked in this area for a long time and talked to a lot of people that are frustrated that way, what we are seeing in the Amber Web alert portal is a breath of fresh air. It is a way of getting people to work together. And I am really hopeful that we are going to find a way to move that into all hazards, because it is a model that gets past this frustration and gets the job done.

Mr. SHADEGG. Mr. Lucia.

Mr. LUCIA. Yes. Some States and local areas have developed excellent local emergency plans. They are model plans. The question is, how do we get the other States and localities to model their plans after that, because each State and local area is so unique, they have different assets? That is a question. I mean, we could mandate it and say you are going to do it this way?

Mr. SHADEGG. Maybe financial incentives.

Mr. LUCIA. Possibly. And also providing, let us say, if a particular emergency manager doesn't have a radio system to get into these systems, how do we get money to him so that he can do that? Just these little things here and there, I think, can add a lot of impetus to all the areas to develop plans.

Ms. MCGINNIS. I mentioned that the National Strategy for Homeland Security is out of date. I think we need an up-to-date national strategy with a clear goal around being able to reach everyone in an emergency situation. And the measures, I think, are pretty obvious. We could—you know, the performance measures could be specified, roles and responsibilities for State and local government; and you would see with that kind of strategic approach funding that goes out to State and local government focused on meeting those goals, achieving those measures, and actually, you know, by a date certain, if time frames are established, having a system that can reach everyone.

Mr. SHADEGG. That is certainly the goal and that is what we need to do. Thank you very much for the testimony. The hearing record will be remain open for 10 days. There may be additional questions submitted by members who weren't able to attend. They will be submitted to you, and we would appreciate your cooperation in responding to those. Again, thank you very much for your testimony. The subcommittee stands adjourned.

[Whereupon, at 12:20 p.m., the subcommittee was adjourned.]

FOR THE RECORD

QUESTIONS FOR THE RECORD

FROM THE HONORABLE BENNIE G. THOMPSON

FOR REYNOLD HOOVER

SEPTEMBER 22, 2004

In the Administration's fiscal year 2005 budget, you requested an additional $2 million for Emergency Alert System (EAS) upgrades. Specifically, you indicated that these funds would be used to enhance communications linkages between the 34 Primary Entry Points and the FEMA Operations Center.

Question 1(a): What is the total proposed FEMA budget for EAS for fiscal year 2005, and what specific activities does this budget support?

Answer: The total FEMA budget specifically designated for Emergency Alert System (EAS) upgrades in fiscal year 2005 is $2.15 million. This budget provides for satellite connectivity upgrades for the Primary Entry Point (PEP) stations and for expanding the PEP network to all 50 states and four U.S. territories. In addition FEMA, in coordination with the Department of Homeland Security's (DHS) Information Analysis and Infrastructure Protection Directorate (IAIP) will spend an additional $18 million on other public alert and warning initiatives, to include pilot programs and a compendium of studies to develop an Integrated Public Alert and Warning System (IPAWS) architecture. This architecture will serve as a consolidated DHS roadmap for the future of EAS and for public alert and warning and mass notification.

Question 1(b): How many full-time FEMA employees work solely on the EAS?

Answer: FEMA's Office of National Security Coordination (ONSC), provides Program Management for the EAS as well as for other public alert and warning initiatives. This effort is directly linked and coordinated with IAIP. While there are no full-time employees working solely on the EAS, there are eight employees within ONSC who provide support to the EAS. In addition, an integrated project team within FEMA that includes our Information Technology Services Division and the Response and Preparedness Divisions provide support to ONSC and the EAS. Further, employees assigned to the FEMA Operations Center and Alternate Operations Center are directly involved with EAS testing, activation, and operation.

Question 1(c): Does FEMA provide any guidance to state and local governments regarding EAS messages, or do your activities focus only on "Presidential Alerts?"

Answer: As an "all hazards" agency, FEMA is not solely focused on "Presidential Alerts" and, while we serve as the Executive Agent for the operation of the national-level EAS, we do provide guidance to State and local emergency managers regarding a variety of alert and warning systems, including outdoor warning systems.

Question 2: Why wasn't a Presidential Alert issued through the EAS on September 11, 2001? This would seem to be exactly the type of incident where use of the EAS would be necessary and appropriate.

Answer: The national level EAS assumes that the President will have access to national media outlets during a crisis and that the System would only be used as a Presidential contingency communications means when other outlets are unavailable. On September 11, 2001, the national level EAS was operational, but was not activated, because national news outlets already were providing the latest information and the President was able to use those media sources to communicate with the nation.

In 2000, the White House issued a report entitled "Effective Disaster Warnings." The report recommended that a working group of Federal agencies should develop a single, consistent, easily understood terminology that can be used as a standard across all hazards and situations.

Question 3(a): Was this working group ever assembled, and has any standard warning terminology been developed? If not, why not?

Answer: While this group was never established, DHS, including FEMA, IAIP and the National Communications System, the Federal Communications Commission (FCC), the National Oceanic and Atmospheric Administration (NOAA) and other Federal agencies have participated in the activities of the Partnership for Public Warning (PPW), which examined issues related to standard warning terminology. Many of the recommendations on alert, warning and EAS improvements offered by PPW and the FCC's Media Security and Reliability Council are under consideration by DHS. We believe the recent launch of DHS's IPAWS; combined with the FCC's Notice of Proposed Rulemaking on EAS, will help address common alerting protocol recommendations.

Questions 3(b): Since September 11, has there been any effort to develop specific messages that would inform the population of what actions they should take in the event of a chemical, biological, radiological, or nuclear attack?

Answer: Yes. DHS has provided several sources for such information to include, the www.Ready.Gov website and "Are You Ready? An In-depth Guide to Citizen Preparedness." These information resources, and others that the Department has developed in consultation with the private sector, provide the public with guidance on what to do before, during, and after such attacks. Furthermore, the National Response Plan (NRP) Incident Communications Emergency Policy and Procedures (ICEPP) is the primary incident communications plan for use by the Federal interagency community. It is used in conjunction with State and local authorities to manage incident communications and Public Affairs activities during domestic incidents. The NRP–ICEPP incorporates specific incident communications guidance on operations in support of weapons of mass destruction (WMD) or catastrophic incident scenarios. This appendix will be used in conjunction with the NRP–ICEPP during such incidents. It provides detailed information on Departmental and Agency incident communications resources to support response contingency plans.

The White House report also recommended that warnings should be delivered through as many communication channels as practicable so that those users who are

at risk can get the message whether inside or outside, at home, work, or school, while shopping or in transportation systems.

Question 4: Has there been any effort to implement a national warning system that could reach the public through multiple communications systems, other than the EAS system?

Answer: Yes. DHS has several efforts underway to implement a national warning system that could reach the public through multiple communications systems, other than the legacy EAS. In coordination with the FCC, NOAA, television and radio broadcasters, wireless service providers and others, we are exploring the use of digital and other cutting edge technologies that will enable the government to provide "all hazards" alerts, warnings, and Presidential messaging to the greatest number of people all of the time. This includes persons with disabilities and individuals for whom English is a second language. We are confident that the IPAWS under development and undergoing pilot testing in the National Capital Region will provide the backbone for a national warning system that can reach the public through multiple communications systems.

In addition, FEMA's Preparedness Division has several studies underway to facilitate the design, development, implementation and maintenance of a national warning system. These include the following: "Outdoor Public Alerting System Guide" dated December 2004; "Public Warning System Redevelopment Project" in draft form; and "Warning America" dated February 2004. These studies are being or will be coordinated fully with the Office of National Security Coordination.

DHS and the Departments of Commerce and Education are conducting a pilot program to distribute NOAA All Hazards Radios to public schools in rural states and in top threat cities around the country. This pilot will significantly improve our ability to provide alert and warning messages to the nation.

Finally, the National Science and Technology Council, author of "Effective Disaster Warnings" will be revisiting the original report this year and will take into account changes since the 2000 issuance.

We can likely all agree that in times of national crisis, reliable and timely information is crucial. Most Americans presently get their emergency information from the antiquated Emergency Broadcast System. But in the event of a local or regional power failure, these information sources are mostly unavailable. We should have the capability to use a quick, accurate and versatile official communications alternative that can focus in on specific neighborhoods or cities, or be expanded if necessary to whole regions or the entire country. Because of this need, Representative Meek, a member of the Homeland Security Committee, introduce HR 2250, referred to as the READICALL bill. The bill requires the Secretary of Homeland Security to use existing resources—just like the present emergency broadcast system using existing resources—to create a fast, efficient and reliable emergency communications system based on the nation's public telephone system, including cellular phones, on a 24 hour/365 days-a-year basis. The system could only be activated by the Secretary of Homeland Security, and only to keep the public informed of imminent or current hazardous events or on measures that should be taken to alleviate or minimize danger. The aim of the legislation is to keep our citizens informed in the terrible event that there is a national, regional, or local terrorist emergency and present sources of communication are not simply available. Minutes can make a huge difference in an attack or disaster; accurate information pin-pointed to the affected area can make all the difference.

Question 5: Has anyone at FEMA or DHS researched or considered such an emergency warning system? What are your initial thoughts on such a system?

Answer: As a point of clarification, the current EAS replaced the Emergency Broadcast System in 1997, and operates at the national level from the FEMA Operations Center to 34 PEP stations across the country. FEMA does agree that in times of national crisis, reliable and timely information is crucial. Moreover, we take our responsibility to provide critical, and life saving, information to our homeland security partners and the public very seriously. In that regard, DHS has several initiatives underway within the IPAWS program to examine how to best use the nation's telecommunications systems to perform public alert and warning missions. For example, we are working with wireless service providers as part of the Digital Alert and Warning System pilot project in the National Capital Region; and, we are working with NOAA to demonstrate geo—targeted reverse—911 technology that will allow us to call specific households or businesses in an impacted or threat area to provide emergency information.

RESPONSES FROM PATRICIA MCGINNIS, PRESIDENT AND CEO, THE COUNCIL FOR EXCELLENCE IN GOVERNMENT

TO THE QUESTIONS SUBMITTED

BY THE SUBCOMMITTEE ON EMERGENCY PREPAREDNESS

SELECT COMMITTEE ON HOMELAND SECURITY

UNITED STATES HOUSE OF REPRESENTATIVES

OCTOBER 29, 2004

QUESTIONS FROM THE HONORABLE JIM TURNER, RANKING MINORITY MEMBER

Question: You said in your statement that one of the biggest findings of your report was a communications gap between government and citizens, both in terms of planning that is going on and what specifically the public should do in times of emergencies related to terrorism. Despite 3 years of efforts by all levels of government to tackle homeland security, why do you think this gap exists?

Response: Our May 2004 Hart/Teeter poll revealed that most Americans felt safer then than they did two years ago. This is partially the result of three years of visible efforts by all levels of government to improve the homeland security posture of the country.

However, despite all the planning being done at the federal, state and local government in coordination with first responders, our town hall meetings in seven major cities and our national public opinion poll confirmed that most citizens are not familiar with local emergency plans or those in their workplaces or children's schools. As a father in our San Diego town hall said, "We were told by my son's school that we should come up with a family evacuation plan. . .but it's hard to come up with a plan when you don't know what the school plans to do in the event of an emergency."

Information about homeland security is available on many websites but it can be remarkably difficult to find the emergency plans of most local governments. To encourage dissemination and awareness, we have recommended that information be marketed through many channels of communication, including the media, schools, and workplaces.

Our Hart/Teeter poll also found first responders are aware of a communications gap with citizens. A solid majority (60%) rated the communication between their agency and citizens as only somewhat effective and efficient. Fully 86% of first responders, however, say there is a role for average citizens in homeland security. Marketing information to the public is not a primary skill set of first responders and government officials. The challenges we face require unusual communication strategies and many trusted messengers.

Another reason for the communications gap is the low participation in emergency preparedness drills. Nearly three in five Americans say that neither they nor anyone in their family participated in an emergency drill in the past year. Among those who have participated in a drill, school are the most common location, workplace drill participation is nearly as common at 18%. Just 3% of Americans have participated in a drill with their family, and just 4% have participated in a community drill.

The communication gap between governments and citizens shows the real need for a concerted outreach strategy that not only informs the public but actively seeks their participation in preparing for homeland security.

QUESTIONS FROM THE HON. BENNIE THOMPSON, SUBCOMMITTEE RANKING MEMBER FOR PATRICIA MCGINNIS RESPONSES

Question: Your recent survey and follow-up report found that more than half (53%) of Americans say that they would turn on their television to find information about preparing for a terrorist attack, learn about the latest threats, and receive guidance on security precautions. Given this information, would you recommend that any changes to the warning system be focused on delivering messages via television?

Public warning systems should recognize that citizens will naturally rely on television to receive information in almost any emergency or hazardous situation. Indeed, over half of the respondents in our survey said they would rely on television

for information about what to do if there were a terrorist attack near them. One in five or 21 percent said they would rely on radio, followed by cell phones at 9 percent and landline phones at 8 percent.

But, what if they power is out, or for other reasons, access to television is not possible. In addition to battery operated radios, new communications systems are being deployed that can broaden the reach of current warning systems. For instance, we learned that the Texas Education Agency now has the ability to simultaneously communicate with multiple people within the school district on various self-selected communication devices. In addition, the system is capable of initiating a voice-only alert via the public telephone network and interfacing or connecting to other communication devices. Relying exclusively on television for warnings may not be as timely as that provided by instantaneous and on-the-spot information services delivered to mobile phones, pagers, and other wireless communication devices.

We should move in the direction of having televisions, radios and other communications devises equipped to receive digital signals of emergency warnings.

Question: Based on the town meetings that you held around the Nation, what preparedness information does the public want, and how does the public go about gathering preparedness information?

We asked this specific Question as a part of our national public opinion poll released in May 2004. The public wants easy to use preparedness and incident response information on key threats: Bio-terrorism, chemical attacks, and attacks on power plants, water facilities and other critical infrastructure. In our poll, nearly half of Americans put bioterrorism at the top of their list, chemical weapons were second at 37 percent and a nuclear attack was third with 23 percent.

When asked to rank which potential targets remain a concern for them 49 percent of Americans responded that an attack on a power plant is their top concern followed by 46 percent of respondents worried about an attack on airports or airplanes, and 44 percent listed water facilities as a target of concern.

Our research showed that the public gathers preparedness information from a variety of sources. Television was the number one choice of citizens (53 percent) when asked where they would look first if they wanted to find information on preparing for a terrorist attack, learn about the latest threats, and get guidance on security precautions. Three in ten (31%) of Americans when asked the same Question said they would turn toward the internet. Young adults were particularly likely to choose the Internet over television. Eight percent of the public said they would choose the radio first and just 3 percent said they would open a newspaper first.

Following our recommendation, the Department of Homeland Security made a step in the right direction by designating September as "Emergency Preparedness Month".

In our report, we made several recommendations on how communities and organizations can be more proactive and creative in getting preparedness information to the public. For example,

- Schools could engage parents and students in their emergency plans during "back-to-school" activities and PTA meetings. Private employers should have up-to-date and comprehensive workplace plans, kits and activities, which should include: emergency information posted on employee bulletin boards, periodic all-staff meetings to share information, and an in-house alerting strategy to quickly inform employees with evacuation procedures or other actions to perform in an emergency.
- Local governments should produce an index card of critical information in a user-friendly format that can be distributed in multiple languages, through many channels to homes, workplaces, and schools.
- State and local governments should include reporters in homeland security training exercises as active participants.
- Local officials should offer citizens a service that will send homeland security information or alerts to cell phones, email addresses, pagers and other personal communication devices. This system should have the capacity to ensure continuity of operations and the accurate and timely flow of information in an emergency.
- Members of Congress should include an emergency preparedness "at-a-glance" card in their September constituent newsletter.
- Managers of privately owned critical infrastructure facilities should communicate to citizens through ongoing corporate affairs, advertising and marketing campaigns about specific steps they have taken to secure their facilities.
- Broadcast media organizations should partner with business and local government to run public service announcements about homeland security and emergency preparedness.

Question: What information should the public receive in a warning message? How tailored or specific should warning messages be in order to be effective? Do the current warning systems provide enough information for the public to take appropriate action in response to a disaster, emergency, or act of terrorism?

The public should receive warnings that are specific to their location, describe the threat with clear instructions about who should do what, when, where and how.

Clearly, most current warning systems do not deliver detailed or geographical specific information to the public, and not everyone has access to our national emergency alert system. As we know from our polling, the American public is worried about many different but specific types of emergencies, bio-terrorism, chemical attacks, nuclear attacks as well as attacks on critical infrastructure, and often these are not covered by current warning messages.

Different types of emergencies require different actions by citizens, but our older warning systems were not built with this in mind. Would the average citizen know when it is better to shelter-in-place instead of moving locations? Would they be comfortable enough with detailed emergency plans distributed by their children's schools to know that the school was keeping their children safe too? The integration and coordination of threat specific emergency warning plans is essential.

U.S. HOUSE OF REPRESENTATIVES
SELECT COMMITTEE ON HOMELAND
Washington, DC, October 27, 2004

DEAR CHAIRMAN COX,

This document is submitted in response to your letter of October 13, 2004 containing several additional questions concerning the oversight hearing entitled "Emergency Warning Systems: Ways to Notify the Public in the New Era of Homeland Security," on Wednesday, September 22, 2004.

Attached are my answers to the questions supplied by the Honorable Bennie Thompson, Subcommittee Ranking Member.

Thank you for the opportunity to appear before the Subcommittee on Emergency Preparedness and Response. Thank you especially for your strong continued interest in improving our public warning capability in America.

SINCERELY,

DR. PETER L. WARD

Question: 1. In February of this year, the Partnership for Public Warning assessed the EAS, and made a number of recommendations for improvement. In particular, you recommended that DHS take the lead in creating an effective national public warning capability.• What organization in DHS should take the lead on updating or replacing the EAS? Should it remain a ″national security″ based system, or should it be changed to better address the all- hazards nature of most warnings?

The national need is to upgrade public warning systems of which the EAS is a part.

Approximately 75% of the public warnings typically issued each year come from the National Weather Service and are for severe weather or flooding. Approximately 15 to 20% relate to accidents or ongoing hazards issued by first responders or emergency managers. The balance includes missing children (AMBER Alerts) and many other hazards such as volcanoes, earthquakes and such. Specific National Security Warnings are likely to be less than 1% of the warnings issued based on current experience.

Coordinating an effective National Warning System involves working with most groups in DHS including:

- Emergency Preparedness & Response (FEMA has the deepest roots in the communities and with the emergency managers and fire services)
- Information Analysis & Infrastructure Protection
- Border & Transportation Security
- Science & Technology
- Coast Guard
- Citizenship & Immigration Services
- Homeland Security Advisory Council
- National Infrastructure Advisory Council

It also involves close interaction with many other agencies involved in warnings or regulating warning services including:

- Federal Communication Commission
- Department of Commerce/NOAA/National Weather Service
- Department of Interior/US Geological Survey
- Department of Agriculture/Forest Service
- Department of Justice
- Department of Transportation
- Department of Health and Human Services/CDC and others
- Nuclear Regulatory Commission

Thus the overall responsibility for warning within DHS should rest with a person or small office within the Office of the Secretary for Homeland Security.

You also need to ask the question: What is the appropriate role of the Federal government in national public warning?

(1) The primary responsibility for public warning lies with county, city and tribal government and nearly all public warnings issued are focused on very specific localities. Thus the primary role of the Federal government is to support State and local government with technical information from organizations such as the National

Weather Service and with intelligence information from law enforcement and intelligence agencies. The Federal government may issue warnings, but it is on behalf of local government where time is of the essence.

(2) The other primary role of the Federal government in public warning is to assure that nationally standardized public warning systems are available nationwide, that they are effective, and that they are properly utilized.

These issues are addressed more fully in *A National Strategy for Integrated Public Warning Policy and Capability* published by the Partnership for Public Warning on May 16, 2003 (*ppw.us/ppw/docs/nationalstrategyfinal.pdf*).

It is also important to realize that most infrastructure for warning the public is and will be privately owned and operated. Thus the Federal government needs to work closely not only with local government but also with industry. Development of an effective public warning system requires a public/private partnership. A top down approach from Washington has not worked effectively in the past. The Federal government needs to provide leadership by bringing the key stakeholders together. Thus within DHS, it seems very appropriate to establish a National Public Warning Advisory Committee.

As I explained in my testimony, a public/private partnership among law enforcement, emergency managers, first responders, the nations broadcasters and industry has already implemented the AMBER Alert Web Portal warning system in two States and it will soon to be implemented in 12 more States. The National Association of State Chief Information Officers (NASCIO) has proposed to DHS to extend this approach to all-hazard warning through a pilot project in the National Capitol Region and Washington State over the next 6 months. I believe that such a partnership working closely with DHS and other Federal agencies has the best chance for significantly improving public warning capability within the near future. As you know, Congressman Shadegg has introduced an amendment included in the House version of the 9/11 bill supporting this approach.

• What roles should the FCC and the National Weather Service play if DHS is the lead agency for the EAS and other warning systems?

The FCC carries the big stick with respect to the communication industries and infrastructure. They need to be involved in encouraging and potentially regulating all types of warning capabilities, not just EAS.

The National Weather Service issues most warnings and has an excellent operational capability throughout the United States. They need to play a major role and perhaps should assign an employee to work with the warning coordinator or Office within DHS.

• Do you believe legislation is required to clarify responsibility and accountability for warnings? What would such legislation do?

The primary reason for the poor warning systems existing today in America is that no one agency has been assigned legislated responsibility or has assumed it. While the FCC, FEMA, and NOAA/NWS signed a Memorandum of Understanding in 1981 for operation of EBS (now EAS), all three agencies have reduced their involvement and funding over the years citing their legislative mandates and priorities. Thus legislation is required to assign and clarify responsibilities. The content of the legislation needs to be discussed in detail but should include:

- A statement that an integrated public warning capability is a national priority
- Assign lead responsibility to the Secretary DHS for ensuring that national public warning systems and procedures exist, are effective, and are properly utilized to distribute warnings and information for all types of hazards from all official warning providers, to all potential warning disseminators, and ultimately to all people directly at risk.
- A statement that development of an effective public warning system in America depends on a public/private partnership between Federal, State, and local government and industry.
- Possibly establish a small office within the Secretary's office or leave this for the Secretary to decide
- Possibly establish a national advisory committee that would involve the many stakeholders in warning systems
- Discuss the need to coordinate with other Federal agencies and what their roles might be
- Describe what the relationship of the Federal warning program should be in assisting the States, counties, and cities who have the primary responsibility for public warning
- Perhaps specify some characteristics of the national warning capability
- Provide appropriate funding for integrating public warning policy and capability

The pilot project proposed by NASCIO will provide an excellent test bed for refining such legislation.

Question: 2. The February report also recommended that the Administration provide the necessary funding and resources to support and operate the EAS system.

- **What is the appropriate level of funding to adequately maintain the current EAS system, and how much funding would be required to significantly upgrade the system to reach multiple communications modes and to be regularly utilized for purposes other than "Presidential alerts?"**

Proper maintenance and operation of EAS requires restoring the roles that FCC and FEMA played in training locals and working with them to develop warning plans. A minimal effort might involve approximately $1 million per year and several times that could be spent wisely.

To upgrade public warning capability significantly within the United States, the first step is to establish a digital national warning infrastructure as outlined in my testimony. Those involved have proposed to DHS (FEMA, Science and Technology, and the DHS CIO) through the National Association of State Chief Information Officers (NASCIO) to carry out a pilot project in the National Capitol Region and Washington State within 6 months to demonstrate how such an infrastructure would work and to evaluate issues that would need to be resolved to expand nationally. That proposal requests $1.65 million. Expansion to a national capability can probably be done for approximately $10 million. Once this national warning infrastructure exists, warning capability will be significantly improved. The next step is to evaluate ways to improve specific technologies for delivering warnings directly to the people at risk. The issue becomes how much the government should fund versus what can be done through a public/private partnership and in the competitive marketplace. With clear national standards and a place for industry to receive official warnings for delivery, warning capability could be built into a wide variety of electronics as a way to sell new products. The government could spend some millions of dollars to stimulate these activities or some hundreds of millions to pay for them all.

Question: 3. Based on your work, are there any particular technologies that would be best suited to improving the nation's warning systems? Rep. Meek, a member of the Full Committee, has introduced legislation that would implement a landline-based interactive notification system that would convey national, regional, and local emergency messages via the public switched telephone network to wire-line telephone subscribers located in the specific geographic areas affected by emergencies. Would this type of system be more effective than the current EAS?

An effective public warning system needs to utilize all available technologies:

- The EAS reaches only people listening to the radio or watching television broadcast from ground based transmitters. Few people listen or watch many hours per day. More than 20% receive television via satellite and satellite radio is increasing in popularity. For EAS to work via satellite there needs to be intelligence built into the receiver to relay only warnings that apply to that specific location. Receivers could be built that turn themselves on upon receipt of a warning.
- Most homes and offices have wire-line telephones and warning by telephone would reach a large number of people during the evening and night at home and during the day at work. But it would not reach people who are out and about. Many modern telephone handsets do not work during a power failure. Equipment similar to Caller ID devices could receive, display, and sound an alarm for a warning without answering the phone. These could be built into future telephones.
- 170 million Americans now have cellular telephone service that may be the best way to reach them during the day. Many have their handsets switched off at night. Cellular telephones receive their signals from local transmitters so broadcasting an alert to all cell phones within receiving distance of a local transmitter is one of the most promising technologies available currently for warning just the people at risk. While this technology exists for most types of cell phones, industry has not been supportive of implementation.
- Internet is revolutionizing the way we share information and programs are available to not only issue email to a specific region but to push a warning directly onto your screen and sound an alarm. This technology is most effective for the 50% of Internet users in the US who are connected to broadband Internet service typically 24 hours a day. Once a warning has been issued, people

often want more information. Internet and an 800 number service are excellent sources.

• NOAA Weather Radio (NWR) is a government sponsored service with special receivers owned by up to 11% of the population. Many of these receivers can turn themselves on to broadcast a warning and one television manufacturer uses the NWR signal to turn televisions on to broadcast a warning. Such technology to turn on and sound a warning can easily be built into all radio and television receivers when there are widely accepted national standards.> Numerous other devices typically carried by people could provide warnings including pagers, pocket computers, digital wrist watches, and portable music players.

• Automobile navigation systems and On-Star type systems could relay warnings.

• Sirens and digital signs are two of the few ways to reach people who are outside or at places of public gatherings and not carrying some type of warning receiver.

All of these types of technologies and many more need to be integrated into an effective national warning system using the approach described in my testimony. No one system will be sufficiently effective.

Question: 4. We can likely all agree that in times of national crisis, reliable and timely information is crucial. Most Americans presently get their emergency information from the antiquated Emergency Broadcast System. But in the event of a local or regional power failure, these information sources are mostly unavailable. We should have the capability to use a quick, accurate and versatile official communications alternative that can focus in on specific neighborhoods or cities, or be expanded if necessary to whole regions or the entire country. Because of this need, I introduced HR 2250, referred to as the READICALL bill. My bill requires the Secretary of Homeland Security to use existing resources—just like the present emergency broadcast system uses existing resources—to create a fast, efficient and reliable emergency communication system based on the nation's public telephone system, including cellular phones, on a 24 hour/365 days-a-year basis. The system could only be activated by order of the Secretary of Homeland Security, and only to keep the public informed of imminent or current hazardous events or on measures that should be taken to alleviate or minimize danger. The aim of this legislation is to keep our citizens informed in the terrible event that there is a national, regional or local terrorist emergency and present sources of communication are not simply available. Minutes can make a huge difference in an attack or disaster; accurate information pin-pointed to the affected area can make all the difference.

• What are your initial thoughts on such a system?

In theory this seems like an excellent approach. In practice there are some serious issues:

The primary problem is that the number of telephone calls that a local telephone switch can handle per minute is severely limited. Telephone systems are built to handle typical peak traffic loads but can become overwhelmed even on Mother's Day and especially by computers trying to dial every number in a region. It is hard to get specific numbers of calls that could be dialed per minute because industry is concerned about their liability if the phone system crashes. One developer of telephone technologies claims they have a new approach that they tested using a modern switch in a major city and were able to dial 68,000 numbers every 30 seconds and to deliver a recorded 20 second message. Others have yet to be convinced that such rates are achievable. It will take significant testing to establish which techniques will work best and what rates they could achieve using the variety of switches currently installed within the US.

A second issue is that most people are not near their wired telephone for large parts of the day. A third issue relates to people at work and how calls would be routed to large offices. A fourth issue is that most modern telephone handsets require power and do not work during major disasters involving power failures. A fifth issue is that phone systems are typically overloaded as a major disaster unfolds, which is why broadcast techniques tend to reach more people without overloading the infrastructure.

Research and testing of this approach should be pursued. No one system is the ultimate answer to public warning as discussed above, so we need to pick a few good ones and push those forward.

5. What information should the public receive in a warning message? How tailored or specific should warning messages be in order to be effective? Do the current

warning systems provide enough information for the public to take appropriate action in response to a disaster, emergency or act of terrorism?

Public warning delivered with little choice by the recipient, should be limited to hazards that are life threatening or of major financial impact. People should have the opportunity to request warnings for less significant events.

The key characteristics of a public warning are:

- A warning is a communication that directs attention to new information about a hazard or threat for the purpose of causing focused action that reduces harm.
- A warning may alert people to an imminent hazard or may notify them about a hazardous event that is in progress or just happened.
- A warning should communicate what, where, when, and how severe the hazard is, how likely the hazard is to occur, and what action is appropriate.
- A warning needs to communicate clearly and succinctly the risk people face, to motivate them to take specific action, and to provide guidance as to what that action should be.
- The success of a warning is measured by the actions people take.
- Public warning is a public good that is generally delivered through privately-owned communication networks and devices.
- A warning is basically a terse "heads up" alert. A warning ideally should specify places to get more information.

Current warning systems generally provide sufficient information but there is room for improvement. The Homeland Security Advisory System is not a warning system because it does not provide specific, actionable information.

RESPONSES FROM FANK LUCIA FOR QUESTIONS FROM THE HON. JIM TURNER, RANKING MINORITY MEMBER

Question: How many states actually have an existing plan to implement the Emergency Alert System?

According to the February 12, 2003 report of the FCC Media Security and Reliability Council (MSRC) Working Group, almost all states have EAS plans on paper but the operational capability varies greatly. There are very few emergencies that affect an entire state at the same time. Most emergencies occur at the local level and that is where almost all EAS activations occur. About 80% of the EAS activations originate from the National Weather Service (NWS). The activations are received on the EAS equipment at broadcast stations and cable systems via NOAA Weather radio (NWR). Each EAS local area has an EAS Local Primary (LP), usually a high power broadcast station. LPs transmit the EAS message to all of the other broadcast stations and cable systems in the area. Each broadcast station and cable system decides if they want to broadcast the EAS message to their audiences. LPs are identified in EAS plans.

How many states have designated EAS coordinators to ensure that any messages that are sent to the Primary entry stations are further distributed throughout the EAS system nationwide? For example, if a Presidential Alert had been sent out through the EAS on September 11th, how confident are you that the Alert would have been distributed throughout the New York City region?

According to the FCC EAS web site (*www.fcc.gov/eb/eas*), almost all of the states have an EAS Chair. These individuals are dedicated volunteers. It is imperative that the FCC encourages and recognizes their efforts. They need to receive assistance from the federal government, even if it is only expense assistance for their EAS workshops.

As to September 11, the closest Primary Entry Point (PEP) station to New York City is WABC (AM). Their transmitter is in Lodi, New Jersey. The President's message would have been broadcast over the WABC (AM) transmitter if FEMA could have connected with the EAS equipment at the WABC (AM) transmitter site using the Public Switched Telephone Network. If the President wanted his message to be sent only to the New York region, then FEMA would have to successfully implement ad hoc procedures to selectively activate the EAS equipment at WABC (AM). Otherwise his message would go out to all 34 PEP stations assuming FEMA established successful connectivity to them.

In addition to its PEP connection for national EAS messages, WABC (AM) serves as one of the EAS Local Primary (LP) stations for the New York City EAS Local Area. Many of the New York City radio and television broadcast stations and cable systems monitor WABC (AM) on their EAS equipment. LPs are the disseminators of local EAS messages. Their importance to the local EAS system is critical. Local emergency managers need to know about these LP stations and how to request EAS activation through them. This information is specified in local EAS plans. The plans

need to be developed, maintained, and tested regularly with local emergency managers. EAS plans need to be a part of a comprehensive local emergency plan that includes other public distribution systems such as the Internet, telephones, sirens, private alerting systems, etc.

There are over 500 EAS local areas. They generally follow radio and television market boundaries. A best guess is that less than 30% of the 500 local areas have EAS plans, and many of those are 5 years old or older.

1. In February of this year, the Partnership for Public Warning assessed the EAS, and made a number of recommendations for improvement. In particular, you recommended that DHS take the lead in creating an effective national public warning capability.

What organization in DHS should take the lead on updating or replacing the EAS? Should it remain a "national security" based system, or should it be changed to better address the all- hazards nature of most warnings?

What roles should the FCC and the National Weather Service play if DHS is the lead agency for the EAS and other warning systems?

Do you believe legislation is required to clarify responsibility and accountability for warnings? What would such legislation do?

1. FEMA and its predecessor agencies had always assisted in the administration of the old Emergency Broadcast System (EBS) and even CONELRAD. They administered special programs set up to assist industry with the development and implementation of warning systems. When EAS replaced EBS in the mid 1990s, FEMA provided some assistance but resources slowly dwindled.

Today, the FCC, FEMA, and NWS each have responsibilities to ensure EAS works properly. The FCC inspects the EAS equipment at broadcast stations and cable systems. NWS ensures its digital warning messages over NOAA Weather Radio (NWR) are compatible with EAS equipment. FEMA provides training and planning aids for state and local emergency managers. FEMA also funds NAWAS facilities throughout the nation. NAWAS, NWR and the EAS equipment form the three arms of the federal warning capabilities at the local level. They need to be integrated with public and private warning systems at the local level to form integrated warning systems.

In 1981, the FCC, FEMA, NWS and the FCC National Industry Advisory Committee (NIAC) signed a Memorandum of Understanding (MOU) to develop EBS state and local plans. Over 400 local EBS plans were developed in the late 1970s and early 1980s. The MOU needs to be updated to reflect the capabilities of EAS. Legislation is needed to require an updated MOU or some other governmental agreement document to develop EAS local plans as part of a comprehensive integrated local warning plan. This would insure the agencies work together and prevent lapses in cooperation. A copy of the 1981 MOU is attached. It details the responsibilities of each agency.

2. The February report also recommended that the Administration provide the necessary funding and resources to support and operate the EAS system.

What is the appropriate level of funding to adequately maintain the current EAS system, and how much funding would be required to significantly upgrade the system to reach multiple communications modes and to be regularly utilized for purposes other than "Presidential alerts?"

2. I believe the 10 million dollars funded to FEMA in FY 2004 to begin upgrades to warning systems is a good start. Congress needs to oversee the funding to insure that EAS is being improved not only on the national level but also at the state and local levels as well. Additional funding is needed to assess the nation's existing warning capabilities; correct deficiencies identified in the assessment; provide equipment and training; develop state and local models of integrated warning plans; assist states and local areas to develop integrated plans; schedule planning workshops; assess the performance of warning plans and assets before, during and after disasters; and ensure that the plans and personnel training are up to date.

3. Based on your work, are there any particular technologies that would be best suited to improving the nation's warning systems? Rep. Meek, a member of the Full Committee, has introduced legislation that would implement a landline-based interactive notification system that would convey national, regional, and local emergency messages via the public switched telephone network to wire-line telephone subscribers located in the specific geographic areas affected by emergencies. Would this type of system be more effective than the current EAS?

3. Any additional technologies to distribute warnings to the public are always welcome. But they must fit into the overall integrated warning plan. Since EAS was

established, Internet and cell phone use have mushroomed. These and other distribution systems need to be integrated into the warning structure. Emergency managers need to be trained in how to develop the warning messages that would be distributed by an integrated interoperable warning system. Such a system should include EAS, NWR, NAWAS, the Internet, telephone, sirens, private systems, etc.

4. We can likely all agree that in times of national crisis, reliable and timely information is crucial. Most Americans presently get their emergency information from the antiquated the Emergency Broadcast System. But in the event of a local or regional power failure, these information sources are mostly unavailable. We should have the capability to use a quick, accurate and versatile official communications alternative that can focus in on specific neighborhoods or cities, or be expanded if necessary to whole regions or the entire country. Because of this need, I introduced HR 2250, referred to as the READICALL bill. My bill requires the Secretary of Homeland Security to use existing resources—just like the present emergency broadcast system uses existing resources—to create a fast, efficient and reliable emergency communication system based on the nation's public telephone system, including cellular phones, on a 24 hour/365 days-a-year basis. The system could only be activated by order of the Secretary of Homeland Security, and only to keep the public informed of imminent or current hazardous events or on measures that should be taken to alleviate or minimize danger. The aim of this legislation is to keep our citizens informed in the terrible event that there is a national, regional or local terrorist emergency and present sources of communication are not simply available. Minutes can make a huge difference in an attack or disaster; accurate information pin-pointed to the affected area can make all the difference.

What are your initial thoughts on such a system?

Because of their widespread use, cell phones and the Internet should be part of an integrated warning system. Projects demonstrating their capabilities should begin immediately.

With respect to system activation by the Secretary of Homeland Security, presently only the President can activate the national level EAS. Activation would be through the PEP system using a special code. Upon receipt of the special code, EAS equipment throughout the nation would override the programming of radio, television and cable television for the President's message. The override would occur even if a state Governor or local official were broadcasting an EAS message. Whether special code authority should be extended to the Secretary of Homeland Security is a question for discussion.

Most if not all EAS Local Primary stations have generators for emergency power. WTOP, Washington, DC is one of the DC EAS Local Primary stations. These Local Primary stations function well in disasters, including power outages. During the recent hurricanes and power outages, portable radios were the primary means of communication with the public. Part of the problem is that the local EAS systems need to be part of an integrated local system to reach citizens using other communications devices such as cell phones and computers. Some of these devices are capable of reaching very specific areas and even groups of citizens. It begins at the local level.

5. What information should the public receive in a warning message? How tailored or specific should warning messages be in order to be effective? Do the current warning systems provide enough information for the public to take appropriate action in response to a disaster, emergency or act of terrorism?

5. Citizens at risk need timely and specific instructions. Consumer devices should have the capability to be programmed by their users for warning messages they want to receive. It is equally if not more important that officials with emergency authority have the knowledge and training to develop effective warning messages and access the warning systems.

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September 21, 2004

The Honorable John B. Shadegg
Chairman
Subcommittee on Emergency Preparedness and Response
Select Committee on Homeland Security
306 Cannon House Office Building
Washington, DC 20515

Subject: **Subcommittee Hearing: ""Emergency Warning Systems: Ways to Notify the Public in the New Era of Homeland Security" – September 22, 2004 – White Paper for Hearing's Record**

Dear Chairman Shadegg:

Thank you for holding a hearing focusing on warning systems and ways to alert the public in the event of local or national emergencies.

We understand the opportunity for testimony is limited for tomorrow's hearing. However, given the focus of the hearing and the need for witnesses representing the NOAA Weather Radio network or the related "Public Alert" device industry, we would like to submit a recently published white paper for the hearing's record.

The attached white paper, titled *Public Alert: Delivers Emergency All-Hazard Warnings Everywhere, All the Time*, was produced by the Consumer Electronics Association's (CEA's) Public Alert Technology Alliance, comprised of product manufacturers and government organizations.

The paper contains a brief overview of the product category, explains how it leverages the NOAA Weather Radio network, and describes how and why Public Alert devices are able to save lives. It also details the recent Public Alert standard work undertaken by CEA, which resulted in the standard "CEA-2009, Receiver Performance Specification for Public Alert Receivers."

Should the Subcommittee have any follow-up questions regarding this paper or Public Alert devices, please do not hesitate to contact us.

Sincerely,

Gary Shapiro
President and CEO

PRODUCER OF 

[Information is in committee file.]