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49 WEST 27TH STREET TEL 212 213 3740
8TH FLOOR FAX 212 213 9715
NEW YORK, NY 10001 WWW.BRIDGEMULTIMEDIA.COM

EMERGENCY PREPAREDNESS ONLINE

A resource directory for emergency preparedness,
response, recovery, and accessible communications

Prepared by John Cavanagh, Matt Kaplowitz,
Anne Malia, Jessica Malia, and Ken Takeuchi

Emergency Preparedness Online is a website and printer-friendly resource directory established to provide information regarding organizations involved in emergency preparedness and communications, particularly as they relate to the Emergency Alert System and individuals with disabilities. The directory includes information about and reports from government agencies and commissions, private and not-for-profit organizations, and foreign and international groups pertaining to their work involving response, recovery, and communications during times of emergency, with an additional focus on the accessibility of such communications for people with disabilities.

Emergency Preparedness Online was made possible in part with the resources provided by the American Foundation for the Blind, Bridge Multimedia's project partner in the development of this resource directory.

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Updates

08/08/08

5th Annual National Preparedness Month to take place in September

The U.S. Department of Homeland Security announced that over 1,200 national, regional, state and local businesses and organizations have joined the 2008 National Preparedness Month Coalition to raise awareness and promote action by Americans, businesses, and communities on emergency preparedness. "As we approach our fifth National Preparedness Month, I want to thank the hundreds of coalition members who are making a difference in their communities by helping raise the basic level of preparedness in our country," said Homeland Security Secretary Michael Chertoff.

Citizen Corps are specifically encouraging individuals across the nation to take important preparedness steps. These steps include: getting an emergency supply kit, making a family emergency plan, being informed about the different emergencies that may affect them, as well as taking the necessary steps to get trained and become engaged in community preparedness and response efforts. National Preparedness Month Coalition members have agreed to distribute emergency preparedness information and sponsor activities across the country that will promote emergency preparedness.

Sponsored by the department's Ready Campaign, National Preparedness Month helps to raise awareness and promote action by Americans, businesses, and communities on emergency preparedness. "As we approach our fifth National Preparedness Month, I want to thank the hundreds of coalition members who are making a difference in their communities by helping raise the basic level of preparedness in our country," said Homeland Security Secretary Michael Chertoff. " Experience shows that if Americans take steps ahead of time, they stand a much better chance of coming through an emergency unharmed and recovering more quickly." The Ready Campaign and Citizen Corps (www.citizencorps.gov) are specifically encouraging individuals across the nation to take important preparedness steps. National Preparedness Month Coalition members

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have agreed to distribute emergency preparedness information and sponsor activities across the country that will promote emergency preparedness. Membership is open to all public and private sector organizations. Groups and individuals can register to become members by visiting www.ready.gov, and clicking on the National Preparedness Month banner. Senate Homeland Security and Governmental Affairs Committee Chairman Joseph I. Lieberman and Ranking Member Susan M. Collins, along with House Homeland Security Committee Chairman Bennie G. Thompson and Ranking Member Peter T. King, will serve as honorary Congressional Co-Chairs of National Preparedness Month 2008.

07/21/08

National Summit on Disaster Recovery

State and national leaders in emergency management, information technology, and archives and records management met to consider the problem of protecting essential records during disasters. The Summit, held in Atlanta, was funded by FEMA and sponsored by CoSA, the Council of State Archivists. Vicki Walsh, executive director of the Council said, "When disasters strike, emergency responders need records to locate utilities and establish chain of command, state and local governments need records to continue operations, and individuals need records to prove their identity and re-establish their lives."

Following hurricane Katrina, CoSA developed the Intergovernmental Preparedness for Essential Records project and successfully applied for a FEMA grant to fund it. The Summit in Atlanta was designed bring together the directors (or deputies) of every state emergency management office, information technology agency, and archival or records management agency. The next step of the project will be to produce nationwide training sessions in order to reach state and local government officials in every state and territory and train them how to identify and protect essential records from disasters.

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For more information, visit:

<http://www.statearchivists.org/prepare/iper/index.htm>

03/14/08

FEMA Changes Organizational Structures to Strengthen Preparedness Levels

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) announced the transfer of specific preparedness administrative and operational authority roles from FEMA Headquarters to FEMA Regional Administrators. This transfer of responsibilities was put into effect to enhance FEMA's capability to develop a National preparedness system.

This transfer of authority includes personnel associated with the:

- * Radiological Emergency Preparedness Program
- * Chemical Stockpile Emergency Preparedness Program
- * Community Preparedness
- * Assistance to Firefighters Grant program
- * Continuity of Operations
- * Regional Investment Officers

The National Preparedness Divisions, run by regional-level Federal Preparedness Coordinators, will lead FEMA's efforts to coordinate the broad scope of preparedness missions for all-hazards. Also, the plan includes the formation of a new Grant Programs Division to be established within each Region. This will serve as the central location for business management of regional grants, and program management for certain national

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preparedness homeland security grant programs. For more information, visit FEMA at <http://home.fema.gov/news/newsrelease.fema?published=1&id=42934>

02/01/08

The Institute of Medicine's Research Priorities in Emergency Preparedness and Response

The Center for Disease Control (CDC) requested that the Institute of Medicine (IOM) recommend a set of near-term research priorities for emergency preparedness and response in public health systems for use at schools of public health and related fields. These priorities will be used to help develop a research agenda and inform research funding opportunity announcements during the 2008 fiscal year. The IOM report recommends that priority be given to the following four areas of research:

- * Enhancing the usefulness of training
- * Improving communications in preparedness and response
- * Creation and maintenance of sustainable preparedness and response systems
- * Generation of criteria and metrics to measure effectiveness and efficiency.

The full report can be downloaded at

<http://www.iaem.com/publications/news/documents/EmergPreparednessResearchPriorities.pdf>



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I. The FCC

A. General Information

The Federal Communications Commission (FCC) was established under the Communications Act of 1934. The FCC is a United States government agency, directly responsible to Congress, which regulates communications by radio, television, wire, satellite, and cable. The FCC's jurisdiction covers the 50 States and territories. As it is the policy of the United States for federal agencies to consider persons with disabilities in their emergency preparedness planning, the FCC is committed to ensuring that people with disabilities have equal access to public warnings. For example:

- The Commission requires all distributors of video programming (including local broadcasters, cable operators and satellite television service providers) that provide emergency information to do so in a format that is accessible to persons with hearing and vision disabilities.
- When emergency information is provided in the audio portion of programming, critical details about the emergency and how to respond must be provided in a visual format, such as closed captioning, open captions, crawls, or scrolls.
- Emergency information provided by crawls, scrolls or other visual means should not block closed captioning, and closed captioning should not block any emergency information provided by crawls, scrolls, or other visual means.
- Emergency information that is provided in the video portion of a regularly scheduled, or unscheduled, newscast must also be made accessible to persons who are blind or have low vision.

- Emergency information provided by means other than closed captioning or video description should not block any closed captioning or video description and vice versa.

The FCC established the Emergency Alert System (EAS) in November of 1994 as a replacement for the Emergency Broadcast System. The Emergency Alert System provides the President (and national, state, and local authorities) with the capability to provide immediate communications and information to the general public at the National, State and Local levels during an emergency. The EAS uses digital technology to distribute messages, providing state and local officials with a new method to quickly send out important local emergency information targeted to a specific area. The information can be sent out through a broadcast station and cable system even if those facilities are unattended. Also, specially equipped consumer products, such as televisions, radios, pagers and other devices, can decode EAS messages. The consumer can program these products to "turn themselves on" for the messages they want to receive.

On August 4th, 2004 The Federal Communications Commission issued a Notice of Proposed Rulemaking (NPRM) concerning the Emergency Alert System, seeking comment on how EAS can be improved to be a more effective mechanism for warning the American public of an emergency. The FCC particularly invited comment on how individuals with disabilities can be notified of EAS activation or other emergency alerts by such means.

B. Updates on FCC

11/30/05: FCC releases Notice of Proposed Rulemaking

On November 30th, 2005 the FCC released a Notice of Proposed Rulemaking (NPRM) in the matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities - Access to Emergency Services.

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Visit the following link to access the 11/30/05 NPRM document;
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-196A1.doc

11/3/05: FCC updates EAS rules, also requests further commentary

On Thursday November 3rd, 2005 the Federal Communications Commission issued its First Report and Order updating existing Emergency Alert Service rules to include providers of digital broadcast and cable TV, digital audio broadcasting, satellite radio and direct broadcast satellite services. All of these entities, except direct broadcast satellite, must adhere to these new requirements by December 31, 2006. Direct broadcast satellite services must comply no later than May 31st, 2007.

The FCC also put forth a Further Notice of Proposed Rulemaking that seeks suggestions as to how the Commission can best help develop a 21st Century alert and warning system that employs both advanced system architecture and common protocols, in order to use digital media to its fullest potential. Also, the Further Notice seeks comment on how a next-generation EAS can more effectively reach individuals with hearing and vision disabilities, as well as non-English speakers.

After the action, each FCC commissioner issued separate statements, which included comments regarding the significance of digital and alternative wireless technologies, the importance of providing timely information during an emergency, and the necessity for ALL Americans to have access to EAS information.

Please visit www.EASInfoOnline.com for further updates on the FCC's amendments to the EAS rules.

For FCC's Notice of Proposed Rulemaking site, please visit;
<http://www.fcc.gov/eb/Orders/2004/FCC-04-189A1.html>

For the FCC Amendments to the EAS Rules, please visit;
http://www.fcc.gov/Daily_Releases/Daily_Digest/2005/dd051104.html

C. EAS State Plans

ALABAMA	http://www.sbe.org/eas/aleascvr.html
ALASKA	http://www.ak-prepared.com/IMAWS/easplan.htm
ARIZONA	http://www.azbroadcasters.org/media/ArizonaStateEASPlan.pdf
CALIFORNIA	http://eas.oes.ca.gov
CONNECTICUT	http://www.ctba.org/emergency/index.html
COLORADO	http://www.startcolorado.com/eas/
DC	http://www.sbe37.org/html/eas2.html
FLORIDA	http://www.floridadisaster.org/bpr/EMTOOLS/Warning/eas.htm
HAWAII	http://www.scd.hawaii.gov/EAS_Plan.pdf
IDAHO	http://www.bhs.idaho.gov/bhslibrary/eas_stateplan-rev7b.pdf
KANSAS	http://www.accesskansas.org/kdem/pdf/commissions/eas_1998plan.pdf
ILLINOIS	http://www.ilba.org/downloads/FCC/IL_2005_EAS_PLAN.pdf

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INDIANA	http://www.wndu.com/eas/
LOUISIANA	http://www.laeas.org/
MAINE	http://www.mab.org/absolutenm/templates/?a=75&z=8
MASSACHUSETTS	http://www.massbroadcasters.org/
MICHIGAN	http://www.michmab.com/eas.html
MINNESOTA	http://www.hsem.state.mn.us/uploadedfile/easplan.pdf
MISSISSIPPI	http://www.msbroadcasters.org/home.html
NEBRASKA	http://www.radiostation.com/sbe74/NE-EAS-PLAN.pdf
NEVADA	http://www.nevadabroadcasters.com/mainfiles/amber.shtml
NEW JERSEY	http://www.njsecc.net/
NEW HAMPSHIRE	http://www.nhoem.state.nh.us/Mitigation/Capability.shtm
NEW MEXICO	http://www.sbe34.org/EAS/NM_EASPLAN.PDF
NORTH CAROLINA	http://www.ncbroadcast.com/2005eas.pdf
OHIO	http://www.sbe33.org/eas.html
OKLAHOMA	http://www.oabok.org/index.html
OREGON	http://www.broadcast.net/~sbe124/or_eas/or_plan.html

PENNSYLVANIA [http://www.pema.state.pa.us/pema/cwp/browse.asp?a=586&C=45242&pemaNav=#EAS%20Operational Plans](http://www.pema.state.pa.us/pema/cwp/browse.asp?a=586&C=45242&pemaNav=#EAS%20Operational%20Plans)

TEXAS <http://www.tab.org/>

TENNESSEE <http://www.tabtn.org/>

VERMONT http://www.dps.state.vt.us/vem/EAS_PLAN_vt.PDF

VIRGINIA <http://www.jmu.edu/wmra/eas/vaplan.html>

WASHINGTON <http://www.wsab.org/eas/eas.html>

WISCONSIN <http://www.sbe24.org/eas/>

WYOMING <http://www.wyomingbroadcasting.org/>

More state's plans will be listed as the information becomes available.

D. How to file a complaint if you believe that FCC requirements are not being complied with

If you think that the FCC Emergency Alert System regulations are not being complied with, you may complain to the FCC. The FCC may take enforcement action if it determines that a violation of the rules has occurred. Your complaint should include.

- The name of the video programming distributor (and cable or satellite distributors, if applicable) against whom the complaint is alleged;
- The date and time of the omission of emergency information; and
- The type of emergency.

You may contact the FCC by letter, facsimile transmission, telephone (voice/TRS/TTY), Internet, e-mail, audio cassette recording, or Braille. Send your complaint to:

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Federal Communications Commission
Consumer & Governmental Affairs Bureau
445 12th Street, SW
Washington, DC 20554
Phone: 1-888-225-5322 (voice); 1-888-835-5322 (TTY)
E-mail: fccinfo@fcc.gov
Internet: <http://www.fcc.gov/cgb/complaints.html>
Fax: 202-418-0232

The FCC will notify the video programming distributor of the complaint, and the distributor will reply to the complaint within 30 days. Based on the information in the complaint and the response, and any other information the FCC may request from either party, the FCC will make its decision and take the appropriate action.

To learn more about the FCC's requirements for access to televised emergency programming, visit the Consumer & Governmental Affairs Bureau's Web site at www.fcc.gov/cgb.

E. FCC Links

FCC Homepage

<http://www.fcc.gov/>

The Emergency Alert System

<http://www.fcc.gov/cgb/consumerfacts/eas.html>

Disability Information

<http://www.fcc.gov/cgb/dro>

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Accessibility of Emergency Video Programming To Persons With Hearing and Visual Disabilities

<http://www.fcc.gov/cgb/consumerfacts/emergencyvideo.html>

Communicating During Emergencies

<http://www.fcc.gov/cgb/consumerfacts/emergencies.html>

Closed Captioning

<http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html>

Accessibility of Digital Wireless Phones to Individuals with Hearing Disabilities

<http://www.fcc.gov/cgb/consumerfacts/accessiblewireless.html>

Section 255: Telecommunications Access For People With Disabilities

<http://www.fcc.gov/cgb/consumerfacts/section255.html>

Filing Comments with the FCC

<http://wireless.fcc.gov/csinfo/comments.html>

F. FCC Accessibility Resources

This heading contains additional information regarding the FCC and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

1. The American Foundation for the Blind's Comments to the FCC

<http://www.afb.org/Section.asp?SectionID=3&TopicID=156&DocumentID=1983>

AFB's Comments to the FCC about Digital Broadcast Copy Protection with regard to "Access Issues for People Who Are Blind or Visually Impaired.

2. Disability Rights Office Homepage

<http://www.fcc.gov/cgb/dro/>

The Consumer & Governmental Affairs Bureau (CGB) develops and implements the FCC's consumer policies, including disability access, CGB's Disability Rights Office (DRO) addresses disability-related telecommunications matters. DRO also provides expert advice on issues relevant to persons with disabilities. DRO initiates rulemakings, where appropriate, for the development of disability policy to support the FCC's goal of increasing accessibility of communications services and technologies for persons with disabilities.

3. Accessibility of programming providing emergency information

http://www.fcc.gov/cgb/dro/emergency_info_regs.html

The FCC's current rules and regulations, regarding the accessibility of programming that is providing emergency information.

4. Accessibility of Emergency Video Programming to Persons with Hearing and Visual Disabilities Fact sheet

<http://www.fcc.gov/cgb/consumerfacts/emergencyvideo.html>

Fact sheet provides information including: What qualifies as an emergency? How does emergency information need to be made accessible? What information about the emergency must be provided?

5. FCC Fact Sheet on Closed Captioning

<http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html>

6. Accessibility of Wireless Phones Fact Sheet

<http://www.fcc.gov/cgb/consumerfacts/accessiblewireless.html>

7. Telecommunications Access For People With Disabilities Fact Sheet

<http://www.fcc.gov/cgb/consumerfacts/section255.html>

II. The Department of Homeland Security (DHS): the Interagency Coordinating Council (ICC)

On July 22nd, 2004 President Bush signed Executive Order 13347 to strengthen emergency preparedness with respect to individuals with disabilities. This Executive Order directs the federal government to address the safety and security needs of people with disabilities in emergency situations including natural and man-made disasters. To this end, the Executive also created an Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities (ICC) chaired by the Department of Homeland Security.

A. The Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities:

1. Considers, in their emergency preparedness planning, the unique needs of agency employees with disabilities and individuals with disabilities whom the agency serves.
2. Encourages, including through the provision of technical assistance, consideration of the unique needs of employees and individuals with disabilities served by State, local, and tribal governments, and private organizations and individuals in emergency preparedness planning.
3. Facilitates cooperation among Federal, State, local, and tribal governments and private organizations and individuals in the implementation of emergency preparedness plans as they relate to individuals with disabilities.

For a copy of Executive Order 13347, more facts on the Interagency Coordinating Council, including information regarding Subcommittees, meetings, council participants, and a copy of their 2005 annual report, visit their website at:

http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0591.xml

B. The Disability Preparedness Resource Center

The Department of Homeland Security maintains a disability preparedness web site that provides practical information on how people with and without disabilities can prepare for an emergency. It also provides information for family members of, and service providers to, people with disabilities. In addition, this site includes information for emergency planners and first responders to help them to better prepare for serving persons with disabilities. The site can be accessed at:

<http://www.disabilitypreparedness.gov>

C. Emergency Preparedness NOW

In July 2005, the ICC disseminated *Emergency Preparedness NOW*, the first issue of its new quarterly newsletter. This newsletter publicizes the activities of the Interagency Coordinating Council, presents effective emergency preparedness practices, and spotlights individuals who make a positive impact on emergency preparedness for individuals with disabilities. To access the online posting of this newsletter, visit:

<http://www.disabilitypreparedness.gov>.

D. The Community Emergency Preparedness Information Network (CEPIN) Receives DHS Emergency Preparedness Grant

On September 29th 2004, the Department of Homeland Security announced that it had awarded a 1.5 million dollar grant to a consortium of organizations that serve people who are deaf, late-deafened, hard-of-hearing and deaf-blind. The consortium is led by Maryland-based Telecommunications for the Deaf, Inc. (TDI), and includes organizations in Virginia, Massachusetts, California and South Dakota. Together these organizations plan to develop model emergency preparedness community education programs for their consumers throughout the United States. The name of the project is CEPIN (Community Emergency Preparedness Information Network). Further information regarding this project can be obtained at: www.cepintdi.org

E. Contact the ICC

To contact the Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities:

Department of Homeland Security

Office for Civil Rights and Civil Liberties

Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities

Washington, DC 20528

Email: disability.preparedness@dhs.gov

F. DHS and ICC Accessibility Resources

This heading contains additional information regarding the Department of Homeland Security and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together in this separate section to provide easy availability to those for whom accessibility is a foremost concern.

1. Interagency Coordinating Council's Disability Preparedness Resource Center

<http://www.disabilitypreparedness.gov/>

A web site that provides practical information on how people with and without disabilities can prepare for an emergency. It also provides information for family members of, and service providers to, people with disabilities.

2. READYAmerica

<http://www.ready.gov/america/index.html>

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Ready.gov, by the U.S. Department of Homeland Security, provides information on how all people can be prepared for emergencies, with a concentration on seniors and individuals with disabilities.

3. Emergency Preparedness for Individuals with Disabilities

a. <http://www.ready.gov/america/getakit/disabled.html>

The Department of Homeland Security posts a list of tips and suggestions for individuals with disabilities and special needs to prepare for an emergency.

b. <http://www.disabilitypreparedness.gov/ppp/disabil.htm>

The Interagency Coordinating Council and the Department of Homeland Security offer disability-specific emergency preparedness information. Includes information for individuals with cognitive/developmental disabilities, limited mobility, visual disabilities, hearing and speech disabilities and more.

4. Emergency Preparedness for Seniors

a. <http://www.ready.gov/america/getakit/seniors.html>

The Department of Homeland Security provides suggestions and information about emergency preparedness for seniors.

b. <http://www.disabilitypreparedness.gov/ppp/seniors.htm>

The ICC provides links with additional information regarding emergency preparedness for seniors.

5. Emergencies and Disaster: Planning and Prevention

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<http://www.disabilitypreparedness.gov/emrscp/index.htm>

The online Disability Preparedness Resource Center provides practical information on how people with and without disabilities can prepare for an emergency. It also includes information for emergency planners and first responders to help them to better prepare for serving persons with disabilities.

-----NEW, SEPARATE WEB PAGE WITHIN EI ONLINE-----

III. The Federal Emergency Management Agency (FEMA)

FEMA is a component of the Department of Homeland Security. FEMA's mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration. FEMA frequently works in partnership with other organizations that are part of the nation's emergency management system. For more information, visit <http://www.fema.gov/>.

A. Individuals with Special Needs: Preparing and Planning

FEMA posts a webpage entitled “Individuals with Special Needs: Preparing and Planning.” It provides additional steps for people with disabilities and special needs that may need to be taken during a time of emergency. It can be accessed at:

<http://www.fema.gov/plan/prepare/specialplans.shtm>

B. Preparing for Disaster for People with Disabilities and Other Special Needs

FEMA, in association with the American Red Cross, has produced a publication entitled *Preparing for Disaster for People with Disabilities and Other Special Needs*. It provides information and suggestions for including individuals with disabilities in emergency planning. This document can be accessed at http://www.fema.gov/pdf/library/pfd_all.pdf

C. Are You Ready?

This site offers a downloadable version of *Are You Ready? An In-depth Guide to Citizen Preparedness*, FEMA’s most comprehensive source on individual, family, and community preparedness – including information specific to people with disabilities.

It can be viewed at: <http://www.fema.gov/areyouready/>

D. FEMA's Digital Emergency Alert System (DEAS)

On July 12, 2006, the Department of Homeland Security's Federal Emergency Management Agency (FEMA), and the Association of Public Television Stations (APTS) announced the completion of Phase II of the Digital Emergency Alert System (DEAS). The DEAS would allow the transmission of emergency alerts directly to citizens and responders without the need for a special receiver. These alerts would be sent to users of computers, mobile phones, pagers, and other devices. Transmission of data over the digital broadcast signal is nearly instantaneous and can be distributed simultaneously to thousands of sites.

"Digital capabilities will improve the reliability, flexibility, and security of the emergency alert system," said David Paulison, Director of FEMA. "This more efficient system will better serve first responders and government officials, as well as provide the American public timely information so they can safeguard themselves and loved ones in times of emergencies."

FEMA has put \$1 million into the project to date. Last week it kicked in an additional \$4.5 million to give all licensees the equipment needed to relay the federal alerts. The federal agency will also provide \$1 million a year to maintain the system.

For More Information About DEAS, Please Click Here

http://www.fema.gov/pdf/media/2006/deas_fact_sheet.pdf

The development of the DEAS comes less than one month after President Bush issued an executive order to Homeland Security, the Defense Department, the Commerce Department and the FCC to update public warning systems - including the Emergency Alert System.

The 30 paragraph White House order calls for "an integrated alert and warning system that reaches as many Americans as possible through as many forms of communication as possible -- television, radios, PDAs, cellphones, et cetera," The order also assigns
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Homeland Security Secretary, Michael Chertoff, with the task of declaring and implementing a U.S. policy to ensure that, in cases of war, terrorist attacks, or natural disasters, the President can communicate with the American people.

According to the Department of Homeland Security, Congress has set aside \$25 million over three years for pilot studies of public notification efforts. The program would be managed by the Federal Emergency Management Agency.

Bush also directed federal agencies to help as requested. The order applies to the Pentagon, the Commerce Department and the FCC, which must adopt rules requiring that communications systems be able to transmit alerts.

To Read The Full Text Of This Executive Order, Please Click Here.

<http://www.whitehouse.gov/news/releases/2006/06/20060626.html>

E. The Emergency Preparedness and Response for Individuals With Disabilities Act of 2006

On February 7, 2006, Congressmen Jim Langevin (D-RI) and Curt Weldon (R-PA) introduced a piece of legislation entitled the Emergency Preparedness and Response for Individuals with Disabilities Act of 2006 [H.B. 4704] which addresses the variety of issues faced by people with disabilities before, during and after a national disaster.

The bill calls for a Disability Coordinator within the Department of Homeland Security, to ensure the accessibility of information about evacuation and disaster relief via telephone hotlines and websites. The bill also amends the Stafford Disaster Relief Act, and requires the Government Accountability Office to conduct a national study of emergency shelters to determine how many of them are accessible under Titles II and III of the Americans with Disabilities Act (ADA).

For More Information about H.B. 4704, Please Click Here:

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[http://thomas.loc.gov/cgi-bin/query/z?c109:h.r.4704:](http://thomas.loc.gov/cgi-bin/query/z?c109:h.r.4704)

F. Contact FEMA

To contact the Federal Emergency Management Agency:

FEMA

500 C Street S.W.

Washington, D.C. 20472

1-800-621-FEMA

TDD: 1-800-462-7585 for Federal Relay Service.

IV. Rehabilitation Engineering Research Centers (RERCs)

A. General Information

Rehabilitation Engineering Research Centers (RERCs) plan and conduct research leading to new scientific knowledge and innovative methods, procedures and devices to benefit people with disabilities. Funded by the Department of Education's National Institute on Disability and Rehabilitation Research (NIDRR), RERCs develop and disseminate methods of applying advanced technology and psychological/social knowledge in order to expand the options available to those with disabilities. There are approximately two dozen RERCs, each one focused on a different area of disability related research. They were created by NIDRR to be centers of excellence, bringing together top scientists, engineers, researchers and clinicians in order to develop technical innovations that will have a lasting impact on the lives of persons with disabilities.

B. The Rehabilitation Engineering Research Center on Telecommunication Access

The RERC-TA is a joint project of Gallaudet University's Technology Access Program (TAP) and the Trace Research and Development Center at the University of Wisconsin-Madison. The main goal of the RERC-TA is to make communications technologies accessible to (and usable by) people with disabilities. Naturally, the RERC -TA was quick to answer the FCC's call for commentary regarding the Emergency Alert System. On October 29, 2004 The RERC-TA submitted comments to the FCC concerning the future of the EAS. The comments recommended:

1. A major upgrade of EAS, including mandatory participation by broadcast stations and an expansion of EAS rules to cover new digital technologies.
2. Expanding EAS to new devices is essential for providing emergency information to people with disabilities.

3. New technological pathways for EAS communications to include wireless data networks that reach millions of Americans in remote locations, fixed and mobile.
4. More comprehensive planning and coordination among state and federal agencies and focused on the benefits of digital and alternative technologies for people with disabilities.

For more information on the Technology Access Program, please visit

<http://tap.gallaudet.edu/>

For more information on the Trace Center, please visit <http://trace.wisc.edu/>

On February 22nd 2006, the RERC-TA filed comments with the FCC regarding access to emergency services for telecommunication relay services and speech-to-speech services for Individuals with hearing and speech disabilities. Suggestions included:

1. A timely, holistic review of 9-1-1 with respect to accessibility to people who are deaf and hard of hearing.
2. IP text relay be reviewed for its functional adequacy for 9-1-1 calling.
3. A standardized numbering plan for relay callers be considered.
4. A reliable IP text platform be identified and supported across telecommunication network technologies to ensure interoperability.
5. The Office of Engineering and Technology be heavily involved in the review of plans and decisions regarding technical approaches.

RERC's complete 2006 report to the FCC

(<http://tap.gallaudet.edu/FCC/RERC%20IPRORS911Dkt03-123.doc>)

C. Accessible Emergency Notification and Communication Conference

On November 2-3, 2005 RERC-TA sponsored a conference on Accessible Emergency Notification and Communication at Gallaudet University in Washington DC. The purpose of this conference was to “identify needs and gather possible solutions for accessible emergency notification and communication and to encourage interaction among industry, government, and consumer experts so that accessibility considerations are more likely to be built into notification and communication products and procedures.” This timely and insightful conference was attended by accessibility experts, government representatives involved with emergency communications, academicians, industry representatives and consultants.

This conference exemplified the RERC commitment to excellence. The program was meticulously produced to present a broad spectrum of important topics with engaging experts to expound upon them. Professionals in the field came from as far away as Japan to attend this conference. Bridge Multimedia’s representative reported that the enthusiasm of the seminar’s participants was infectious. Spirited conversations regarding Emergency Notification abounded and many important acquaintances were made. The conference fulfilled its promise of providing a forum whereby participants and attendees were able to exchange important ideas and information. Topics and presenters included:

1. Accessibility Tools and Gaps

Cheryl Heppner

Executive Director

Northern Virginia Resource Center for Deaf and Hard of Hearing People

Janina Sajka

Partner

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Capital Accessibility, Inc.

2. Governmental Activities on Accessible Emergency Notification

Daniel W. Sutherland

Officer for Civil Rights and Civil Liberties

U.S. Department Homeland Security

3. Radio Broadcast Data

Mike Starling

Vice President for Engineering and Operations

National Public Radio

4. Making Televised Emergency Information Accessible

Larry Goldberg

Director, Media Access Group

WGBH

5. NOAA NWS Emergency Warning

Kenneth Putkovich

Consultant

U.S. National Oceanographic and Atmospheric Administration (NOAA)

6. Email Alerts: What's Available

Marcia Brooks

Project Director, Access Alerts Projects

WGBH

7. Common Alerting Protocol

Art Botterell

Consultant

President, Incident.com

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8. Emergency Communication and Federal Employees

Paul Singleton

Computer/Electronic Accommodations Program

U.S. Department of Defense

9. Campus-Level Accessible Notification

Carl Pramuk

Dean of Student Affairs

Gallaudet University

10. Accessible Alarms During Sleep: Research Results

Jacqueline DuBois

Combustion Science and Engineering, Inc.

11. Direct Person-to-Person Telecommunications

Gregg Vanderheiden

Director, Trace R&D Center

Co-PI, Rehabilitation Engineering Research Center (RERC) on

Telecommunications Access

University of Wisconsin, Madison

12. PSAP Accessibility Under ADA

Robert Mather

Senior Trial Attorney

US Department of Justice

13. Related Proceedings and Rules of the FCC

Gregory Hlibok

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Attorney Advisor

FCC, Consumer and Governmental Affairs Bureau, Disability Rights Office

14. Recovery of Service under Telecommunications Service Restoration Priority

John Hogue

Program Manager

Sprint

15. CapTel Service and 9-1-1 Calls

Kevin Colwell

Vice President of Engineering

Ultratec, Inc.

16. Video Relay Service Technology and 9-1-1 Calls

Mike Maddix

Product Manager

Sorenson Communications

To access the Accessible Emergency Notification and Communication Conference program,
please visit;

<http://www.tvworldwide.com/events/nod/051102/default.cfm>

D. Wireless RERC

The RERC on Mobile Wireless Technologies for Persons with Disabilities, also known as *The Wireless RERC*, has parallel goals to promote universal access to mobile wireless technologies and to explore their innovative applications in addressing the needs of people with disabilities. The Wireless RERC is based out of the Georgia Institute of

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Technology. According to their website, “With an overall goal of promoting independence and autonomy of people with disabilities, the Wireless RERC has two primary aims: 1) ensure equitable access to mobile wireless products and services by people with disabilities of all ages and abilities; and 2) investigate promising applications of mobile wireless technologies in support of employment, independent living and community integration of people with disabilities.”

On March, 2006 the Wireless RERC issued a publication entitled “Increasing Access to Wireless Technologies” at the 21st annual International Technology and Persons with Disabilities Conference at California State University. It included facts on Access, Awareness, Economic, Regulatory, Technology, and Policy Options.

To Download this PowerPoint Presentation, Please Click Here

http://www.cacp.gatech.edu/Presentations/CSUN_2006/Nathan/csun_06_baker_moon_final.ppt#345,1,Rehabilitation Engineering Research Center

The Wireless RERC’s comments on Federal Communications Commission regulations included three filings to the FCC in areas regarding emergency communication and notification. These submissions were as follows:

1. On October 9, 2003 the Wireless RERC submitted reply comments to an FCC *Notice of Proposed Rulemaking* regarding telecommunications relay services (TRS) and the requirements set forth in the Americans with Disabilities Act of 1990. In responding to comments filed by various advocacy groups for the deaf and hard of hearing, the Wireless RERC emphasized to the FCC the importance of providing parity of service with respect to emergency communications. Additionally, the Wireless RERC recommended expanding TRS requirements so as to allow text messages to become a regular part of emergency communication systems.

2. On October 18, 2004 the Wireless RERC, in response to the FCC's *Further Notice of Proposed Rulemaking*, suggested that the FCC encourage wireless manufacturers to build-in TTY capability so as to enable more reliable emergency communications for users with disabilities.
3. On October 29, 2004 – The Wireless RERC submitted comments to the FCC's *Notice of Proposed Rulemaking* about the future of the Emergency Alert System (EAS). The comments particularly recommended more comprehensive planning and coordination among state and federal agencies and focused on the benefits of digital and alternative technologies for people with disabilities.

For more information on the Wireless RERC, please visit:

<http://www.wirelessrerc.gatech.edu/index.html>

E. List of RERCs and Contacts

1. RERC For The Advancement Of Cognitive Technologies

The goal of this RERC is to research, develop, evaluate, implement, and disseminate innovative technologies and approaches that will have a positive impact on the way in which individuals with significant cognitive disabilities function within their communities and workplace.

University of Colorado

Health Sciences Center

1245 East Colfax Avenue, Suite 200

Denver, CO 80218

Principal Investigator: Cathy Bodine, PhD, CCC-SLP

Contact: Cathy Bodine, PhD, CCC-SLP

Voice: (303) 315-1281

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TT: (303) 837-8964

Fax: (303) 837-1208

e-Mail: cathy.bodine@uchsc.edu

2. RERC On Accessible Medical Instrumentation

The goal of this RERC is to (1) increase knowledge of, access to, and utilization of healthcare instrumentation and services by individuals with disabilities and (2) increase awareness of and access to employment in the healthcare professions by individuals with disabilities.

Marquette University

Department of Biomedical Engineering

P.O. Box 1881

Milwaukee, WI 53201

Co-Principal Investigator: Jack Winters, PhD

Co-Principal Investigator: Molly Follette Story, PhD

Contact: June Isaacson-Kailes

Voice: (310) 821-7080

Fax: (310) 827-0269

e-Mail: jik@pacbell.net

3. RERC On Accessible Public Transportation

This RERC addresses the need for improvements in the accessibility of public transportation, particularly inter-city travel via air, rail, and bus.

Oregon State University

National Center for Accessible Transportation

Civil, Construction and Environmental Engineering

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Corvallis, OR 97331-2302

Principal Investigator: Kate Hunter-Zaworski, PhD, PE

Contact: Kate Hunter-Zaworski, PhD, PE

Voice: (541) 737-4982

Fax: (541) 737-3052

e-Mail: katharine.hunter-zaworski@oregonstate.edu

4. RERC On Technology For Children With Orthopedic Disabilities

The Rehabilitation Engineering Research Center on Technology for Children with Orthopedic Disabilities focuses on research and development assisting children to achieve their full potential as productive citizens.

Rancho Los Amigos National Rehabilitation Center

Los Amigos Research and Education Institute, Inc. (LAREI)

Rancho Rehabilitation Engineering Program

12841 Dahlia Street, Building 306

Downey, CA 90242

Director: Donald McNeal, PhD; Sam Landsberger, ScD

Phone: 562-401-7994

Fax: 562-803-6117

TTY: 562-803-4533

5. RERC On Communication Enhancement

The mission of this RERC is to assist people who use augmentative and alternative communication (AAC) technologies in achieving their goals across environments. The goals and objectives of the RERC are to advance and promote AAC technologies through

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the outputs and outcomes of research and development activities and to support individuals who use, manufacture, and recommend these technologies in ways they value.

Duke University Medical Center

Department of Surgery

Division of Speech Pathology & Audiology

Durham, NC 27710

Principal Investigator: Frank DeRuyter, PhD

Contact: Kevin Caves, ME, ATP, RET

Voice: (919) 684-3540

TT: (919) 684-6626

Fax: (919) 681-9984

e-Mail: kevin.caves@duke.edu

6. RERC On Hearing Enhancement

The Rehabilitation Engineering Research Center on Hearing Enhancement is a national project which conducts research programs that promote technological solutions to problems confronting people who are deaf or hard of hearing.

Gallaudet University

Division of Audiology and Speech-Language Pathology

800 Florida Avenue, NE

Washington, DC 20002

Co-Principal Investigator: Matthew H. Bakke, PhD

Co-Principal Investigator: Arlene Neuman, PhD

Contact: Matthew H. Bakke, PhD

Voice: (202) 651-5335

Fax: (202) 651-5324

e-Mail: matthew.bakke@gallaudet.edu

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7. RERC On Improved Technology Access For Landmine Survivors

The Center strives to improve the quality and availability of amputee and rehabilitation services for landmine survivors by focusing on the development of mobility aids, and the creation of educational materials, all of which are designed specifically for mine-affected populations and disseminated through a network of rehabilitation service providers in mine-affected regions.

Center for International Rehabilitation (CIR)

211 East Ontario, Suite 300

Chicago, IL 60611

Principal Investigator: Yeongchi Wu, MD

Contact: Yeongchi Wu, MD

Voice: 312-229-1359

Fax: (312) 229-1370

e-Mail: info@cirnetwork.org

8. RERC On Mobile Wireless Technologies For Persons With Disabilities

This RERC develops appropriate and effective applications of wireless technologies that enhance the independence of people with disabilities.

Georgia Institute of Technology

Georgia Center for Advanced Telecommunications Technology (GCATT)

250 14th Street

Atlanta, GA 30318

Principal Investigator: Helena Mitchell, PhD

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Contact: Helena Mitchell, PhD
Voice: (404) 894-0058
Fax: (404) 894-1445
e-Mail: helena.mitchell@gcatt.gatech.edu

9. RERC On Prosthetics And Orthotics

The goal of this RERC is to improve the quality of life for persons who use prostheses and orthoses through creative applications of science and engineering to the prosthetics and orthotics (P&O) field. The goal is to uncover new knowledge and understanding in P&O and to bring more quantification to the field, which will enable them to develop new concepts and devices to improve the quality, cost-effectiveness, and delivery of P&O fittings.

Northwestern University
Feinberg School of Medicine
345 East Superior Street, Room 1441
Chicago, IL 60611-4496
Principal Investigator: Steven A. Gard, PhD
Contact: Steven A. Gard, PhD
Voice: (312) 238-6525
TT: (312) 238-6530
Fax: (312) 238-6510
e-Mail: sgard@northwestern.edu

10. RERC On Recreational Technologies And Exercise Physiology Benefiting Persons With Disabilities

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This program researches access to recreational opportunities and physical endurance of people with disabilities, targeting four primary areas: (1) increased access to fitness and recreation environments; (2) interventions to increase physical activity and recreation participation; (3) adherence strategies to reduce physical activity relapse and dropout rates; and (4) randomized clinical trials to evaluate improvements in health and function.

University of Illinois at Chicago

Department of Disability and Human Development

1640 West Roosevelt Road, Suite 712

Chicago, IL 60608-6904

Principal Investigator: James H. Rimmer, PhD

Contact: James H. Rimmer, PhD

Voice: (312) 413-9651

Fax: (312) 355-4058

e-Mail: jrimmer@uic.edu

11. RERC On Rehabilitation Robotics And Telemanipulation: Machines Assisting Recovery From Stroke

This RERC focuses its research and development on restoring function in hemispheric stroke survivors. Another goal of this RERC is to develop robotic devices or machines that assist the therapist in providing treatments that are rationally based, intensive, and long in duration.

Rehabilitation Institute Research Corporation

345 East Superior Street, Room 1406

Chicago, IL 60611-4496

Principal Investigator: W. Zev Rymer, MD, PhD

Contact: W. Zev Rymer, MD, PhD

Voice: (312) 238-3919

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Fax: (312) 908-2208

e-Mail: w-rymer@northwestern.edu

12. RERC ON SPINAL CORD INJURY

This RERC improves the lives of individuals with SCI by promoting their health, safety, independence, and active engagement in daily activities.

Los Amigos Research and Education Institute, Inc. (LAREI)

Rancho Los Amigos National Rehabilitation Center

P.O. Box 3500

Downey, CA 90242

Co-Principal Investigator: Samuel E. Landsberger, ScD

Co-Principal Investigator: Robert Waters, MD

Contact: Linda Sutherland

Voice: (562) 401-7541

Fax: (562) 803-5569

e-Mail: l.sutherlandrerc@verizon.net

13. RERC On Technology For Successful Aging

The RERC-Tech-Aging conducts research, development, education, and information dissemination work on technology for successful aging. Projects of the RERC focus on the closely related areas of communications, home monitoring, and "smart" technologies.

University of Florida

Department of Occupational Therapy

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101 S. Newell Dr., Suite 2101
Gainesville, FL 32611
Principal Investigator: William C. Mann, PhD
Contact: Cathy Locklear, MHS, OTR/L
Voice: (352) 273-6124
TT: (352) 273-6817
Fax: (352) 273-6042
e-Mail: clocklea@php.ufl.edu

14. RERC On Technology Transfer

The activities of this RERC transfer and commercialize new and improved assistive devices, conduct research to improve technology transfer practice, and support other stakeholders involved in the technology transfer process.

University at Buffalo, The State University of New York

Center for Assistive Technology
322 Kimball Tower
Buffalo, NY 14214-3079
Co-Principal Investigator: Stephen M. Bauer, PhD
Co-Principal Investigator: Vathsala I. Stone, PhD
Contact: James Leahy
Voice: (716) 829-3141 ext. 135
TT: (800) 628-2281
Fax: (716) 829-2420
e-Mail: jimleahy@acsu.buffalo.edu

15. RERC On Telecommunications Access

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This RERC identifies telecommunication access barriers in current and future technologies, work with others in the field to identify solution strategies, test them, implement any necessary standards, and assist industry in transferring the ideas into their commercial products.

University of Wisconsin-Madison

Trace Research and Development Center

1550 Engineering Drive, Room 2107 ECB

Madison, WI 53706-1609

Co-Principal Investigator: Gregg C. Vanderheiden, PhD

Co-Principal Investigator: Judy Harkins, PhD

Contact: Kate Vanderheiden

Voice: (608) 265-4621

TT: (608) 263-5408

Fax: (608) 262-8848

e-Mail: vanderk@trace.wisc.edu

16. RERC On Telerehabilitation

The goal of this RERC is to serve people with disabilities by researching and developing methods, systems, and technologies that support remote delivery of rehabilitation and home health care services for individuals who have limited local access to comprehensive medical rehabilitation outpatient and community-based services.

University of Pittsburgh

School of Health and Rehabilitation Sciences

Forbes Tower, Suite 5044

Pittsburgh, PA 15260

Co-Principal Investigator: David M. Brienza, PhD

Co-Principal Investigator: Michael McCue, PhD

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Contact: Jean Webb

Voice: (412) 586-6905

TT: (415) 383-6598

Fax: (415) 383-6597

e-Mail: hjwebb+@pitt.edu

17. RERC On The Universal Design And The Built Environment At Buffalo

RERC on the Universal Design and the Built Environment completes research and develop critical tools for advancing the field of universal design and applies those tools to develop exemplar products and places through industry partnerships. Education and dissemination activities increase awareness of the RERC activities and universal design in general as well as improve capacity in research and practice. A model of “evidence based practice” guides all these activities.

University at Buffalo, The State University of New York

School of Architecture and Planning

378 Hayes Hall

Buffalo, NY 14214-3087

Principal Investigator: Edward Steinfeld, Arch. D.

Contact: Edward Steinfeld, Arch. D.

Voice: (716) 829-3483 x 329

Fax: (716) 829-3861

e-Mail: arced@ap.buffalo.edu

18. RERC On Universal Interface And Information Technology Access

The focus of this RERC is on both access to information in its various forms, as well as access to interfaces used within content and by electronic technologies in general. The research and development program is carefully designed to provide an interwoven set of

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projects that together advance accessibility and usability in a fashion that takes into account, and supports, the full range of access strategies used by manufacturers and people with disabilities.

University of Wisconsin-Madison

Trace Research and Development Center

1550 Engineering Drive, 2107 ECB

Madison, WI 53706-1609

Principal Investigator: Gregg C. Vanderheiden, PhD

Contact: Kate Vanderheiden

Voice: (608) 263-5788

TT: (608) 263-5408

Fax: (608) 262-8848

e-Mail: vanderk@trace.wisc.edu

19. RERC On Wheelchair Transportation Safety

The goal of this RERC is to improve the safety of wheelchair users who remain seated in their wheelchair while using public and private motor-vehicle transportation. This RERC has active programs of information dissemination, training, and technology transfer using personnel, mechanisms, and facilities that have been previously established at the University of Pittsburgh/University of Michigan.

University of Pittsburgh

Department of Rehabilitation Science and Technology

2310 Jane St, Suite 1300

Pittsburgh, PA 15203

Principal Investigator: Patricia Karg, MSBME

Contact: Patricia Karg, MSBME

Voice: (412) 586-6906

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Fax: (412) 586-6910

e-Mail: tkarg@pitt.edu

20. RERC On Wheeled Mobility

The goal of this RERC is to undertake a major shift in the way wheeled mobility is conceptualized and understood, from the design of assistive devices that enable some individuals to perform some activities, to the design of a broad range of interventions that enable as many individuals as possible to actively engage and participate in everyday community life.

University of Pittsburgh

School of Health and Rehabilitation Sciences

Rehabilitation Science and Technology

Pittsburgh, PA 15260

Director: David M. Brienza, PhD; Clifford Brubaker, PhD

Phone: 412-383-6591

Fax: 412-383-6597

TTY: 412-383-6598

21. RERC On Workplace Accommodations

This RERC identifies, designs, and develops devices and systems to enhance the workplace productivity of people with disabilities. Universal design is a primary focus of the Center—making the design of products and environments usable by all workers to the greatest extent possible, without the need for adaptation or specialized design. The Center also studies archival materials to identify factors that contribute to successful or unsuccessful outcomes, and analyzes policies and practices that may influence the nature and availability of workplace accommodations for persons with disabilities.

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Georgia Institute of Technology

Center for Assistive Technology & Environmental Access

490 10th Street, NW

Atlanta, GA 30318

Co-Principal Investigator: Karen Milchus, MS, ATP

Co-Principal Investigator: Jon Sanford, M.Arch

Contact: Karen Milchus, MS, ATP

Voice: (800) 726-9119

TT: (800) 726-9119

Fax: (404) 894-9320

e-Mail: karen.milchus@coa.gatech.edu

22. RERC For Ergonomic Solutions For Employment

The overall goal of this RERC is to **prevent disability associated with musculoskeletal disorders and aging**. The core project concentrates on developing tools for evaluating workers and jobs and developing ergonomic solutions.

University of Michigan

Center for Ergonomics

1205 Beal Avenue

Ann Arbor, MI 48109-2117

Director: Thomas J. Armstrong, PhD, Professor, Industrial and Operations Engineering

Phone: 734-615-2683

Fax: 734-764-3451

23. Smith-Kettlewell RERC

This project conducts research and development for persons who are blind or who have visual impairments. It also explores novel approaches to graphics access by persons who are blind or who are deaf-blind. An innovative program of vocational and daily living

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technology development includes intensive interaction with service providers and applications of computer vision.

Smith-Kettlewell Eye Research Institute

2318 Fillmore Street

San Francisco, CA 94115

Tel: (415) 345-2110,2114

Fax: (415) 345-8455

Director: John Brabyn

e-mail: RERC@ski.org

F. Comments of the Rehabilitation Engineering Research Center on Telecommunications Access Submitted to the Federal Communications Commission on October 29, 2004; In the Matter of Review of the Emergency Alert System, WC Docket No. 04-296

Gregg C. Vanderheiden, Co-Principal Investigator

Judith E. Harkins, Co-Principal Investigator

Karen Peltz Strauss, Of counsel

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) submits these comments in response to the Federal Communications Commission's (FCC or Commission) Notice of Proposed Rulemaking (NPRM) on the Review of the Emergency Alert System. The RERC-TA is a joint project of Gallaudet University and the Trace Center of the University of Wisconsin, Madison and is funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education. The primary mission of the RERC-TA is to make communications technologies accessible to and usable by people with disabilities. The investigators of the center have served on several federal advisory committees on accessibility of equipment and services, and currently serve on the Network Reliability and Interoperability Council. We have commented on numerous FCC proceedings regarding the accessibility of "mainstream" technology and have presented at Summits hosted by the FCC. Some of the RERC staff were involved in the specification and testing of the accessibility procedures for people who are deaf as these are contained in the present emergency alert system.

Our comments are directed toward issues that would support improved and uniform access to emergency alerts by people with disabilities.

We commend the Commission for explicitly seeking comment on emergency-alert issues affecting people with disabilities. As the Commission has noted in this NPRM, an

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Executive Order issued by the President on July 22, 2004 underscores the importance of accessibility of emergency alerts to people with disabilities. The intent of the Executive Order is “to ensure that the Federal Government appropriately supports safety and security for individuals with disabilities in situations involving disasters, including earthquakes, tornadoes, fires, floods, hurricanes, and acts of terrorism.” The directive calls for consideration of unique issues affecting people with disabilities and coordination of efforts at various levels of government[1]. The Emergency Alert System, upgraded and expanded to be more accessible to all and usable by people with disabilities, is an important component of emergency preparedness. The EAS is potentially an important set of channels for communication from the government to citizens in local and regional as well as national emergencies.

Responses to the NPRM

a. General Considerations

In assessing how to make government emergency alerts available and accessible, there needs to be an analysis of how to reach the most people at varying times of the day, including waking them while asleep for the most serious emergencies; and how to provide ways for people to elect to receive additional information in a modality that is accessible to them. The redundancy recommended in a report on the Common Alerting Protocol (Botherell, 2003[2]) would benefit people with disabilities along with the population in general. As stated in the report, “The key to effective public warning lies not in perfecting one system or technology, but in using all available means of communication in a coordinated and effective way.” Most people use different modalities and technologies for receiving communication and information, depending on the situation and their location at the time. The ability to be flexible in modality is critically important to alerting people with disabilities. It will also alert more of the general population faster, with fewer people ending up misinformed because they have heard third- or fourth-hand information.

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b. Federal/State Program Responsibility

Inspired by recent problems in the emergency response of the electric power grid, we are inclined to believe that having a single federal entity responsible for the management, consistency, and availability of the EAS system is the best choice. The origination of alerts with more local administrations is necessary and would be improved by instituting a more specific and consistent system-wide incident classification doctrine. The Department of Homeland Security does seem to be the logical home for the running of the EAS, given its other roles in emergency management. We note that an agency with this responsibility needs to have in-house expertise in disability issues sufficient to ensure accessibility in implementation of systems. Few agencies have this depth of expertise. However, we are pleased to see that the Department of Homeland Security has set up the Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities, and that this agency is gearing up with projects and staffing to provide expertise for safeguarding accessibility. We recommend that the FCC's Disability Rights Office be represented on the Interagency Coordinating Council and that staff of NOAA who have worked on making the NOAA Weather Radio system accessible also be involved.

It has been our experience that public-private partnerships are beneficial in ensuring that new policies are implemented effectively. The Partnership for Public Warning (PPW) has been doing a valuable public service through its work on the Common Alerting Protocol, through its assessment of the EAS, and through bringing industry and subject matter experts together. We support the idea of public funding for PPW's work and support their leading this effort.

We agree that the voluntary nature of EAS alerts (except if ordered by the President) leads to disuse of the system in some areas and uneven implementation. We believe that

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state-level planning is necessary and that accessibility requirements must be made part of the state plans.

Carriage of EAS alerts should be made mandatory, but there needs to be better encoding of the information to trigger mandatory alerts, so that the public does not become desensitized if alerted to too many minor incidents, or receive alerts after the emergency has passed. We ask that sociological research be utilized, and that more up-to-date research be done to understand the public's response to alerts on newer technologies, and the ways in which people communicate and obtain information after the alert. These studies need to include people with disabilities, including those who are elderly.

Uniform national guidelines that include accessibility provisions are needed. As the use of technology has changed, the accessibility of the current EAS has changed. The system needs to be accessible to all even as technology changes.

c. EAS Structure and EAS Codes

We agree that the message-relay structure of the EAS is outdated and needs to be changed so that all media and communication technologies can receive the information as quickly as possible. We also agree that more codes are needed. We suggest that industry alone should not bear all of the costs of upgrading the U.S. official alerting system.

When this is the case, we as a society tend to get less than we need; for example, very small cable systems have different requirements for EAS accessibility than large cable systems because of the understandable concern about burdens on small businesses. But the person with a disability who has the misfortune to subscribe to very small cable system (e.g., because a small system serves the person's apartment building) may find that he or she has limited or no access to the EAS. This is a function that government should help to support and stimulate through funding. This is yet another reason for looking to the Department of Homeland Security for oversight, as the FCC is presently not authorized to distribute this type of funding.

d. Expanding EAS Requirements to Other Services

The FCC asks about the extent to which EAS requirements should be expanded to newer technologies, including digital television. Insofar as the FCC has ordered the phase-out of analog television and the phase in of digital television, obviously digital television must carry EAS messages. When Congress decided to grant broadcasters digital television spectrum at no cost, it understood that along with these free licenses would come an obligation to meet certain public interest mandates. One of these is for digital broadcasters to meet the emergency needs of its viewers. Where these broadcasters make the decision to broadcast multiple streams on the frequencies they have been awarded, they are making a business decision designed to maximize profit. In this situation, their public interest obligation to meet the emergency needs of their viewing audience must extend to carrying EAS alerts on all of those streams. Force tuning should not be necessary.

e. Alternate Public Alert and Warning Mechanisms

The public has many entertainment alternatives to watching live TV and listening to radio. Tens of millions of Americans are at any given time in the presence of a mobile device and/or a computer screen. Telecommunications technologies and the Internet are obviously underutilized for alerting the public. Over time the EAS should move to a more interactive format; that is, once alerted, interactive methods should be utilized to allow the public to seek additional information in the same modality as the original message. For example, an incoming text message on a mobile device could include a prompt for “more” and more information could be called up in text. An incoming voice message over a mobile phone could prompt for “more” and more information could be delivered by voice. These and other interactive technologies need to include voice, text (including email and web among other methods), and as possible, video options.

Historically the EAS and its predecessors were driven by the power of emerging technologies to reach people quickly in times of crisis. The focus has been on radio, Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

broadcast television, and later cable television. It has long been recognized that on average, people attend to these broadcast technologies for only a small part of their day, and this limitation of the EAS is noted in the NPRM. People who have disabilities of hearing and/or sight generally attend to these technologies even less than others, because the technologies are only marginally accessible or completely inaccessible. For example, radio is completely inaccessible to people who are deaf and to many who are hard of hearing, and yet radio is a particularly important medium during power outages because of the wide availability of battery powered radios and the ability to use an automobile radio. Television is not an accessible medium to people who are blind, and during emergencies, on-screen text and graphics that carry important facts are not available in speech form so that blind people can access the information. As noted in comments by the American Foundation for the Blind, the requirement in Section 79.2 to read emergency information (“open” video description) that appears on the screen is routinely ignored, despite repeated reminders issued by the Commission.[3]. And unfortunately, local emergency coverage on television is often inaccessible to people who rely on captions, despite FCC requirements contained at Section 79.2. (See Appendix I) Moreover, public address systems in buildings, transportation depots, hospitals, and other facilities are inaccessible to people who are deaf or hard of hearing. Face to face communication is often not possible, so even word-of-mouth cannot be used. These problems underscore the need to use as many technologies as possible in order to fill some of the important gaps in access to emergency information.

To reach people who have disabilities on a more equitable basis, not only does EAS delivery and Section 79.2 delivery of accessible audio and video information need to be improved, but other technologies – particularly Internet and mobile devices -- must be used in addition to these original communication media. As noted in the NPRM, the voluntary expansion of mass-alerting functions into additional technologies, including cell phones and pagers, has not been driven by the marketplace, despite flexibility built into the current generation of EAS. These newer technologies should not be viewed or classified as "alternative" since they are very much mainstream technologies that have greatly extended the possibilities for government alerts to the American public. Because
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tens of millions are connected to the Internet during the workday and tens of millions are connected via mobile devices, these technologies must be included in the EAS in order to reach people where they are. Location-based systems that are being built into mobile networks for E-9-1-1 implementation should be utilized for allowing greater precision in the delivery of alerts based on the geographic location of the mobile device.

EAS alerting is based on the media concept that the person is watching or listening to the media source and will receive the message as part of the viewing/listening experience. However, when people are not attending to a media source, as when mobile, asleep, or otherwise busy, the device needs to be activated. We suggest that alerting by phone and messaging be done with a unique signal (tone for phones, vibration pattern for “silent” mode of phones and pagers) that is recognized as an emergency signal and that is used only for situations of great urgency. If such an approach is taken, the audio signal should sweep across frequencies and be repeated so that it attracts attention as well as being able to be heard by hard of hearing people.

Since the time spent in the car is quite long for many Americans, passengers and drivers needs to have a way of receiving EAS messages. The car radio is the usual technology for this but radio is not accessible to people who are deaf and hard of hearing. We recommend use of the Radio Band Data Services in the EAS so that text alerts can appear on car radios that have displays.

We support the Common Alerting Protocol approach as one that supports accessibility by ensuring that everyone receives the same message and not a truncated version. It supports flexible modalities and redundancy of outlet for messages. With proprietary protocols, the opportunities for accessibility are more limited because the owner of the technology must agree to implement accessibility provisions; the CAP provides an open platform for flexible-modality alerts.

We also support greater government efforts to have devices automatically turn on in the Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

event of a serious emergency alert. NOAA Weather Radios have this feature and an industry standard has been developed by the Consumer Electronics Association for a Public Alert Receiver that includes this feature. We recommend that this feature become required for various types of consumer electronics that are capable of receiving broadcasts and messages, including car radios.

Another receiver-issue is support of closed caption decoding in small, battery operated televisions. Although the current emergency alert system does not directly address closed captioning, the importance of closed captioning of emergency information cannot be overstated. During power outages, the radio is unavailable to people who are deaf and so caption decoding in battery operated televisions is needed as a requirement. Although some of these televisions are below the size cutoff (13 inches diagonally for analog receivers or 7.8 inches vertically for digital receivers) that triggers the decoder requirement, these devices should be required to include closed caption decoding capability.

f. Public Warnings and Alerts for Individuals with Disabilities

We have commented above on the many EAS issues that pertain to accessibility. Our point is that virtually all considerations with regard to the EAS can, in the end result, have an effect on the accessibility and availability of a message when it is sent out from the government.

Particular care needs to be taken to ensure that both existing and new technologies for alerting are accessible. There can be an "accessibility drift" over time that leads to erosion of a requirement's intent. For example, blind people have less access to televised EAS messages than they used to. Since breaks in the audio portion of programming are unpopular and discourage voluntary use of the EAS, visual information in the form of crawls or other screen graphics have become more commonplace. When a voice message is not included in the alert, the result is that people who are blind may hear the audio alert signal "squawk" and know only that something is wrong, while being unable to learn

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immediately what the warning is about. In other words, they are not served by the EAS as currently implemented, and are deprived of the ability to respond in a timely fashion to an emergency. The same type of problem occurs when deaf people see a breaking news story and get only a headline without captions or specific information on the event.

Sometimes laudable attempts to make emergency information available in multiple modalities can fall short of full accessibility. For example, the NOAA Weather Radio has a text mode and text radios have been developed for access to weather alerts. Officials at the National Weather Service are to be commended for encouraging the development of this capability and for doing outreach to the deaf and hard of hearing communities. But it is unfortunate that the full text message of the alert (counterpart to the audio message) is not provided. Only the truncated statements based on the SAME codes are included. This factor makes these products less attractive as warning devices. This unfortunate situation is also ironic, because the original modality for the message is text which is then converted to synthetic speech. To make full text be sent across the NWR system, text servers would need to be in place in the broadcast system. This would require an expenditure of funds. This is an example where equivalency can fall between the cracks unless someone has explicit responsibility for carrying it out and a means of funding accessibility maintenance and improvements.

The Commission notes that other parts of its rules, contained at 47 CFR §79.2, specify triggering events and methods for the emergency transmittal of information, and asks whether there are disparities in or conflicts between its EAS rules and those contained in Part 79.

In fact, at present, the Commission has not two, but three separate sets of rules that cover the notification of people with hearing and vision disabilities in the event of an emergency. The oldest of these, promulgated in 1978, covers television broadcasts only and is contained at 47 CFR 73.1250(h). This rule seems to only cover broadcasts, and requires emergency information to be transmitted “both aurally and visually or only visually,” and allows stations to use “any method of visual presentation which results in a

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legible message conveying the essential emergency information.”

EAS rules, which are contained at Part 11 and extend to both broadcast and cable stations, can supercede the above broadcasting rule where necessary. EAS is to be used for national emergencies as determined by the President. It may also be activated at the local level for “day-to-day emergency situations posing a threat to life and property.”

In 2000, the FCC issued yet another set of regulations covering emergency programming notification. These rules cover all video programming, including broadcast, cable and satellite services. While the scope of all three of the above regulations are similar – covering extreme weather situations such as floods, hurricanes, earthquakes, as well as civil disorders, toxic gas leaks and other man-made disorders,[4] the language of both the broadcasting rule and the EAS rules seems to stop at information needed to protect life and property, while the language of the programming accessibility rule at Part 79 extends to information intended to further the protection of safety and health as well.

In addition, only the Part 79 emergency accessibility rules specifically require that information about the critical details of an emergency be made accessible, including information on how to respond to the emergency, evacuation orders, shelters, road closures and securing assistance. By contrast, the EAS rules seem to require only that the visual message contain “the Originator, Event, Location, and the valid time period of the EAS message,”[5] and the 1978 broadcasting requirement is silent on this issue.

A third difference between the three rules is that only the Part 79 rules apply to all video programming distributors, regardless of their size, subscriber base, or transmission format. The EAS rules are divided by the number of individuals subscribed to a cable system, with smaller systems – systems having fewer than 5000 subscribers having a lesser obligation. These smaller systems must only provide a video interruption and audio alert message on all channels, while systems with 5000 or more subscribers must provide their EAS messages aurally and visually on all of their channels.[6]

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The discrepancies and disparities in these three sets of rules need to be reconciled in order to ensure that Americans who are deaf, hard of hearing, blind and low vision have the information they need to adequately respond in an emergency. The problem with leaving the rules as they now exist can be shown by what would happen in the event of a national emergency. Although the emergency accessibility rules contained in Part 79 would require all cable providers to make all critical details concerning that emergency visually accessible, under the EAS rules, the national activation of a Presidential message would “take priority over any other message and preempt it if it is in progress.”[7] In addition, all television broadcast network program distribution facilities would need to be reserved exclusively for the distribution of that message.[8] The danger here is that even though the rules under Part 79 may be more suited to providing people with disabilities more comprehensive information in the event of a national emergency, as written, the EAS rules would preempt those rules.

It is critical that the FCC reconcile the differences contained in these three sets of rules in a manner that is designed to apply the broadest range of protection and coverage for individuals who are deaf, hard of hearing, blind and vision impaired. It appears that the FCC’s Part 79 programming accessibility requirements are the widest in scope and coverage, both in terms of triggering events and transmission methods, and we would suggest that the FCC look to these in an attempt to bring all three rules in accord with one other. But as the FCC goes about this process, it should take note of the fact that existing rules for individuals who are blind remain largely inadequate. Even under the Part 79 rules, emergency information that is not part of a regularly scheduled newscast or which interrupts regular programming must only be accompanied by an aural tone. Individuals who hear this tone may not know what it means, yet there is no additional requirement to direct these viewers about what they need to do once they hear the tone. In addition, it may be that there are no alternatives to television for obtaining additional information, if other sources have gone down or been temporarily disabled.

Moreover, when the FCC promulgated its Part 79 rules, it was reluctant to require all emergency information to be provided via closed captions, out of concern that there were
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limited real-time captioning resources. Over the past few years, these resources have continued to grow, filling gaps that used to exist. We recommend that any new rules on emergency programming make clear that captioning is needed to fully and effectively convey televised emergency information. Although closed captioning may suffice, it is preferable that such information be provided in an open caption format. This will ensure that hard of hearing people, and in particular senior citizens who may not have their captions turned on, will receive the intended messages.

g. Other Issues

Improved enforcement of the accessibility provisions of the EAS as well as Section 79.2 mandates, along with a consistent system of alerting nationwide, will be necessary to ensure effective and comprehensive access to emergency information in the future. History has shown that lack of access to emergency messages has not been treated as a serious breach of policy by the Commission and without more attention to these issues, we will continue to see an absence of visual and audio information needed to ensure that everyone has equal access to this vital information.

Community education about the EAS is needed, and efforts at public education must be accessible. This includes making materials available in alternate formats. Virtually every decision point on the EAS will have an effect on the ability of people with disabilities to obtain emergency information on an equitable basis with those who do not have disabilities. The expansion of emergency alerting into technologies that Americans use today will benefit people with disabilities by providing a choice of modality and reaching them wherever they are. Attention to accessibility provisions for broadcast technologies and cable is needed for even basic access to today's alerts. We commend the Commission for addressing the need to upgrade the EAS and make it more useful to the American public, including people with disabilities.

Respectfully Submitted,

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Gregg C. Vanderheiden, Co-Principal Investigator
Judith E. Harkins, Co-Principal Investigator

RERC on Telecommunications Access
c/o Gallaudet University
800 Florida Avenue, NE
Washington, DC 20002
202-651-5677

For a PDF version of this section, please visit;
<http://trace.wisc.edu/docs/2004-FCC-04-296/FCC-04-296.pdf>

For RERC on Telecommunications Access Home Page, please visit;
<http://trace.wisc.edu/telrerc/>

G. RERC Accessibility Resources

This heading contains additional information regarding the RERCs and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

- 1. Rehabilitation Engineering Research Center on Mobile Wireless Technologies for Persons with Disabilities Website**
<http://www.wirelessrerc.gatech.edu/index.html>
- 2. The Wireless Rerc's Assistive & Accessible Technology Links**
<http://www.wirelessrerc.gatech.edu/info/aat.html>
- 3. Rehabilitation Engineering Research Center on Telecommunications Access Webpage**

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<http://trace.wisc.edu/telrerc/>

4. Accessible Emergency Notification and Communication Conference

Webcast: November 2nd – 3rd, 2005

<http://www.tvworldwide.com/events/nod/051102/default.cfm>

V. The National Organization on Disability (NOD)

A. The Emergency Preparedness Initiative

The mission of the National Organization on Disability is to expand the participation and contribution of America's 54 million men, women and children with disabilities in all aspects of life. NOD's Emergency Preparedness Initiative (EPI) was developed to ensure that emergency managers address disability concerns and that people with disabilities are included in all levels of emergency preparedness- planning, response, and recovery. EPI has become firmly established within the emergency management industry and disability advocacy organizations, having established coalitions and partnerships amongst the emergency preparedness community, as well as several disability related organizations.

[Please Click Here for More Information about EPI:](#)

<http://www.nod.org/emergency>

B. Interactive Map of Disability and Emergency Preparedness Resources

Through its Emergency Preparedness Initiative, NOD has produced an extraordinary information tool in the form of an interactive map that provides an accessible, interactive directory of regional, state, and local disability-related emergency management resources. The interactive map contains a wealth of data including information on regional branches of FEMA and Technical Assistance Centers, state disability resource agencies, American Red Cross Chapters, and links to State and local Emergency Management Agencies.

[Please Click Here to Access the Interactive Map:](#)

http://www.nod.org/EPIResources/interactive_map.html

C. Guide on the Special Needs of People with Disabilities

As part of the EPI, the NOD prepared a 2005 document entitled “Guide on the Special Needs of People with Disabilities for Emergency Managers, Planners, and Responders.” The purpose of this document is to ensure that people with disabilities are included in emergency preparedness planning and response at all levels of our society.

Please Click Here to Access the Guide:

<http://tap.gallaudet.edu/EmergencyReports/epiguide2005.pdf>

D. NOD Accessibility Resources

This sub-section contains additional information regarding the National Organization on Disability and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

1. Emergency Preparedness Initiative Guide for Emergency Managers, Planners, and Responders

<http://www.nod.org/resources/PDFs/epiguide2005.pdf>

The National Organization on Disability’s booklet that provides guidance on a range of issues concerning emergency planning for people with disabilities.

2. Prepare Yourself: Disaster Readiness Tips for People with Sensory Disabilities

<http://www.nod.org/index.cfm?fuseaction=page.viewPage&pageID=1430&nodeID=1&FeatureID=1569&redirected=1&CFID=8627924&CFTOKEN=99749049>

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The National Organization on Disability's downloadable 2006 pamphlet that offers resources and information on how individuals with sensory disabilities should prepare for a disaster.

3. Prepare Yourself: Disaster Readiness Tips for People with Mobility Disabilities

<http://www.nod.org/index.cfm?fuseaction=page.viewPage&pageID=1430&nodeID=1&FeatureID=1571&redirected=1&CFID=8627924&CFTOKEN=99749049>

The National Organization on Disability's downloadable 2006 pamphlet that offers resources and information on how individuals with mobility disabilities should prepare for a disaster.

4. Prepare Yourself: Disaster Readiness Tips for People with Developmental or Cognitive Disabilities

<http://www.nod.org/index.cfm?fuseaction=page.viewPage&pageID=1430&nodeID=1&FeatureID=1570&redirected=1&CFID=8627924&CFTOKEN=99749049>

The National Organization on Disability's downloadable 2006 pamphlet that offers resources and information on how individuals with developmental or cognitive disabilities should prepare for a disaster.

5. Emergency Preparedness Research Paper Directory

<http://www.nod.org/index.cfm?fuseaction=page.viewPage&PageID=1149>

A downloadable collection of academic, professional, government, and other official reports and studies concerning emergency preparedness and people with disabilities.

6. The December 2005 National Organization on Disability/Harris Survey on Emergency Preparedness

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VI. Emergency Preparedness In Schools

A. General Information

The importance of Emergency Notification and Preparedness in our nation's schools cannot be overstated. Fortunately, Government Agencies, commercial enterprises, and concerned citizens are answering the call to establish and maintain alert and communication systems within schools, in preparation for emergencies. The following are current organizations and programs that are advancing this initiative:

B. The U.S. Department of Education

The United States Department of Education is addressing the topic of Emergency Response through programs developed by their special offices, such as the Office of Special Education and Rehabilitative Services (OSERS) and the Office of Safe and Drug Free Schools (OSDFS). The U.S. Department of Education has also produced a guide to provide schools and communities with basic guidelines and useful ideas on how to develop emergency response and crisis management plans. It is titled "Practical Information on Crisis Planning: A Guide for Schools and Communities."

[Click here to download a copy of "Practical Information on Crisis Planning: A Guide for Schools and Communities":](#)

<http://www.ed.gov/admins/lead/safety/emergencyplan/crisisplanning.pdf>

1. Office of Special Education and Rehabilitative Services (OSERS)

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Early Warning, Timely Response: A Guide to Safe Schools

This guide offers research-based practices designed to assist school communities identify these warning signs early and develop prevention, intervention and crisis response plans. The document was based on the work of an independent panel of experts in the fields of education, law enforcement, and mental health. The guide includes sections on:

- a. Characteristics of a School that is Safe and Responsive to All Children
- b. Early Warning Signs
- c. Getting Help for Troubled Children
- d. Developing a Prevention and Response Plan
- e. Responding to Crisis
- f. Resources
- g. Methodology, Contributors, and Research Support

Early Warning, Timely Response: A Guide to Safe Schools can be downloaded at:

<http://cec.air.org/guide/guide.pdf>

2. Office of Safe and Drug-Free Schools

Emergency Planning

As schools and communities across the U.S. prepare and develop plans for responding to potential emergency situations, the Office of Safe and Drug-Free Schools has unveiled a new web resource to help. It is designed to be a one-stop shop that provides school leaders with information they need to plan for any emergency, including natural disasters, violent incidents and terrorist acts. The site will be regularly updated.

The Emergency Planning site can be found at: <http://www.ed.gov/emergencyplan>

Emergency Response and Crisis Management Plan Discretionary Grants

Funds will be available to local education agencies to strengthen and improve emergency response and crisis management plans. The funding forecast, as of 4/11/07:

Estimated average size of awards:	\$100,000-\$500,000
Number of awards:	73
Application deadline:	May 21, 2007
CFDA Number:	84.184E

For more grant information, click here

<http://www.ed.gov/programs/dvpemergencyresponse/index.html>

C. The National Clearinghouse for Educational Facilities (NCEF)

The National Clearinghouse for Educational Facilities (NCEF) was established in 1997, by the U.S. Department of Education, as a free public service to provide information on planning, designing, funding, building, improving, and maintaining schools. NCEF is managed by the National Institute of Building Sciences (NIBS), which was authorized by Congress in 1974 to serve as a non-profit, non-governmental, authoritative source on building science and technology.

The National Clearinghouse for Educational Facilities has directed a considerable amount of attention towards the important problem of disaster preparedness and response for schools. NCEF's maintains a resource list of links, books, and journal articles on building or retrofitting schools to withstand natural disasters and terrorism, developing emergency preparedness plans, and using school buildings to shelter community members during emergencies. Some highlights from this list include:

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1. *Homeland Security for Schools: Threat Status Alert Worksheet*

This worksheet includes suggested actions for schools based on general recommendations from the Homeland Security Department.

[Click here to download the worksheet:](#)

http://www.schoolsafety.us/pubfiles/color_coded_alert_system_for_schools.pdf

2. *Disaster Recovery: The Time is Now.*

Reviews the Hurricane Katrina experiences of some prepared (and unprepared) higher education institution technology departments, suggests steps for developing a disaster recovery plan, describes a pan-departmental disaster team, and types of backups.

[Click here to download “Disaster Recovery: The Time Is Now”](#)

<http://www.campus-technology.com/print.asp?ID=11974>

3. *DisasterHelp.gov*

DisasterHelp.gov is designed to assist victims of disasters in locating the information and services they need. The goal of the site is to combine the disaster management resources of all the federal agencies in its partnership in one central location.

[Click here to visit DisasterHelp.gov:](#)

<https://disasterhelp.gov/portal/jhtml/index.jhtml>

4. *How Schools Can Become More Disaster Resistant. Resources for Parents and Teachers.*

FEMA recommends the following actions for all school officials: 1) Identify hazards likely to happen to your schools; 2) Mitigate against the hazards; 3)

Develop a response plan, including evacuation route; 4) Plan for coping after a disaster; and 5) Implement drills and family education.

Click here to visit FEMA's "How Schools Can Become More Disaster Resistant: Resources for Parents and Teachers":

<http://www.fema.gov/kids/schdirz.htm>

5. *The Preparedness of Schools to Respond to Emergencies in Children: A National Survey of School Nurses.*

This document examines the preparedness of schools to respond to pediatric emergencies and potential mass disasters, using published guidelines from the American Academy of Pediatrics and the American Heart Association.

Click here to download "The Preparedness of Schools to Respond to Emergencies in Children: A National Survey of Nurses:

<http://pediatrics.aappublications.org/cgi/content/full/116/6/e738#ABS>

For NCEF's Preparedness Resource List Please Click Here

<http://www.edfacilities.org/rl/disaster.cfm>

D. The Emergency Response and Crisis Management Technical Assistance Center

In October 2004, the U.S. Department of Education's Office of Safe and Drug-Free Schools, (OSDFS) established the Emergency Response and Crisis Management Technical Assistance Center to disseminate information about emergency response and crisis management in order that school districts learn more about developing, evaluating, and implementing, crisis plans. The Center also helps the OSDFS coordinate technical assistance meetings, manage a listserv for sharing crisis planning information and respond to direct requests for technical assistance.

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For More Information Please Click Here

<http://www.ercm.org/>

E. Multi-Hazard Emergency Planning for Schools

FEMA has developed an eight hour independent study program entitled *IS-362 Multi-Hazard Emergency Planning for Schools*. It is a short and “easy to take” web-based course that focuses on emergency preparedness and planning for schools. The course describes emergency management operations, roles and duties; explains how to assess potential hazards that schools may face; explains how to develop and test an Emergency Operations Plan that addresses all potential hazards. This course is designed for school administrators, principals, and first responders. However, parents, teachers, volunteers, anyone with a personal or professional interest in school preparedness is welcome to participate. Upon finishing the course, any student wishing to obtain a “Certificate of Completion” will need to successfully submit and pass a final exam. Multi-Hazard Emergency Planning for Schools covers the following topics:

Lesson 1: Course Overview

Lesson 2: Understanding Emergency Management

Lesson 3: Recruiting Your Planning Team

Lesson 4: Assessing Your Hazards

Lesson 5: Developing Your Plan

Lesson 6: Planning for Terrorism

Lesson 7: Training and Testing Your Plan

Lesson 8: Course Summary and Test

For More Information, Please Click Here

<http://training.fema.gov/EMIWeb/IS/is362.asp>

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F. The Community Emergency Response Network (CERN)

Howard County's Community Emergency Response Network (CERN) was created to facilitate the development of a community-based disaster response plan for Howard County, Maryland, to guarantee maximum readiness in the event of a terrorist attack. This unique community emergency preparedness program was initiated after September 11, as a partnership between the Horizon Foundation, the County government, and important community agencies in Howard County. The effort supports government disaster planning through coordination of the emergency plans and resources of participating members. CERN functions include planning, a high level of inter-agency coordination, the development of tabletop exercises, disaster plan review, shelter planning and communications enhancement.

Howard County's Public School System plays an important role in the CERN program. The School Information page on CERN's website provides information concerning emergency notification, EAS broadcast stations and other local news media, emergency-related school procedures, and parent's responsibilities during an emergency. According to the website: "In addition to inclement weather, recent events accentuate the need for parental awareness of school safety procedures. Emergencies have the potential to affect only one building or a number of school facilities. A large regional incident might require a system-wide response. Our schools have plans in place that anticipate many kinds of emergencies. We are continuously upgrading these procedures."

[For More Information on CERN, Please Click Here](#)

<http://www.cern.us/>

[For CERN's School Information Page, Please Click Here](#)

<http://www.cern.us/schoolinformation.html>

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For Info on Howard County's School Emergency Response Plan, Click Here

<http://www.howard.k12.md.us/abouthcpss/emergency.html>

G. School's Out

School's Out is a business that was founded ten years ago by concerned parents in Maryland, who were unable to obtain information regarding early dismissals during Hurricane Fran. Since then, School's Out has grown into a highly regarded company that works closely with schools, universities, child care centers and community groups to broadcast unscheduled closings, early dismissals and other pertinent information as soon as it becomes available. Schools' Out provides a service, for 12.95 per year, so that whenever your school has urgent or important information to announce an official school administrator will send a detailed alert directly to your mobile phone. As a subscriber, your phone will ring with the alert within seconds or minutes of the news release. In the past few years, School's Out has helped distribute vital real-time information to the public during snowstorms, hurricanes, wind and ice storms, floods, power failures, and even heating and air conditioning failures. School's Out has also played a role in the notification of Homeland Security risk levels due to terrorist activity, and school lockdowns due to the Washington, D.C. area sniper attacks.

For More Information about School's Out, Please Click Here

<http://www.schoolsout.com/>

H. School Accessibility Resources

This heading contains additional information regarding schools and accessibility. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

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1. Creating Accessible Schools

<http://www.edfacilities.org/pubs/accessibility.html>

The National Clearinghouse for Educational Facilities' website that examines issues surrounding federal mandates to accommodate students with disabilities, including the requirements of the Americans with Disabilities Act (ADA), the Individuals with Disabilities Education Act (IDEA), Section 504 of Title V of the Rehabilitation Act, and advisory guidelines from the U.S. Architectural and Transportation Barriers Compliance Board.

2. Inside Gallaudet: How Can Deaf and Hard of Hearing People Know About Emergencies?

<http://news.gallaudet.edu/index.asp?ID=965>

Gallaudet University's webpage offers a link to the National Association of the Deaf's website, as well as a link to a free pager/email service to access various types of emergency information from local, regional and national government sources.

3. Emergency Preparedness for Children With Special Health Care Needs

<http://www.aap.org/advocacy/epcovrltr.htm>

The American Academy of Pediatrics and the American College of Emergency Physicians' downloadable form, designed to assure prompt and appropriate care for Children with Special Health Care Needs. This form is to be filled out and filed at a child's school in case of an emergency. The child's complicated medical history is concisely summarized and available when it is needed most – during an emergency when neither parent nor pediatrician is immediately available.

VII. The U.S. Department of Labor

A. General Information

The Department of Labor (DOL) administers a variety of Federal labor laws, including those that guarantee workers' rights to safe and healthful working conditions. The Department of Labor has taken a pro-active approach to Emergency Management for its employees and for the communities that it serves across the nation.

To visit the DOL website, please click here

<http://www.dol.gov/index.htm>

B. The Office of Emergency Management (OEM)

The Office of Emergency Management was established to ensure that the Department of Labor is prepared for catastrophes – whether natural or man-made. The Office of Emergency Management draws upon the Department of Labor's resources, which have a crucial role in supporting and aiding the nation's recovery from emergency situations, through a comprehensive, emergency management program of preparedness, prevention, response, and recovery.

For more information on the OEM, please click here

<http://www.dol.gov/oasam/programs/boc/oemservices.htm>

C. The Office of Disability Employment Policy (ODEP)

In 2001 the U.S. Department of Labor instituted The Office of Disability Employment Policy (ODEP) to ensure that people with disabilities are fully integrated into the 21st Century workforce. The Office of Disability Employment Policy provides national

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leadership by developing and influencing disability-related employment policy as well as practice affecting the employment of people with disabilities. For the past few years ODEP has been striving to initiate change in the area of workplace emergency preparedness. In December 2003, ODEP convened the pioneer “Seminar of Exchange” for federal managers and issued a subsequent Summary Report. This seminar dealt specifically with the topic of emergency preparedness and people with disabilities. Participants included over 200 representatives from 90 Federal agencies and offices. Nationally recognized experts informed and facilitated the exchange of insights.

[Click here to access the report at:](#)

<http://www.dol.gov/odep/pubs/ep/index2.htm>

D. ODEP Website

The Department of Labor’s ODEP also maintains an informative website called Emergency Preparedness and People with Disabilities. It provides a set of guides for handling emergencies that can occur in the workplace. It also features a list of emergency preparedness resources for people with disabilities.

[For more information visit:](#)

<http://www.dol.gov/odep/programs/emergency.htm>

E. Department of Labor Accessibility Resources

This heading contains additional information regarding the Department of Labor and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

1. Job Accommodation Network

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<http://www.jan.wvu.edu/>

ODEP's free consulting service designed to increase the employment prospects of people with disabilities by providing individualized worksite accommodation solutions; providing technical assistance regarding disability related legislation; and providing education about self-employment options.

2. Emergency Preparedness for People with Disabilities, An Interagency Seminar of Exchange for Federal Managers: Video Library

http://www.vodium.com/MediapodLibrary/index.asp?library=odep_emergencyprep&SessionArgs=0A100000000100000111

Video highlights of the momentous 2004 Seminar which brought together over 200 representatives from 90 Federal agencies and offices, in order to exchange insights and ideas regarding emergency preparedness for people with disabilities.

3. Effective Emergency Preparedness Planning: Addressing the Needs of Employees with Disabilities

<http://www.dol.gov/odep/pubs/fact/effective.htm>

The Department of Labor's 2005 webpage that explores the issue of emergency preparedness for those with disabilities in the work force.

4. Preparing the Workplace for Everyone: *Accounting for the Needs of People with Disabilities*

<http://www.dol.gov/odep/pubs/ep/preparing.htm>

The Office of Disability Employment Policy's extensive 2005 report which is a framework of emergency preparedness guidelines for federal agencies.

5. Employers' Guide to Including Employees With Disabilities in Emergency Evacuation Plans

<http://www.jan.wvu.edu/media/emergency.html>

The Job Accommodation Network's website containing information about the legal obligation of employers to develop emergency evacuation plans and how to include employees with disabilities in such plans. This publication addresses:

- Legal requirements.
- Steps for including employees with disabilities in emergency evacuation planning.
- Plan development, implementation, and maintenance.

VIII. The Media Security and Reliability Council (MSRC)

A. General Information

The Media Security and Reliability Council (MSRC) is a federal advisory committee, created by the Federal Communications Commission in 2002, to study, develop and report on best practices designed to assure the optimal reliability, robustness and security of the broadcast and multi-channel video programming distribution industries.

Rechartered in 2004, the Council is currently chaired by David J. Barrett, President and Chief Executive Officer of Hearst-Argyle Television, Inc. MSRC is comprised of leaders of mass media companies, cable television and satellite service providers, trade associations, public safety representatives, manufacturers and other related entities.

The MSRC's recommendation to the FCC:

“...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, including sensory disabilities.”

Visit the following link to download MSRC's Adopted Best Practices Recommendations in MS Word format;

http://www.mediasecurity.org/documents/MSRC_I_Best_Practices.doc

Visit the following link for MSRC's home page;

<http://www.mediasecurity.org/>

B. The Mission of the Media Security and Reliability Council

1. To prepare a comprehensive national strategy for securing and sustaining Broadcast and MVPD facilities throughout the United States during terrorist attacks, natural disasters and all other threats or attacks nationwide.
2. The Council will be responsible for developing strategies that ensure the operation of broadcast and MVPD facilities before, during and after a major event. This report will include recommendations for detecting, preparing for, preventing, protecting against, responding to and recovering from terrorist threats, natural disasters or other attacks upon America's infrastructure and its people.
3. These recommendations will be provided to the FCC and the Media Industry that, when implemented, will assure optimal reliability, robustness and security of broadcast and MVPD facilities throughout the United States.

C. Primary Working Groups Within the MSRC

There are two Primary Working Groups within the MSRC. They are the *Toolkit Working Group*, which meets approximately five times per year, and the *Local Coordination Working Group*, which meets approximately three times per year. Their missions are as follows:

1. Toolkit Committee Mission

- a. To develop “model” documents, and other resources for local entities’ use
- b. Documents and resources to be developed are based upon Best Practices Recommendations adopted by MSRC 1, including but not limited to:
 - i. Disaster recovery plans
 - ii. Vulnerability assessment checklists

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- iii. Backup carriage plans
- iv. Cooperative emergency response plans
- i. Where applicable, materials should take into account whole markets as well as individual entities in each media sector

2. Local Coordination Committee Mission

- a. To develop a step-by-step executable plan to strengthen local coordination among media, government and first responder communities
- b. Focus should include the establishment of:
 - i. Emergency communications committees
 - ii. Restoration committees
 - iii. Other appropriate vehicles for local coordination
- c. Deliverables should include sample agendas for coordination meetings

D. MSRC Members

Organization	Council Member	Title
American Council of the Blind	Melanie Brunson	Executive Director
Associated Press	Jim Williams	VP, Broadcast Services
Association of Public Television Stations	John Lawson	President & CEO
American Tower Corporation	Jim Taiclet	President & CEO
Belo Corp.	Robert Decherd	President, Chairman & CEO
Clear Channel Communications, Inc.	L. Lowry Mays	CEO
Comcast Corporation	Brian L. Roberts	President
Cox Enterprises, Inc.	Jim Kennedy	Chairman & CEO
Cumulus Radio	Lew Dickey, Jr.	Chairman & CEO
Department of Homeland Security	Frank Libutti	DHS Undersecretary
EchoStar Communications Corp.	Charles Ergen	Chairman & CEO
Giuliani Partners, LLC	Rudolph Giuliani	Chairman & CEO
Harris Broadcast Communications	Jay Adrick	VP, Strategic Development
Hearst-Argyle Television, Inc.	David J. Barrett	President & CEO
Intelsat Global Service Corporation	Kevin Mulloy	President & COO
International Association of Chiefs of Police	Harlin R. McEwen	Chief, Ret.
International Association of Fire Chiefs	Gary Briese	Executive Director
MSTV, Inc.	David Donovan	President
National Association of Broadcasters	Edward O. Fritts	President & CEO
National Association of State EMS Directors	Kevin McGinnis	Program Advisor
NBC	Robert C. Wright	President
National Cable and Telecommunications Association	Kyle McSarrow	President & CEO
National Captioning Institute	Jack Gates	President & COO
National Public Radio	Kevin Klose	President & CEO
National Translator Association	Byron St. Clair	

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	President	
News Corp.	K. Rupert Murdoch	Chairman & CEO
Northern Virginia Resource Center for the Deaf and Hard of Hearing Persons	Cheryl Heppner	Executive Director
PanAmSat Corporation	Joseph R. Wright, Jr.	President & CEO
Pegasus Communications Corp	Marshall Pagon	President & CEO
Radio One, Inc.	Catherine L. Hughes	Chair
RTNDA	Barbara Cochran	President
Sellers Broadcasting, Inc.	Rick Sellers	President & General Manager
SES Americom, Inc.	Dean Olmstead	President & CEO
Susquehanna Communications	Peter Brubaker	President & CEO
The DirecTV Group, Inc.	Chase Carey	CEO
Thirteen/WNET	William F. Baker	President & CEO
Time Warner Cable	Glenn Britt	Chairman & CEO
Tribune Company	Dennis J. FitzSimons	President & COO
Univision Communications, Inc.	Bob Cahill	Vice Chairman
Viacom, Inc.	Sumner Redstone	President & COO
WETA	Sharon Percy Rockefeller	President & CEO
XM Satellite Radio, Inc.	Hugh Panero	President & CEO

E. MSRC Accessibility Resources

This heading contains additional information regarding the MSRC and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

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8. Guide to Establishing Local Coordination of Emergency Communications Systems June, 2005

http://www.mediasecurity.org/documents/MSRC_Guide.pdf

A downloadable guide by the Media and Security Reliability Council, with a section containing resources for people with special needs.

VIII. The Partnership for Public Warning (PPW)

A. General Information

The Partnership for Public Warning (PPW) was a think tank, formed shortly after September 11th, which consisted of leaders in the field of disaster warnings and information. The PPW was a not-for-profit, public-private partnership governed by an elected Board of Trustees representing local and state governments, private industry and the non-profit community. Federal agencies participating in PPW included the Department of Homeland Security, Department of Commerce and Federal Communications Commission. For several years the PPW operated with the mission of promoting and enhancing efficient, effective, and integrated dissemination of public warnings and related information.

Although the Partnership for Public Warning only existed for a few years, the amount of valuable information that they produced and disseminated was considerable. One of the legacies of the PPW is a website, which is considered by emergency management professionals to be “one of the best single sources of information on public warning.” MITRE corporation maintains this website, which can be accessed at <http://www.partnershipforpublicwarning.org/ppw/>

B. The PPW’s recommendation to the FCC & Complete 2004 Report to the FCC

“There is a wide and growing array of technologies for alerting and informing individuals with various disabilities. The range of special-audience requirements is so broad that it seems futile to try to address them all with any one technology. Thus PPW believes that the creation of a “warning Internet” to deliver consistent messages into various specialized warning systems is the only viable approach to this challenge.”

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The PPW's Complete 2004 Report to the FCC

Secretary Federal Communications Washington, DC

In The Matter of Review of the Emergency Alert System

EB Docket No. 04-296 Notice of Proposed Rule Making Adopted: August 8, 2004

Released: August 12, 2004

SUBJECT: Partnership for Public Warning (PPW) Comments Concerning the FCC

Review of the Emergency Alert System

On behalf of the Partnership for Public Warning, I am pleased to submit the attached comments in response to the Notice of Proposed Rulemaking (EB Docket No. 04-296) regarding the Emergency Alert System.

The Partnership for Public Warning (PPW) is a non-profit, public-private partnership established to improve America's ability to warn and inform citizens during times of emergency. Those who participated in the development of the attached comments include representatives from all major stakeholder groups – local government, state government, private industry, non-profit organizations and representatives of special interests.

Please do not hesitate to contact me should you have any further questions.

Respectfully yours,

KENNETH B. ALLEN Executive Director Partnership for Public Warning

1. Introduction

The Partnership for Public Warning is pleased to provide these comments in response to the Federal Communications Commission Notice of Proposed Rulemaking on the Emergency Alert System (EB Docket No. 04-296, adopted August 4, 2004).

The Partnership for Public Warning (PPW) is a non-profit, public-private partnership established to save the lives and property of people at risk by improving the nation's alert and warning capabilities. As the only national organization dedicated to public warning, PPW provides an objective, consensus-based forum where all stakeholders – both public and private – are working together to improve the nation's public warning capabilities. Participants in PPW include local government, state government, federal agencies, the private sector, non-profit community, academia, special needs groups and the public.

At the outset, PPW wishes to commend the Commission for its willingness to undertake this inquiry. Over the past several years we have seen the emergence of new threats to the American public. These threats, coupled with the changing demographics of our society, pose new challenges in alerting and informing the public during times of emergency. Although the Emergency Alert System (EAS) was established in 1994 and implemented in 1997, little effort has been made to ensure that it has kept pace with the changing threats, technologies and demographics. The Commission's action in seeking public comment is an important first step in upgrading the EAS.

As noted in the Commission's inquiry, PPW has conducted an assessment of the EAS and provided recommendations to make it more effective. While we intend to address the specific questions asked by the Commission, we believe it is appropriate to reiterate our recommendations – which remain valid.

“The Partnership for Public Warning recommends that the Department of Homeland Security take the lead in creating an effective national public warning capability.

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Consistent with this leadership role, DHS should, in concert with the appropriate federal agencies and other stakeholders, take the following steps to strengthen the EAS:

- a. Provide strong management oversight of the entire EAS system and clear guidance on key issues such as new technologies, state plans, standards, training and public education.
- b. Upgrade and improve the Primary Entry Point (PEP) system.
- c. Update and clearly designate EAS management, operation and oversight responsibilities among the appropriate federal agencies and other authorities.
- d. Provide funding and resources to support and operate the EAS system.
- e. Work cooperatively with all stakeholders through a public-private partnership to develop standards, policies and procedures to integrate the EAS into a comprehensive national public warning capability.
- f. Maintain the existing EAS and fully investigate all proposed improvements compatible with EAS.”
- g. For further information regarding the above recommendations and the challenges facing the EAS, see the PPW Report “The Emergency Alert System: An Assessment” (PPW Report 2004-1, February 2004).

We urge the FCC and other appropriate agencies to adopt the above recommendations. At the same time, we wish to emphasize that the nation needs a comprehensive national public warning capability. Creating such a capability must begin with our legacy systems – the EAS and NOAA Weather Radio (NWR). However, such a capability must also include other technologies and services that now exist to deliver alerts and warnings. Such a capability must also recognize that warning is primarily a responsibility of local government. As PPW has previously stated, creating an effective warning capability requires standards, policies, education, collaboration and leadership. In addition to its work on EAS, PPW has developed a national strategy and plan for creating an effective national public warning capability. We urge the Commission to review this strategy and

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plan as it considers changes in the EAS. For further information, see “A National Strategy for Integrated Public Warning Policy and Capability (PPW Report 2003-1, May 2003) and “Public Alert & Warning – A National Duty, A National Challenge: Implementing the Vision” (PPW Report 2003-4, September 2003).

Finally, we wish to emphasize the willingness and desire of the Partnership and its members to assist the FCC and other federal agencies in addressing this important issue. PPW was specifically created to provide a forum where government and industry work together to improve the nation’s public warning capability. We remain committed to that goal. We believe that a public-private partnership is vital if we are to develop an emergency alert and warning capability that can reach people wherever they are, whatever the time of day or night and whatever their special needs. PPW provides the forum for that partnership.

There is one final point that we wish to make before addressing the questions raised by the Commission. The Commission has posed some difficult and thought-provoking questions. This is a complex set of issues and there is no single path to creating a more effective national public warning capability. It is impossible to fully explore and answer these questions within the standard framework of the Notice of Proposed Rule Making process. In addition to this inquiry, we believe that it would be valuable to host a meeting of interested stakeholders to discuss these questions in detail. Such a meeting would be consistent with the Negotiated Rulemaking Act. PPW is uniquely qualified to do this and would be pleased to host such a meeting on behalf of the Commission.

2. Comments

PPW believes that there are many recommendations offered in its comments that the Commission can implement immediately without additional authorities and without any significant additional expense.

Paragraph 3, Page 2

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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 the Federal Emergency Management Agency (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 have taken steps to ensure that alert and warning messages are delivered by a responsive, robust and redundant system, the permissive nature of EAS at the state and local level has resulted in an inconsistent application of EAS as an effective component of overall public alert and warning system. Accordingly, we believe that we should now consider whether permissive state and local EAS participation is appropriate in today's world.

We note that the EAS was established as a means for the president to communicate with citizens during times of emergency. However, it has never been used for that purpose. On the other hand, local, regional and state governments use the EAS many times each year to warn and inform citizens of local threats and emergencies. Yet, as the Commission notes, local and state use of EAS is voluntary. We do not believe that mandating state and local participation will enhance the effectiveness of EAS or insure success. Therefore, we believe that state and local participation should, for the time being, remain voluntary. On the other hand, PPW believes that if EAS is properly supported, enhanced and marketed, a greater spirit of voluntary cooperation will follow.

Before rushing to judgment on whether local and state participation in EAS should be mandatory, we urge the Commission to undertake two initiatives. First, undertake an initiative to assess the use of EAS by local and state governments and to assess its effectiveness. Success must be judged on how well the system performed before, during and after a disaster and the actions people actually take to protect themselves. A formal after action report process is needed to judge success. PPW suggests that we need to assess the protective actions people at risk take as a result of the warnings they receive.

Second, undertake a collaborative process to discuss this issue with local and state governments, broadcasters, cable operators and others who would be affected by a

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requirement that participation in EAS be mandatory. The federal government should not mandate the use of EAS without fully consulting with all affected parties. PPW would be pleased to host such a collaborative process. The collaborative process recommended in the above paragraph would permit the affected stakeholders to work together to address the many questions that would emerge if participation in the state and local EAS were made mandatory.

Such questions include the following. Presently, mandatory participation in the national level EAS is accomplished through the requirement that EAS messages containing the EAN event code override all the programming of broadcasters and cable operators. How will the government go about mandating state and local participation? Does requiring state and local EAS participation mean requiring broadcaster and cable operator participation in EAS planning workshops? Does it mean requiring re-transmitting EAS messages with certain state and local EAS event codes? What about state and local emergency management participation? Enforcement of the state and local mandated codes will prove even more difficult in those areas without EAS plans or in those areas with old plans.

While we do not support a requirement that local and state participation in EAS be mandatory, PPW does support more active federal leadership in coordinating the use of EAS by local and state governments. Under the status quo the federal government's interest in EAS is confined to ensuring that the system is available for use by the president during times of emergency. No federal agency is responsible for ensuring that the system is developed and managed in a manner that makes it useful to local and state governments. For example, several effective EAS state and local plans have been developed voluntarily. But many more would be developed if the federal government played a much more active role in requiring the development of such plans. When EAS plans were first being developed in the mid 1970s, the FCC, NWS and DCPA (now a part of FEMA) were very pro-active in developing plans. With the help of the SECC Chairs, they held workshops in every state that facilitated the planning process. There were six workshops in Texas alone. These efforts culminated with every state having a plan and Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

over 400 local plans being implemented. This same effort is needed today for EAS. Federal leadership of a collaborative process that involves all stakeholders would do much to enhance the effectiveness of EAS.

Paragraph 4, Page 2

There are similar questions about the technical capabilities of EAS. For example, since it relies almost exclusively on delivery through analog radio and television broadcast stations and cable systems, is EAS, in the current communications universe, outdated? How could it be made more efficient? Should it be phased out in favor of a new model? If so, what would the new model look like? If a new model were to be adopted, what legal and practical barriers would have to be overcome to ensure its implementation and effectiveness? Would a new model require legislation from Congress or an Executive Order? What technologies should serve as the basis for such a model? Alternatively, should EAS requirements be extended to other services (e.g. cellular telephones)?

EAS messages can be easily converted for use with digital transmission systems, i.e. satellite, cell phone, Internet, etc. This was demonstrated in the field tests conducted in Denver and Baltimore during the development phase of EAS. It was always intended that EAS messaging be expanded to other services albeit on a voluntary basis, and that a wide range of EAS-aware devices for the general public would follow.

One way to enhance EAS would be to have the audio portion of the EAS message in digitized form and in a standardized text packet. The packet could be transmitted at the end of the two-minute audio window of the EAS message and before the end of message digital code. This would allow for the display of the text of the audio on television screens and provide hearing-impaired viewers with more detailed information about an

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emergency. Others have suggested text solutions that would not interrupt on-air programming. PPW believes that such solutions should be investigated since they might offer the potential to foster development of new types of personal warning devices, or devices that could be integrated with existing radio and TV receivers.

New solutions should be standardized and open. As an example, we draw the Commission's attention to the Common Alerting Protocol (CAP) developed under PPW's leadership. CAP is the first national message format standard for transmitting warning messages. Implementation of the CAP standard at the origination points of emergency messages would be a significant improvement. There would be an expansion to the number of existing CAP-aware or CAP-able applications, warning devices and appliances. CAP is compatible with the existing NOAA SAME/EAS protocol. The testing and implementation of the Advanced EAS Relay Network (AERN) with CAP is recommended. AERN can augment existing local and regional EAS relay measures with a secure digital network based on non-proprietary CAP data as well as "streaming" audio. It can make possible activation of not just EAS, but also any other alerting technology with a single, coordinated warning message. AERN combines the security and robustness of data transmission with the flexibility and interoperability of a standards-based communications. AERN is not a product; it is an open source architecture that can be implemented by any vendor or system integrator without licensing or patent restrictions and without significant changes to existing government regulations or policies.

Any new warning model would face the same implementation and training problems that EAS has already overcome in some areas of the country. Technology is not the problem. Developing effective plans and assessment reports, providing resources, training and testing are the methods to solving the problems.

With regard to other services, Section 11.43 of the EAS rules specifies that entities can voluntarily participate in the national EAS. The FCC, in coordination with FEMA, needs to be more pro-active in seeking the voluntary participation of the major national networks in the national level EAS. The networks would be a low cost enhancement even if they participated in an ancillary support or reinforcement role. Several national

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broadcast networks, wire services and cable program suppliers were volunteers in the EAS Emergency Action Notification (EAN) Network until 1995. Since then, only National Public Radio (NPR) has agreed to voluntarily participate in the distribution of national level EAS messages. Adding these networks will greatly expand the reach and reliability of the national level EAS. Other technologies that greatly expanded in the late 1990s, such as the Internet and cell phones, should be integrated into a total warning structure that includes EAS and NWR.

Paragraph 9, Page 4

The Commission, in conjunction with FEMA and the NWS, implement 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. In addition, State Emergency Coordination Committees (SECCs) and Local Emergency Coordination Committees (LECCs) develop state and local EAS plans.

The 1981 MOU between the FCC, FEMA, NOAA NWS, and the FCC National Industry Advisory Committee (NIAC) reflected the operational capabilities of EBS. It needs to be updated to reflect the capabilities of EAS. The key objective of the 1981 MOU was to achieve capabilities at the state and local level by which EBS could be used effectively to disseminate warning notifications and emergency public information in relation to natural disaster, manmade disaster, and attack. Under the MOU, state and local EBS plans were developed to ensure that the federal assets at the state and local levels worked together to form effective warning networks. The assets included were the EBS equipment located at broadcast stations, the NAWAS equipment located at emergency management offices and the NAWAS and NWR equipment located at NWS offices. The new MOU should reflect how the current federal assets located at the state and local levels, NAWAS, EAS Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

equipment at broadcast stations and cable systems, NOAA Weather Radio, and private warning systems would be integrated into a total warning structure.

Although DHS/FEMA conducted some EAS training of emergency management officials in the mid 1990s, much more needs to be done. The FEMA Civil Preparedness Guides (CPGs) that explain EAS and warning systems to emergency management should be updated and republished. At one time FEMA conducted EAS workshops at its National Emergency Management Training Center, at its Regional Centers and over its satellite educational network. These programs should be funded, restarted and managed by DHS.

Paragraph 15, Page 6

SECCs and LECCs. State Emergency Communications Committees (SECCs) and Local Emergency Communications Committees (LECCs), 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 for EAS and other Public Alert and Warning (PAW) systems the state may use in combination with EAS. These committees also establish an authentication procedure and establish the date and time of the required monthly EAS tests.

PPW believes that the SECCs and LECCs -- the key interface with the state and local levels of emergency management -- are critical to the success of EAS. PPW submits that EAS works best where the SECCs and LECCs are strong. The FCC needs to better recognize the efforts of the State and Local Emergency Communications Committees. Possibilities include publishing their accomplishments in News Releases, recognizing them at meetings and other Commission public service forums, and hosting workshops so they can exchange ideas.

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We do not understand why the FCC appointed the SECC Chairs for over 30 years but then recently decided to stop appointing them. PPW believes that there should a clear and responsible chain of command and control for the key people who volunteer their time and effort to make EAS work. There must be a process in place to make sure that this vital volunteer effort has proper oversight.

A DHS funded and managed SECC and LECC assistance program would provide sorely needed training and give all levels of government feedback to gauge the effectiveness of warnings. Because of personnel turnover in the broadcast and cable industries, this must be done on an ongoing basis.

Paragraph 17, Page 7

The United States is divided into approximately 550 EAS local areas, each containing a key EAS source, called the Local Primary One (LP-1). The LP-1 monitors its regional PEP station for Presidential messages, and serves as the point of contact for local authorities and NWS officials to activate EAS. Other stations and cable systems in the area monitor their LP-1 station, and if a Presidential message is sent, they are required to air the message received from their LP-1 station. For non-Presidential messages, these monitoring stations and cable systems may carry the message at their discretion. Local Primary sources are assigned numbers in the sequence they are to be monitored by other broadcast stations in the local area (i.e., LP-1, 2, 3, etc.). Broadcast stations and cable systems are required to monitor at least two EAS sources for Presidential alerts, as specified in their state EAS plans. As we discuss in paragraph below, however, the number of households that actually are watching or listening to these broadcast and cable outlets at any point in time is often relatively small.

The Primary Entry Point (PEP) system was designed in the 1980's as a last resort system and backup to the EAN Network. It was designed for situations when the President would be cut off from superior and traditional means to communicate emergency information to the public. When the EAN Network was dissolved in 1995, the PEP system was all that was left. In addition to the improvements mentioned in our Paragraph 4, Page 2 answer, Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

certain other improvements need to be made to PEP. This will insure that a Presidential message transmitted on the PEP system has the greatest chance of reaching as much of the populace as possible and as fast and reliably as possible. PEP should be expanded to include additional entry points as well as the major national broadcast and cable networks mentioned above. PEP communication links from FEMA must be robust and redundant. Each State EAS entry point must be able to reliably receive a PEP message. And, most important, each state EAS plan must insure that a PEP message (and any state level EAS message) is reliably received by all of the broadcast stations and cable systems operating in the state. Ongoing assessments must be done to verify the reliability and dependability of all state EAS Plans. The public instinctively turns to radio, television and cable television for emergency information during disasters. Therefore, they will continue to serve a vital role in emergency preparedness, response and recovery. Also, radio is the main reliable last resort disseminator of emergency information during large-scale power outages to people with car radios and battery powered portable receivers. Witness the role of radio in providing emergency information to the public during the New York City blackout and the recent hurricanes. PPW certainly does not want to minimize the role of television in the emergency public information (EPI) process. During these disasters, many television stations worked hand-in-hand with radio stations that were still transmitting to provide vital emergency information to the public. The broadcasting community, like many other segments of our society, can and do come together to help when the chips are down.

Paragraph 18, Page 7

State and local emergency operations managers can request activation of EAS for state and local public alert and warning. State-level EAS entry points are designated as State Primary and State Relay. State Primary Entry Points can be broadcast stations, state emergency operation centers, or other statewide networks, and can act as sources of EAS state messages originating from the State Governor or a State Emergency Operations Center. State Relay sources relay state common emergency messages into local areas.

Local Primary sources are responsible for coordinating the carriage of common

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emergency messages from sources such as the NWS or local emergency management offices as specified in EAS local area plans.

The PPW EAS Assessment Report points out that the connectivity between local officials and the local EAS is fragmented at best. This link is critical because it enables local officials to broadcast local emergency alerts to the local populace. In some recent major local disasters, the national media provided more local emergency information to the populace outside the disaster area than was available to the populace directly affected by the disaster. In these instances, local radio stations with emergency power were the only link to the populace in the disaster area. DHS needs to insure that local emergency officials have all the resources they need to reliably communicate with the public during disasters. PPW believes a formal, funded national EAS and Emergency Public Information (EPI) needs assessment should be conducted as soon as possible.

Paragraph 22, Page 8

PPW has recently recommended that a single federal entity, specifically DHS, should take the lead in creating and overseeing an effective national public warning program. PPW also noted that DHS, with other federal agencies and stakeholders, should update and clearly designate EAS management, operational and oversight responsibilities among the appropriate federal agencies and other authorities. Additionally, MSRC has recommended that a single federal entity should be responsible for assuring: (1) that 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; (2) that lead responsibilities and actions under various circumstances are established at federal, state and local levels within the overall discipline of emergency management; and (3) that a national, uniform, all-hazard

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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. MSRC and PPW also 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. We seek comment on PPW's and MSRC's suggestions. Would legislation be required to effectuate the recommendations described in this paragraph?

PPW has already recommended that the Department of Homeland Security take the lead in developing a national warning program. Such a national program, however, cannot and should not be developed without the full participation of all stakeholders. PPW has recommended – as had every other major report that looked at public warning – that a public-private partnership be established to provide a forum where stakeholders could work together in a collaborative process. These stakeholders include other federal agencies (e.g. FCC and Department of Commerce), local, state and tribal governments, private industry, broadcasting industry, special interests (e.g. the deaf and hard of hearing) and the public. The Partnership for Public Warning was created to provide such a collaborative forum and we are pleased to note that all the major stakeholders have participated. We reiterate our offer to assist the Commission, DHS and other federal authorities in developing an effective national public warning capability.

PPW does not believe it is necessary to enact legislation to implement major improvements in EAS and move towards a more effective national public warning capability. Legislation would be valuable only if it provided a clear congressional mandate for creating a more effective public warning capability and providing the funding to make it a reality.

Paragraph 23, Page 9

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We seek comment regarding the respective roles of the federal government departments and agencies involved with the implementation of EAS, specifically the Commission, DHS, FEMA and NOAA. Should each of these agencies remain involved? If not, what specific changes in roles should occur? For changes to occur, would the Commission or other federal entity have to recommend that current legal authorities be updated or supplemented? Should a new public/private partnership be created to ensure the effective and efficient delivery of emergency information to the public and, if so, how should this partnership be structured and what should its responsibilities be? What federal agency should be its primary point of contact? Should a particular federal agency take the lead role for the future EAS?

Every report that has studied the issue of public warning has recommended a public-private partnership. We believe that recommendation remains valid. PPW was established by state and local emergency managers to create that partnership. PPW remains available to assist the federal government and other interested stakeholders. There is no need to develop a new partnership. Funding is critical to ensure that work projects are completed. We note that the PPW national strategy can be implemented in less than 24 months at a cost of less than \$10 million. PPW believes that one useful distinction is between the maintenance of warning facilities like EAS and the actual use of those facilities to issue warnings. The historic lead role of the FCC in enforcing the maintenance of the EAS infrastructure has been complicated by the assignment of other roles, especially funding, to other agencies. At the same time, the focus of the FCC's mass-media regulatory activities has tended to isolate EAS from other warning systems, thus unintentionally impeding the development of an integrated national warning architecture.

PPW believes that lead responsibility for EAS, as part of an integrated national warning capability, should lie with an agency involved in the actual warning process. The FCC should and must remain involved in a supporting role as regards regulation, review of licensee emergency plans, and enforcement within its purview. A number of federal departments and agencies may have occasion to use EAS (and other warning systems)

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in discharging their responsibilities. PPW believes there is a need for a single well coordinated operational mechanism for disseminating warnings from federal agencies in a timely, accurate and effective manner. However, safeguards must be provided to ensure that such a mechanism does not become a bottleneck or, worse, a cause of single point failure. Its strength must come from emergency managers at local and state warning centers who now recognize that information, including warnings, is a resource that is at their disposal that can help manage any emergency to a faster and better conclusion.

We believe the FCC, DHS and NWS now have most of the legal authorities necessary to develop, regulate, implement and oversee EAS, NWR and other warning systems. DOJ has some role based on its legal authorities and AMBER funding. PPW believes it would be inappropriate for any of these agencies to disengage either from EAS or from the larger national warning architecture. One overall lead agency should be designated and empowered to ensure that crucial issues do not fall between the “cracks in the floor” of emergency management, or in its jurisdictional foundations.

With regard to federal advisory committees, the FCC provides administrative support to MSRC and FEMA funds PEPAC. MSRC, PEPAC and PPW all have similar goals. PPW is unique in that it includes all major stakeholder groups and has addressed the entire spectrum of issues associated with public alerting and warning. A public/private partnership, with a goal to integrate warning across the board, would be able to research and provide recommendations regarding EAS, PEP, private initiatives, technology advancements, disability issues, planning, training, and more. It would provide recommendations concerning training, education, funding, resources, operations, regulations, and more, to those agencies responsible for warning.

Such a partnership exists in the form of the national non-profit Partnership for Public Warning (PPW). However, PPW has been hampered in its pursuit of these goals by the lack of a single federal agency with unambiguous authority for supporting PPW and for applying identified best practices in public warning to federal, and by funding and

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guidance, to state and local, programs. PPW believes that DHS has the necessary authority to provide leadership in the public warning arena. Legislation, would be helpful – but not essential -- to unambiguously delineate DHS's responsibility in this area, which until now has been more implicit than explicit.

Paragraph 24, Page 9

We also seek comment about several aspects of state and local EAS. First, we note that some parties assert that voluntary (as opposed to mandatory) participation in state and local EAS alerts impairs the credibility of the entire EAS. They claim that it makes no sense to mandate participation only on a national level in a system that has never issued a Presidential alert and is instead used to deliver vital information about life-threatening local, state, and regional events. These parties believe that the voluntary nature of participation in state and local EAS alerts also makes it difficult to find enough dedicated people to participate with system implementation. As we noted in the Localism NOI, the dissemination of emergency information is a critical and fundamental component of broadcasters' local public service obligations, and we accordingly seek comment on whether voluntary participation in EAS is consistent with those obligations. We seek comment on whether the Commission should adopt rules to require broadcasters to make their facilities available to local emergency managers? If so, what should be the nature and scope of any such rules? In their comments, parties should address the issue of whether there would be adverse effects from imposing some uniform requirement on broadcasters rather than allowing them to continue to make voluntary arrangements with local officials? Conversely, should incentives be provided to encourage the participation of broadcasters and cable operators? What incentives could be provided? To avoid what broadcasters and cable operators might view as a burdensome level of program interruptions, should there be a federal rule establishing a standard regarding when state emergency managers may and must activate EAS and, if so, what should that standard be? Should use of any of the existing voluntary EAS codes be mandated? Should the federal government monitor EAS usage to determine a standard?

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PPW re-emphasizes our earlier comments in Paragraph 3 with regard to mandatory state and local participation. PPW suggests that the FCC should make participation in EAS state and local planning an integral part of a licensee's public service record and its license renewal criteria for broadcasters. EAS activities should also be included in a licensee's public file.

The FCC should also investigate how it can encourage the participation of cable operators in EAS. In the past there were Federal programs that disbursed funds to industry based on their participation in state and local warning activities. These included FEMA's Broadcast Station Protection Program and FEMA's assistance in the 1980s to cable systems to install channel override capability for use by local emergency officials.

DHS already funds preparedness grants to states. These grants should include requirements for developing and maintaining operational public warning systems. Other program examples include DOJ funding of AMBER and the NOAA NWS Storm Ready County program. A comparable Warning Ready County program is high on our list of recommendations.

Broadcasters and cable operators have traditionally made their facilities available to emergency managers by coordinating the creation of pathways so emergency managers have access to their EAS equipment. This is accomplished via EAS entry points and/or relay networks spelled out in SECC and LECC Plans. If the EAS equipment at broadcast and cable facilities receives EAS messages from emergency managers that are preprogrammed with agreed upon event codes, the EAS equipment can automatically preempt programming with the emergency manager's message. This will happen automatically even if the broadcast and cable facilities are unattended. This capability is also available through the EAS Required Monthly Test (RMT). This coordination is all part of the existing EAS planning process that implies good coordination and cooperation. New rules and standards are not needed at this time.

Mandating transmission of additional codes would present serious coordination problems. Without effective state and local plans that properly identify authorized officials, secures

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communications links, and spells out specific conditions for activation, broadcasters and cable operators would risk giving up program control mandated under FCC rules to sources they have no formal relationship with for an undefined range of warning events.

Effective monitoring of EAS usage will be a key element in determining its success, and in evaluating potential adjustments and improvements. The FCC and DHS should institute after-action service assessments and issue public reports to ascertain the effectiveness of all warning systems including EAS during disasters. NWS presently performs timely and comprehensive service assessment reports to ascertain the effectiveness of their operations during hurricanes, large outbreaks of tornados, etc. Since EAS equipment records all messages received and transmitted, broadcasters and cable operators have an audit trail that could form the basis of the process we recommend. Since there would be some workload and paperwork burden for broadcast and cable entities, careful thought would have to go in to how the assessment process would be funded, administered, and carried out.

Paragraph 25, Page 10

We also seek comment on whether Commission rules that require states with EAS plans to file those plans with the Commission for approval have little impact because Commission rules do not require that states have plans in the first instance. Further, no current guidelines or standards exist for the structure/creation of state or local EAS plans. We seek comment on whether the Commission should adopt rules requiring state and/or local EAS plans. We further seek comment on whether the Commission should establish national guidelines and standards for the structure of such plans? Parties filing comments should consider the following issues: Should there be a specific standard of review, and if so, what should it be? Is the Commission the appropriate agency to undertake this task? Is the SECC and LECC structure the appropriate mechanism for generating such plans? Who should generate such plans? Does the Commission or other federal entity currently have legal authority to require and oversee the development of such plans? Where would enforcement action lie for failure to develop an appropriate

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plan? Should periodic updating and review of state and local plans be required and, if so, how often? Should adjacent state and local jurisdictions implement standardized EAS plans so that responses to large-scale emergencies that impact more than one state or local area can be better coordinated? Should multi-state regions be defined and plans developed for them? Should there be reporting requirements for EAS activations to facilitate the development of accurate reports?

It would seem to PPW that Executive Order 12472 requires that the FCC, “Review the policies, plans and procedures of all entities licensed or regulated by the Commission that are developed to provide national security or emergency preparedness communications services, in order to ensure that such policies, plans and procedures are consistent with the public interest, convenience and necessity.” Obviously this includes EAS plans. For example, it seems to us that the FCC would want to know if an EAS plan conflicts with Part 11 or any of its regulations. Also, proper review would also answer the question, “Does a given EAS plan strengthen distribution of a national level EAS message or does it inhibit, confuse, or otherwise disrupts it?”

PPW believes that there should be a requirement that local and state EAS plans be developed but only if the planning effort is fully funded. At the same time, EAS planning should not be isolated from other emergency communication plans. An EAS plan should be part of an all-hazards and all-modes public warning and information plan at the federal, state and local levels. One established mechanism for encouraging and standardizing such plans is via the guidance associated with federal funding to state and local programs. That would suggest that such planning might best be driven by an agency with an existing funding relationship with state and local emergency managers. We also reiterate our recommendation that the federal government assist local and state governments in the development of their plans.

When the 1976 Agreement between the FCC, DCPA (now a part of FEMA), NWS and NIAC was signed, model state and local EBS plans were developed as guides for the development of plans across the country. Plans were approved based on how well they

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adhered to the elements contained in the model plans. Later, EAS plans were approved in a similar manner. However, in reviewing EAS plans, two key operational differences between EBS and EAS had to be considered. EBS plans required one monitoring assignment while EAS requires two, and since the EAN network was disestablished in 1995, each state EAS entry point must be able to reliably receive a PEP station signal.

The government must commit resources to have an effective state and local EAS. We think EAS and new technologies must be included in an integrated warning plan and that the voluntary participation aspect of the EAS state and local level should be maintained.

Several interstate EAS plans have been developed by the SECCs. The SECCs in those areas know how best to solve interstate problems. By maintaining close liaison with the SECCs, the FCC will know the status of interstate plans and how well EAS performed during emergencies. As part of the development of after-action reports of EAS effectiveness during disasters, the FCC should obtain the EAS equipment records for emergency messages received and transmitted by broadcast stations and cable systems. While this can be accomplished because EAS equipment records all messages received and transmitted, a mechanism must be devised to deal with the added workload and paperwork it would generate for broadcast and cable entities, emergency managers, and for the entity charged with review. PPW believes that gathering this information would be consistent with the FCC authority in Section 11.61(b) where EAS test messages must be entered in broadcast station and cable system records for review by FCC inspectors.

Paragraph 26, Page 10

We also seek comment on whether uniform national guidelines are preferred over the disparate manner in which states and localities implement EAS. For example, EAS alerts may be requested by FEMA emergency managers, state and local emergency managers, public safety officials, and other individuals identified in state plans. EAS may also be activated at the state or local level by any AM, FM, or TV station or cable system, at

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management's discretion, in connection with day-to-day emergency situations posing a threat to life and property. Additionally, broadcasters and cable operators can, but are not required to, monitor the NWS and activate EAS in response to an NWS warning. We seek comment on whether the Commission should adopt rules to require all EAS participants to monitor the NWS where signals are available. Should staff at any broadcast station or cable system continue to be permitted to initiate EAS alerts without concurrence from local or state emergency managers and, if so, should the Commission or some other federal entity establish standards regarding the issuance of public warning by these entities?

State and local plans frequently differ in many respects. Such differences may include which officials are authorized to originate emergency messages in a locality, their authority and responsibility, which communications assets are available to distribute messages, what stations volunteer to serve as Local Primary sources, and more. We see nothing wrong with these differences. To the contrary, state and local plans must be tailored to the unique needs and assets of the jurisdiction. There is no single model that will work everywhere in the country. At the same time, there is value in having model guidance to insure that all plans at least contain the essential elements to be effective. PPW believes that there are core elements that must exist in all plans that are already clearly outlined in 47 CFR Part 11.

We recommend that there be a standard format used in writing local and state plans. PPW believes all current plans should be looked at regarding style and format elements by a committee composed of SECC Chairs and other interested parties. There may be value in writing plans with a preamble followed by a series of Communications Operations Orders (COOs). The California SECC used this method to make plan changes without requiring approval of the entire plan each time a change or correction is made. The link to their website is: <http://eas.oes.ca.gov/Pages/easplan.htm>.

PPW believes that local conditions and resources vary sufficiently that it would be unwise to impose too many technically detailed requirements on state and local

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implementations. There is also the risk that such standardization might stifle beneficial innovation. However, PPW does believe that there is a need for a national “standard of warning practice” to articulate minimal expectations and to provide decision-makers with a basis for evaluating warning system investments and operational warning decisions. PPW believes that any final decision on plan style and format should be made in concert with the assistance of State and local emergency managers, a representative group of SECC and LECC appointees, industry personnel, and interested electronic media outlets.

FEMA can only activate the national level EAS upon Presidential request for a national message. State and local officials, including NWS, can request EAS activation for state and local emergencies. Unless there are agreed upon procedures in advance, preferably through EAS plans, EAS activation at the state and local level is on an ad hoc basis. There are many areas in the country where local officials do not have EAS equipment or communications links to access the EAS equipment at broadcast stations and cable systems and there are also areas where NWR signals cannot be reliably received. Therefore, it is very important that the EAS equipment at broadcast stations and cable systems still have the capability to encode (originate) EAS messages. PPW is aware that EAS message origination policies for broadcasters do exist in state and local EAS plans as an emergency backup in case warning origination equipment within government, or links to EAS entry points, are not available. Under these conditions, the encoding (originating) of EAS warning messages at broadcast stations and cable systems should be conducted under the direction of emergency authorities.

The origination of Required Monthly Test (RMT) messages is a different case. To minimize program interruption, broadcasters and cable operators need to have control over when an RMT is originated. Emergency managers can participate in the RMT process but only after close cooperation with the media and as specified in their EAS plan. This is usually spelled out clearly in SECC and LECC plans so emergency warning originators, broadcast licensees and cable entities can all be on the same page. PPW notes that the expanded relay time for RMT’s that was authorized by the Commission two years ago has eased the burden of compliance.

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Monitoring NWS (NWR transmitters) has always been voluntary except where NWS fully participates as an EAS Local Primary (LP) source as specified in an EAS state plan. Where NWS does not participate in the EAS structure of a state, broadcasters and cable operators can monitor NWS/NWR voluntarily on any of the extra inputs on their EAS equipment. Requiring monitoring NWR where NWS does not fully participate in EAS disrupts the EAS monitoring structure of the state and local area.

Also, PPW is aware that many plans already mandate or suggest monitoring of NWS/NWR. PPW believes a nationwide effort to link civil warnings into NWS/NWR must be carried out. This will have the effect of eventually bringing most or all NWS/NWR stations into the system in a way that will enhance and reinforce the warning mission. Once this is done, PPW believes plans that do not now involve NWS/NWR would benefit from its inclusion.

PPW believes that most if not all broadcasters and cable operators would much rather relay emergency messages than originate them. They can and do relay selected SAME messages from NWR on a daily basis, Amber alerts and other EAS alerts. However, until local emergency managers have EAS equipment, CAP or other means to originate messages directly to broadcasters, cable operators and NWS, broadcasters and cable operators are being forced to be the primary originators of last resort.

Paragraph 27, Page 10

The primary method of delivery of Presidential EAS messages to state and local areas is over-the-air broadcast signals that follow a hierarchical structure, beginning with FEMA's relay of the message to the 34 PEP stations, which in turn are monitored by the 550 LPI and state relay stations, which in turn are monitored by over 14,000 broadcast stations and 10,000 cable systems nationwide. However, some emergency managers and SECC members say they lack confidence in the manner in which this system is implemented in their states. They believe stations "down the chain" may miss important state and local messages because, for example, stations that they monitor

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“up the chain” chose not to air a non-Presidential message or are unattended stations that have pre-programmed their EAS equipment to forward only certain event codes. Some claim that PEP station, or because the PEP station’s signal cannot cover the large area it is supposed to cover. Some assert that, in any event, the process takes too long to transmit across an entire state. Accordingly, we seek comment regarding how to improve the distribution of emergency alerts, both national and state/local. Should the originating local agencies transmit alerts directly to as many stations and cable systems as possible without intervening relay stations? Should other technologies, such as satellite delivery systems, be used as part of a backbone to distribute the alert to entry points? Given the changes in technology within the broadcasting industry, is there still a need to structure EAS with the PEP system? To the extent that any businesses using such technologies are small businesses, how should that status affect our analysis? As we discussed in paragraph 25 above, could inconsistencies in the manner in which states implement EAS be alleviated by the adoption of national guidelines?

There are several state EAS entry points that cannot reliably receive a PEP station signal. Additional PEP stations and a number of the major national broadcast and cable program suppliers must be added to the PEP system to insure total nationwide coverage. Broadcast stations and cable systems affiliated with a major network could then receive EAS national messages on their network receivers at no additional cost. If a separate satellite system were developed to distribute EAS national messages, broadcasters and cable operators would need to install receiving equipment to receive that satellite’s signal.

PPW would like to acknowledge the contribution of National Public Radio (NPR) to voluntarily participate in the national level EAS. NPR monitors a PEP station and will relay PEP Presidential messages over their satellite distribution system directly to their affiliates nationwide. The federal government should encourage more networks to volunteer.

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EAS state plans must be kept up-to-date to be effective. If the monitoring problems are not correctable with the existing communications assets in a state, then the federal government needs to develop a means to solve the problem. Several states have already funded satellite links to distribute their EAS messages. Unfortunately, this is an expense. The original EAS monitoring structure was designed to be inexpensive using terrestrial based Local Primary and Relay stations that have high power signals and emergency power. These monitoring structures should be maintained as backup systems to the satellite systems.

Also, some EAS plans already detail an enhanced web monitoring structure for EAS. There are many EAS equipment configurations that have four or more inputs. The web idea makes use of the extra inputs to monitor multiple sources for SAME/EAS messages. This makes the EAS monitoring structure much more robust and less prone to message loss.

As stated earlier, the PEP system was designed as a last resort system in the event the EAN network was inoperable. PEP stations were selected using a federal government program that determined whether a station's transmitter site was located in a low risk area. Due to budgetary considerations, the communications link from FEMA to the PEP station transmitter sites was based on the public switched network. This link needs to be upgraded or complimented as soon as possible.

What works in one state may not work in another. State officials, broadcasters, cable operators and local NWS personnel know what works best in their state. Some suggested criteria for evaluating state plans include: date of the plan, connectivity to the PEP system, statewide test results, state network reliability, performance in emergencies, compliance with Part 11, SECC membership, authentication procedures, approvals, etc.

Paragraph 28, Page 11

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In the 2002 Report and Order, the Commission amended Part 11 of the Commission's rules by, inter alia, adding new state and local event codes, most of which are for non-weather events such as child abductions (Amber Alerts) and new location codes. The Commission did not mandate the use of these codes. Rather, effective May 16, 2002, broadcast stations and cable systems could upgrade their existing EAS equipment to add the new codes on a voluntary basis until the equipment is replaced. All models of EAS equipment manufactured after August 1, 2003, had to be capable of receiving and transmitting the new codes. Broadcast stations and cable systems that replace their EAS equipment after February 1, 2004, must install equipment that is capable of receiving and transmitting the new event codes. We seek comment regarding whether circumstances have changed such that the Commission should adopt rules that require broadcasters and cable operators to upgrade their EAS equipment so that it is capable of receiving and transmitting all current event and location codes, including those adopted in the 2002 Report and Order. If such upgrading of EAS equipment should be required, how much time should broadcasters and cable operators have to replace their EAS equipment? How will this impact small cable operators and broadcasters? Should the government fund upgrades for small systems to mitigate the burden?

The FCC should forthwith require the upgrades in its 2002 Report and Order so that all broadcast stations and cable systems have the same EAS operating capabilities nationwide. Otherwise EAS messages with the new event codes will not be “recognized” by the EAS equipment. EAS equipment not upgraded will only display the event as an “unrecognized message”.

In the 1994 Report and Order establishing EAS, the FCC mandated several state and local event codes that were not related to the national level EAS. Therefore, the same policy should have applied to the 2002 Report and Order.

When EAS equipment first became available, several groups cooperated to pool their purchasing power to obtain discounts from manufacturers. Also, some State broadcaster

organizations have funded EAS enhancements for smaller stations. These avenues might help smaller operators with any cost burden of performing the code upgrades.

Paragraph 29, Page 12

In the 1994 First Report and Order on EAS, the Commission encouraged - but did not require - EAS participation by digital broadcasters. In the Localism NOI, however, we noted that digital technologies have evolved, and can allow broadcasters to provide emergency information in innovative ways. For example, using digital technology, broadcast stations can pinpoint specific households and neighborhoods at risk, with minimal burden on the available spectrum. Accordingly, we seek comment on how digital technology can be used to enhance warnings, and to what extent broadcast stations currently make use of that technology. We also recently reached the tentative conclusion that EAS rules should apply to all audio streams broadcast by a radio station, such as IBOC. We seek comment on whether we should adopt rules extending EAS obligations to other digital broadcast media, such as DBS, DTV, and satellite DARS services.

Commenters should also address whether, when television stations turn off their analog signals as part of the DTV transition, they could leave a market devoid of an EAS participating broadcaster? Is digital cable television service treated in the same regulatory fashion as is “over the air” digital broadcast? If so, should the Commission extend EAS obligations to digital cable television? Does it continue to serve the public interest to exempt services that reach increasingly larger portions of the American public from any requirement to provide public warning? What burdens would extending the obligations place on these services, and do the benefits outweigh the burdens? For example, if DBS satellites were required to carry EAS, what effect would inclement weather have on their ability to send signals. Further, if an EAS alert needed to be sent to an area on the border of a DMA, where a DBS provider only provided local-into-local service in one DMA, satellite customers in the unserved DMA would not receive the signal. How would an EAS signal be fed to a DBS operator? While it could be sent over fiber to their local receive facility (LRF) where they offer local-into-local service, they would not have an LRF where they don't provide local-into-local service. Similarly, how

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would DBS operators conduct testing, particularly on a national v. local level? Finally, to the extent that software updates were needed in set top boxes, what would be an appropriate implementation time frame? What about legacy boxes that have already been deployed? Satellite DARS serves the public primarily on a nation-wide, rather than regional, basis. Does this distribution structure affect the ability of satellite DARS licensees to discharge EAS obligations effectively? If the national distribution of satellite DARS services limits the ability to discharge state and local EAS obligations, are such limitations technological or regulatory in nature?

PPW believes that wherever the FCC has granted a particular entity the use of limited communication resources (e.g., radio-frequency spectrum or orbital positions), it should expect if not require some fraction of that resource be made available for emergency public safety activities. Within the broadcast realm at present this might apply at this time just to EAS, but PPW believes the requirement should be framed in such a way that in the future other public warning services and activities could have some assurance of access to spectrum or bandwidth resources for life safety warnings. PPW thinks of this as a call to provide emergency lanes on as many information highways as possible.

PPW further believes that digital radio and television should be integrated into a comprehensive public warning capability, but that the current EAS rules regarding technology and procedures are not sufficient or appropriate to be applied in the digital realm. The technical details of how the message gets there should be left to industry to formulate effective methods and standards that can take full advantage of these technologies. Similarly, this applies to all audio streams including IBOC.

Concerning the shut down of analog TV, PPW believes the public should not be left devoid of an officially recognized public warning capability that is at least equivalent in availability and effectiveness to EAS. Whether such a service is implemented via a technology called “EAS” may be less important than is the actual service provided to the public.

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Historically, national programmers have been encouraged to participate in EAS voluntarily. This practice should be continued for now. The federal government must begin to reach out to the DBS, DTV and satellite DARS industries. When the federal government develops the capability to capture all state and local level warnings in a timely manner, then there would be merit to require DBS, DTV and satellite DARS to transmit those warnings to their subscribers who are at risk.

If “over the air” digital broadcast television is required to participate in EAS or as PPW recommends, an integrated warning system, then so should digital cable television service. This would fall in line with the 1992 Cable Act requirement for cable television to participate in the distribution of emergency messages.

Paragraph 31, Page 13

In creating EAS, the Commission sought to design a public alert and warning system that would function seamlessly with many sources of emergency communications. The Commission wished to avoid limiting EAS to a particular transmission system, so it adopted a mandatory standard digital protocol with a flexible architecture that the Commission believed could be used by many kinds of transmission media, encompass new technologies, and be expanded and upgraded as new kinds and generations of transmission systems became available. Despite this intended technical flexibility, EAS, as currently constituted, reaches the very limited audience listening to broadcast radio or watching broadcast or cable television at the time the emergency announcement is made. The most ubiquitous outlet for EAS is radio. However, on average, Americans listen to the radio for only about an hour and a half a day, primarily between 6:00 a.m. and 6:00 p.m. Even fewer people are reached by television. Although more than 98 percent of households in the United States have at least one television, the average set is in use only 31 percent of the day. We seek comment on whether this level of penetration is sufficient to comprise an effective public warning system. If it is not, what level of penetration should we seek and what is the best mechanism for reaching that goal?

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Based on the body of social science research and expert opinion regarding effectiveness of public warnings, PPW respectfully suggests that no single warning medium can ever be sufficient alone, no matter how great its penetration. By the same token, even a warning medium of limited reach can be of significant value if it reinforces and corroborates warnings received through other channels. A single, uncoordinated warning can easily be discounted as a false alarm. Effectiveness of warnings depends in large part on the coordination of multiple warning media, which raises public confidence in the reality and accuracy of the warning message.

Government resources are needed to develop model integrated warning systems and plans. The models should include all mediums including the unique techniques developed by industry such as CAP, generic voice dialing systems, sirens, special and private radio systems, etc. The models should then be used to develop emergency plans throughout the country. Follow up training and exercises are needed. Models would still be needed if a new system replaced EAS. The country has been without a public warning planning and training program for too long.

EAS was designed to alert the public to an emergency through transmission of a four-part message. These include a digital header part containing the critical elements about the message, an eight second alert tone, an audio message limited to two minutes and a digital end of message code to reset equipment. EAS alerts are a heads up to the public. They must be followed with emergency information to provide additional details and keep the public up to date.

Paragraph 32, Page 13

Because EAS relies almost exclusively on delivery through analog radio and television broadcast stations and cable systems, is EAS, in the current communications universe, outdated? Instead, should there be a concerted government/industry effort to combine EAS with alternative public alert and warning systems (APAWS) to form a comprehensive national public warning system capable of reaching virtually everyone all

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the time? The possibilities are numerous and varied. Several companies offer landline-based interactive notification systems that would convey national, regional, and local emergency messages via the public switched telephone network to wireline telephone subscribers located in the specific geographic areas affected by emergencies. Other companies offer systems that use Internet and/or cellular capabilities, including the cell broadcast feature of digital cellular networks, to deliver alerts to mobile handsets of wireless subscribers or to televisions, cable boxes, clock radios, cars, computers, stand alone units or other devices after incorporating patented receiver devices. Some companies offer satellite based warning and messaging systems which use very small aperture terminal networking to provide direct satellite communications. There are also emergency message and warning systems offered on a subscription basis that use computerized calling systems, fax, email, and digital messaging to reach many different types of devices. Some of these systems are used currently by certain states, along with EAS as part of their public alert and warning system. How could a combined warning system that makes use of some or all of the features described here be implemented? Should the Commission require any APAWS to participate in the existing EAS and, if so, which ones and how should they participate? For example, should all APAWS be required to be compatible with the existing EAS protocol? In considering these issues, should our analysis distinguish between wireless systems used primarily for one-versus two-way communication, or point-to-point or multi-point versus broadcast? Commenters should discuss any legal or practical barriers to its implementation and effectiveness, noting whether legislation would be required from Congress or by Executive Order.

Integrating EAS into an Alternate Public Alert and Warning System (APAWS) might be the right approach, both from a public warning effectiveness point of view, and in terms of allowing market forces to align with government in driving toward continual improvement to the nation's warning capabilities.

We note that cell phone broadcast is a specific concept that would take several years for the appropriate new cell phones to be adopted into the general population. It is a valid concept but it is not yet a proven commodity. It should be studied immediately and if

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proven workable, implemented as soon as possible. However, there are companies offering systems that use Internet and/or cellular capabilities, including the delivery of emergency text messages. Although the voice channel of cellular systems is prone to overload, the data channel that carries text is extremely reliable and even performed well on September 11, 2001.

Before embarking on legislation or Executive Order changes, the responsible government agencies should adopt an overall strategy for an integrated national public warning capability. This would ensure that any changes relevant to EAS are compatible and coordinated with other warning and emergency information programs.

EAS should certainly be one element of an integrated national warning capability, at least for the foreseeable future. Other technologies should not be misunderstood as “alternatives” in the sense that they could replace EAS. These other technologies should be viewed as additional facets of an integrated public warning architecture.

PPW offers as one example the Advanced EAS Relay Network (AERN) using CAP as described in paragraph 4 above. AERN illustrates one approach to integrating EAS with other existing and future systems in a forward-looking national warning architecture. The inherent “backward compatibility” of the CAP data standard makes it possible to enhance EAS and other systems without disrupting them.

The federal government needs to answer several questions to be able to develop a plan of action to build a nationwide operational warning system. Have we identified the existing warning and communications assets available to states and localities, especially the federal assets? Are they being fully utilized as part of a warning system? What assets are needed in the areas where warning systems are dysfunctional? How are the inter-operational problems corrected?

The legacy systems of EAS and NWR definitely have a place in an integrated warning structure.

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As an alternative, would the appropriate approach be to integrate EAS into a PAW “system of systems” by adopting and using a single, integrated interface that would link the emergency manager and all emergency notification and delivery systems, regardless of the technology on which a particular system is based? In this regard, we note that the Organization for the Advancement of Structured Information Standards (OASIS), a not-for-profit, international consortium that addresses the development, convergence and adoption of e-business standards, has adopted the Common Alerting Protocol (CAP) as an OASIS standard. CAP is a standardized, non-proprietary, data interchange format that simultaneously disseminates consistent all-hazard emergency alerts or public warning messages over different kinds of communications networks and systems, including those designed for multilingual and special needs populations. The CAP format is compatible with emerging and existing formats, such as web service applications, NWS' SAME, and the EAS protocol and offers a number of enhanced capabilities. Proponents assert that CAP has the potential to increase warning effectiveness and reduce costs and operational complexity by eliminating the need for multiple custom software interfaces to the many APAWS involved in all hazard warning. Several government agencies and private companies have also implemented CAP, including DHS, NWS, and Comlabs, Inc. We seek comment on whether the CAP could act as an effective interface through which an emergency manager could access multiple emergency notification services, including EAS.

PPW has supported the development of CAP as an approach to the goal of coordinated dissemination of well-crafted public warnings. CAP is now a confirmed standard that is being used in the real world. CAP was designed to provide both a procedural template for the composition of complete and effective warning messages, and a technical framework for integration of existing and future warning systems. PPW believes that the burden on warning originators during emergencies would be greatly reduced by the use of a single warning origination tool, with output in the non-proprietary standard CAP format that could then be automatically translated into the 'native' formats of EAS, NWR and any other warning system.

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Paragraph 34, Page 14

MSRC's Future Technologies/Digital Solutions Task Force recommends that the government should coordinate development of a Media Common Alert Protocol (MCAP) which should: (1) be designed to deliver emergency messages via digital networks; (2) flow over all methods of digital transport; (3) be received by all digital receivers; and (4) be optimized for point-to-multi-point networks and devices only. MSRC also suggests that key attributes of the MCAP should be addressability, scalability, interoperability and prioritizing. MSRC recommends that industry organizations and companies should develop standards and specifications for carriage of MCAP on various media. We seek comment on MSRC's recommendation. We are mindful that the availability of particular delivery methods may differ in rural and insular areas from more urban areas. We seek comment on any particular needs or considerations we should afford rural areas.

PPW supports the MSRC's recommendation and believes that the OASIS CAP standard, designed based on social science research and field experience in the composition and dissemination of effective warning messages, offers a solid foundation for it. PPW notes that CAP was designed for use over both broadcast and point-to-point links and has been deployed in both modes, and that few practical differences have been identified between the two contexts. However, to the extent there may be a need for a specialized broadcast "profile" of the more general standard, PPW believes it should share most of the existing characteristics of CAP.

Rural areas usually have fewer warning assets than urban areas. Many rural counties rely on nearby urban areas for warning messages. It is imperative that warning plans take these adjacent areas into consideration in the planning and testing phases. During large-scale emergency evacuations, rural areas may need as much or more advance notice to prepare for the needs of evacuees.

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Finally, to what extent does an effective public warning system depend on the consumer electronics equipment that receives the warning? MSRC has identified as two primary functionalities of a future warning system the ability of a device (such as a radio or television set) to automatically turn on and tune in to the channel carrying the warning, and the capability of such a device to receive a geographically addressed message (through FIPS or GPS). We note that the technology exists to have consumer electronic devices turn on automatically in the event of an emergency. We note that, as described in paragraph 14 above, NOAA Weather Radios currently supply both these functions. Would mandating the adoption of such technology to other consumer electronic devices enhance the effectiveness of EAS and other PAW systems?

PPW supports the broad implementation of such technology in consumer devices, with the caveat that broad market uptake can have the downside effect of creating inertia that impedes technical advances. This is another reason PPW recommends that the national public warning architecture be viewed as a “system of systems” rather than a monolithic technical framework that could become more inflexible the more widely it was deployed.

PPW believes in creating solid standards and practices for warnings so manufacturers can feel confident that they can build personal warning devices that can take better or full advantage of all the capabilities of the current SAME/EAS protocol. The manufacturer of the only warning appliance TV receiver on the market to date stated to PPW that they rely on an embedded NWR receiver because NWS uses NWR as one of their warning distribution resources.

PPW believes the value of imbedding NWR receivers, as SAME message sources will increase once more local emergency management warning centers are linked in to NWR. The State of Washington has been experimenting in cooperation with NWS on this with some success. PPW believes the fastest path to nationwide implementation will be through a national EAS needs assessment showing what links are missing or broken, followed by funding, possibly through DHS, to meet those identified needs.

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We note that there are a few radio models available that can turn on automatically upon receiving an EAS event and/or location code. However, they have a very small market share in only a few areas.

As another example, presently there are hundreds of unused FIPS numbers (EAS location codes) that can be used for the purpose of alerting not only unique geographic areas but also groups of individuals and organizations. Only a few states have taken advantage of this capability. State and local authorities need to be made aware of this capability. Also, there are a number of other ideas to increase warning message distribution including: a Warning Ready County program administered by the government, e-chip TV requirement similar to the v-chip requirement, an insurance credit program for warning devices similar to the one for smoke detectors, etc. Closed captioning of video programming (See 47 CFR Part 79) that is a feature present in most television receiving sets could also be used for display of extensive emergency information for the hearing public as well as the hearing impaired.

There is a wide and growing array of technologies for alerting and informing individuals with various disabilities. The range of special-audience requirements is so broad that it seems futile to try to address them all with any one technology. Thus PPW believes that the creation of a “warning internet” to deliver consistent messages into various specialized warning systems is the only viable approach to this challenge.

Paragraph 40, Page 16

Emergency Warning for Non-English Speakers. We should also consider the needs of people with primary languages other than English when considering the best method of contacting the public during an emergency. In order to ensure that foreign language audiences are alerted, the Commission’s EAS rules provide that EAS announcements may be made in the same language as the primary language of the station. We seek comment of the efficacy of these rules. For example, if a radio station transmitting in English is located in a predominantly Spanish-speaking community, should the station transmit EAS

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alerts in both English and Spanish? Additionally, products can be developed to convert the EAS digital signal to provide aural and visual messages in any language. We seek comment on whether current methodologies for providing alert and warning to non-English speaking persons are adequate. If not, what additional provisions are necessary, and what would be the costs associated with implementing such provisions?

PPW believes that there are a number of technologies for multi-lingual alerting and information available, but that most of them operate outside the current framework of EAS. While some of these systems might benefit from the enhanced bandwidth offered by digital broadcasting technologies, PPW feels it is unrealistic to expect that EAS alone could ever adequately serve the needs of all language groups. This is another area where EAS could benefit from an operational partnership with other technologies, implemented through a standards-based “warning internet” for coordination.

The digital header portion of the EAS protocol contains only the critical elements of a warning message. Until recently, no one had developed a method to digitally package the aural portion. Now a company has developed a method so that the aural portion can be digitally packaged and transmitted as part of the EAS protocol. This improvement is an example of how legacy systems can be improved to provide more information to the public. There are also potential solutions made possible using the CAP standard.

Each community has unique needs in this area. For example, we note that Arlington County, Virginia has over 60 languages. It is the responsibility of the local emergency managers to develop systems that will reach the public in all appropriate languages. In some instances EAS may be the chosen dissemination method. In other instances other technologies may be more appropriate.

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Security. We also seek comment as to the security issues relevant to EAS. Security and encryption were not the primary design criteria when EAS was developed and initially
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implemented. Now, however, emergency managers are becoming more aware of potential vulnerabilities within the system. For example, the complete EAS protocol is a matter of public record and potentially subject to malicious activations or interference. Further, EAS distribution methods have potential for security concerns. For example, Internet Protocol-based systems and control links could be subjected to “denial of service” attacks aimed at preventing them from functioning. Additionally, when a station is operating unattended, no one is available on-site to intervene should an unauthorized seizure occur. There is also concern about physical security and unauthorized use of the system at state and local EAS activation sites. Although Commission-certified EAS encoders have the capability for password protection, it is up to each station and cable system to implement sufficient security and there is no way of knowing which stations use password security. Finally, EAS signal could be subject to jamming. Such vulnerabilities could be exploited during times of heightened public anxiety and uncertainty. We seek comment on how to improve the security of EAS distribution methods, information, and equipment or how to ensure the security of any public warning system. Should the Commission require password protection of all EAS encoders? Who should be responsible for system security and what security standards, if any, should be implemented? How can the authenticity of EAS messages be verified and/or how can broadcasters be protected from liability issues if they inadvertently rebroadcast a false or incorrect EAS message? Would adoption of any of MSRC’s Best Practices alleviate security concerns?

PPW addressed the EAS security issue at length in its EAS report. We doubt that any public “over the air” protocol can be made completely fool proof and totally secure. But certainly security improvements to the existing structure can only help. Section 11.32(a)(1) specifies that, “Encoder programming access shall be protected by a lock or other security measures.” Enforcement of this specification should be conducted. We are aware of no unauthorized access to the EAS since its establishment. However, broadcasters and cable operators should insure that EAS messages they have selected for reception and transmission over their facilities originate from authorized sources. These

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are specified in EAS plans. The fact that unattended operation is permitted only strengthens this point. We believe that jamming radio and television signals is rare, especially the high power signals usually transmitted by EAS Local Primary sources. Also, emergency managers should insure that their communications links to broadcasters and cable operators are as secure as possible.

The SAME/EAS protocol is transmitted in the clear. Unless costly changes are made to SAME/EAS devices, there is some risk that they could be “spoofed.” The FCC has allowed software-only EAS devices to come on the market. PPW sees some enhanced risk of “spoofing” if the software falls into the wrong hands. Sixty years of warning research has shown that warning recipients usually require corroborative information before taking drastic protective actions, this would almost certainly mitigate the effectiveness of any EAS spoofing attempt.

Loss of one EAS source is not critical as long as broadcasters and cable operators use the multiple monitoring capabilities of their EAS equipment. EAS plans employing the web monitoring structure greatly decrease the chance of failure to receive EAS messages.

PPW notes that digitally encoded messages can be digitally signed and encrypted to a high level of confidence. Digital signatures can be used not only to authenticate a message, but also to ensure that it has not been modified in transit. Such signed and encrypted messages have the advantage that they can transit un-trusted communications links (e.g., radio links, telephone lines, satellite circuits) without fear of compromise. Thus, adoption of a digital message format such as CAP that can transmit text, audio and imagery would also permit the use of these mature standards for data encryption and authentication.

MSRC’s Best Practices should be incorporated into the development of EAS plans.

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Location of EAS Equipment. In the 2002 Report and Order, the Commission modified its rules to exempt satellite/repeater stations which rebroadcast 100% of their hub station from the requirement to install EAS equipment, provided the hub station complies with existing National level EAS equipment installation, activation and testing regulations. We acknowledge that this practice removes EAS equipment from the satellite/repeater stations and thereby precludes their participation in the State or local EAS activations via the EAS network. We seek comment on the impact this practice has or will have on any proposed changes to EAS or public warning systems. We also seek comment on whether the Commission should extend this practice to any other EAS providers. In this regard, such comment should address whether any centralized placement of EAS equipment, such as at the head-end of a cable system or satellite uplink, would have a positive or negative impact on the efficacy of EAS as a national, state, or local emergency notification system. Where is the best place to locate EAS equipment so it can be the most useful and maintainable?

The automated EAS was created so that unattended stations and repeater stations far removed from their master station would be able to receive and selectively transmit EAS messages for their service area. This is especially important if the master station is located in another EAS area with different EAS monitoring assignments. Satellite stations operating as part of a nationwide satellite network also need to eventually have their own EAS equipment. Providing extended timelines for compliance with EAS equipment requirements is one way to provide some financial relief to satellite/repeater stations. Very large cable systems serving multiple counties sometimes have nodes that provide county level service to subscribers in a particular county. These nodes could also be input locations for emergency messages. PPW suggests that DHS funds be made available to support this need, once a comprehensive EAS needs assessment is carried out.

We note that local franchise agreements with cable companies can include arrangements for providing emergency messages to cable subscribers. One method to accomplish this is to use the EAS equipment at cable facilities.

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Testing. FEMA conducts weekly closed circuit tests of the PEP system by sending signals to EAS equipment at each PEP station site. However, no on-air tests of the PEP system ever have been conducted. All broadcasters and cable operators are required to conduct EAS weekly and monthly tests to ensure their EAS equipment is in operating condition. Should comprehensive periodic testing of the entire national EAS system from the PEP stations on down to state and local broadcast stations and cable systems be required? If so, how often should such testing occur? Should a special national level test code be adopted for this purpose, and should a post-test report be required? Should these national tests be in addition to the current testing requirement? Would having too many tests become a public nuisance leading to ignoring EAS alerts by the public? Additionally, we seek comment on whether the required monthly tests adequately evaluate the state-wide distribution of EAS alerts and, if not, what method of testing should be required.

Under EBS, nationwide tests of the national level EBS were conducted every three months. The White House Communications Agency (WHCA), FEMA, FCC, and the national radio broadcast networks and wire services participated. The FCC developed test reports based on the return of questionnaires from broadcast stations. With the demise of the EAN network in 1995, these types of national tests were discontinued. End-to-end testing of the national level EAS should begin immediately. Given the capabilities of the EAS equipment, this can be easily accomplished in an unobtrusive manner. Section 11.31(d) already contains the codes that can be used to proceed with national tests.

PPW is aware that the Primary Entry Point Advisory Committee (PEPAC) has been looking at the issue of national testing since well before September 11. One plan suggests a series of tests to confirm proper operation by time zone or region. Basic PEP tests right now are totally closed circuit in nature. The first step towards open circuit testing was actually implanted in the form of a simple programming adjustment to the EAS decoder/encoder at each PEP station. It enabled them for local origination of an EAS

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weekly test. All PEP stations performed that change and conducted local tests before September 11, 2001. This confirmed that the encoders are functioning properly. The final step of that draft plan, yet to be taken, would be a coordinated test using the existing EAS Required Monthly Test (RMT) model. The voice message would be short and simple, and possibly voiced by the President.

Some states already conduct meaningful statewide RMTs. These tests help states identify EAS monitoring problems. NWS personnel and authorized officials can participate in RMTs by originating the test messages.

Paragraph 44, Page 18

Training. Some broadcasters and cable operators state that the EAS system and equipment are difficult to learn and use during actual emergencies and that the infrequent use of the equipment results in staff members being unable to remember how to use it when necessary. Additionally, lack of EAS training for emergency management personnel is a concern. We seek comment on whether additional training resources should be provided to emergency managers and, if so, what these materials should include. Should there be periodic mandatory EAS training of broadcast station and cable system personnel? Should emergency managers receive mandatory education and training regarding how and when to utilize warning systems? Who should provide such education and training? Is there a need to educate the public about the EAS and public warning? If yes, who should be responsible for such education? Who should incur the costs of training materials and employee time?

The initial set up of any manual or automated system requires extensive training and planning. Especially when close cooperation is required between the originators and distributors of messages. When it comes to EAS, this is especially true since close cooperation is required between the people who originate EAS messages and the people who are responsible for operating the broadcast and cable entry points for EAS messages.

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When EAS is automated at broadcast and cable entities, the training burden is significantly reduced. EAS equipment is designed to operate best when it is set to automatic or semi-automatic mode. This can relieve operators from having to decide what to transmit and what not to transmit. Some EAS manufacturers have software based programming for their EAS equipment. This has made it very easy for personnel to originate tests.

Almost all broadcast stations and cable systems now have computer-operated equipment that can interface with EAS equipment. NWS faced the same start up problems with WRSAME. Their operators are now very proficient at originating SAME/EAS based messages.

Emergency managers and NWS personnel are legally responsible for originating emergency information and warnings. SAME/EAS warning messages are a critical part of that function. Broadcast and cable functions as the means to relay warnings from those with the legal duty to issue them. Broadcasters and cable operators should not place themselves, or allow themselves to be placed in a position where they have to originate EAS messages. The only exception should be when there is no other method available and warnings are issued under the supervision of emergency management as outlined in an emergency procedure in EAS Plans.

DHS provides several training forums for emergency managers. They have great training facilities. EAS training should definitely be a part of their training schedule. Cross training opportunities should be available so broadcast and cable personnel have a better appreciation of the emergency management function, and emergency managers can better understand how broadcast and cable can help them do their jobs better.

A massive EAS public education program is definitely called for. Some of the public thinks EBS is still operating. Public education about EAS and emergency information is sorely needed. NWS does a good job informing the public about their services. The public remains largely uninformed about EAS in most parts of the country. The

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government needs to do public education for EAS and warnings in general. The very elements of EAS testing and messaging that were designed to make it less obtrusive to on-air programming have worked to make EAS less visible to the public than the EBS that it replaced. Many people, some in high emergency management positions, still refer to EAS as EBS. Such a public education program must be accompanied by training for those who issue warnings, and for broadcasters and cable operators who must relay them to the public. Emergency managers and NWS personnel can, through coordination with local broadcasters and cable operators, participate in EAS RMTs. They can provide a voice message to be transmitted as the aural message of an RMT.

Paragraph 45, Page 18

Small Operators. Many of the topics discussed above would likely require participating services to incur additional costs. While large companies may have the resources to absorb equipment upgrades and staff, small business entities may not. Should the level of participation required be dependent on the size of the participating entity? How would predicated participation based on company size affect the usefulness of EAS? Should assistance be provided to small businesses? Should we consider government or other funding assistance to small entities? We note that many small cable operators have received temporary waivers of certain EAS rules due to financial hardship. What has been the effect of such waivers?

PPW is not aware of any studies that show any adverse effect from waivers. The absence of studies suggests that the FCC should contact either the LECC and SECC Chair most closely associated with the party requesting a waiver. This would give the FCC more support for granting a waiver that could potentially have adverse impact on local warnings. 47 CFR Part 11 already contains several breaks for small operators. In the past the FCC has given waivers to small operators for various reasons. These practices should continue especially if the reasons are financial, and there is no adverse impact on the warning picture for those in the coverage area of the requestor of the waiver.

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How can local entities claiming financial hardship continue to be a part of EAS? Small operators might form alliances to purchase EAS equipment in large numbers to reduce cost. Some DHS funds might be made available to support, repair and enhance EAS in cases of demonstrated financial hardship, or if local needs require more support if a waiver that is or has been granted creates gaps in warning coverage.

Paragraph 46, Page 18

Enforcement. The Commission has been aggressively enforcing the Commission's EAS rules. In 2003, for example, the Enforcement Bureau took approximately 80 EAS enforcement actions. Nonetheless, some broadcasters have failed to install or properly maintain EAS equipment. The base forfeiture amount set in the Forfeiture Policy Statement and section 1.80 of the rules for an EAS violation is \$8,000. We seek comment on whether we should increase the base amount or otherwise impose higher forfeitures in this area, and on whether there are additional ways to better ensure compliance. We also seek comment on whether we should seek legislation from Congress to increase the maximum forfeitures in this area from the current \$32,500 for a single violation or day of a continuing violation and maximum of \$325,000 for a continuing violation. PPW has concerns about the mixed message sent by penalties for non-compliance for what is actually a voluntary program when it comes to relaying local warnings and alerts. PPW does recognize the vital importance of keeping the installed base of EAS equipment operational. If an inspection finds EAS equipment missing or has never been installed, PPW agrees with those that would support the present fine structure. PPW would also like to suggest that the Commission consider a fine reduction incentive for timely correction of EAS violations. Repeat offenses do need to be dealt with strictly, requiring either the present level of fines, or a multiplier.

PPW respectfully suggests that the Commission consider adding some carrots to foster more support to broadcast and cable licensees for relaying more EAS messages. These include: (1) EAS participant licensees should get special credit during the license renewal process for active participation in the local and state EAS, (2) FCC should work with

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other agencies on an EAS awards program much like the Mark Trail awards program within NOAA/NWS and, (3) LECC and SECC committee members who work for broadcasters or cable operators should receive special regional training to help them do their no-pay jobs better. This training should be paid for out of homeland security funds.

Paragraph 47, Page 18

Miscellaneous Issues. We request comments on any other matters or issues, in addition to those discussed above, that may be pertinent to establishing the most effective and efficient public warning system in the United States and its territories.

The nation urgently needs an integrated warning system that is kept up to date and tested regularly. This warning system must be thought of as a continuum. It begins with reliable, timely and clear information for authorized originators of warnings, and more faster and better sensors that can recognize a wider range of dangerous conditions. It depends on rapid and accurate assessment and decisions on the need to issue a public warning (or not) and the content of the warning message based on confirmed sensed data. It relies on well-defined and protected emergency lanes that must be built into the ever-growing number of information highways to the media and to the public.

We must never forget that public warnings, EAS included, are not isolated events, but are only one component of the overarching practice of emergency management. Their role within this discipline is expanding as emergency managers are starting to look at information as a resource to be managed in its own right, much like sand bags and fire trucks. Dating back to the old EBS test message, warnings promise “news and other information” that people at risk look for once they have been sensitized to a threat. Expanding and enhancing EAS capabilities will make this process easier, and more able to fit seamlessly into all information paths to the public that come into play once warnings are issued.

Paragraph 48, Page 19

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We initiate this proceeding to establish a record on how the Commission can best facilitate the implementation of EAS as part of an effective public alert and warning system. After review of the record we will determine what rules or other next steps are appropriate. We may adopt new rules or revise certain of our current EAS rules, or we may combine an order adopting rules with a report summarizing the record and our policy perspectives regarding matters raised in the record in advance of further work with DHS and others in this area. At the same time, we might make legislative recommendations to Congress. In this regard, we invite comments on whether the Commission should make recommendations to Congress regarding EAS, or whether any of the Commission's EAS rules not otherwise addressed in this NPRM should be changed, and if so, why. Finally, although we have identified above particular subjects that we believe of interest to the public regarding EAS and public alert and warning in general, we welcome comment on any other ideas relevant to the issues addressed in this NPRM.

We end our comments as we began them – by commending the Commission for undertaking this proceeding. The Emergency Alert System is an important part of the nation's ability to warn and inform citizens during times of emergency. Unfortunately, we know that today's system does not work – emergency warnings fail to warn many citizens at risk while warning many not at risk. We can do much better. A more effective public warning capability will save lives, reduce property losses and speed economic recovery.

The Emergency Alert System can play a more effective role in warning citizens during times of emergency. However, it needs to be strengthened. The first step in achieving this goal is more aggressive federal leadership coupled with a collaborative process that involves all the stakeholders. The second step is to implement the many recommendations made by PPW in these comments.

A more effective EAS in and of by itself, however, is not the entire solution to America's public warning capability. We need a comprehensive strategy that integrates EAS, NWS,

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other existing systems and new technologies into a uniform and comprehensive national architecture that supports the ability of local officials to warn their citizens in a timely and effective manner. The stakeholders involved in PPW have developed such a strategy and a plan for its implementation. We urge the Commissioners to review this strategy and plan carefully.

In considering the development of a national public warning capability, the most important thing to remember is that public warning is not a technology problem. We already have the technologies necessary to warn and inform citizens at risk in a timely and effective manner. There is no need to develop new technologies. The need is for standards, policies, procedures and education. For a better understanding of the key elements of an effective public warning capability, we urge the Commission to read Introduction to Public Alert & Warning” , (PPW Report 2004-2)).

The Partnership for Public Warning is available to assist the Commission and other federal agencies address these issues. Please do not hesitate to contact us.

C. Emergency Alert System: An Assessment

In February 2004 The Partnership for Public Warning produced an outstanding document which provided an in depth profile of the Emergency Alert System. This informative assessment, developed with input from experts in industry, government and academia, set forth a vision and strategic plan to create a more effective national public warning system.

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The Emergency Alert System (EAS): An Assessment
Partnership for Public Warning
FEBRUARY 2004

1. About this EAS Assessment

The Emergency Alert System (EAS) is one of two national systems that exist in the United States to provide alert and warning information directly to the public. The other is the National Oceanic and Atmospheric Administration's Weather Radio system operated by the National Weather Service.

The purpose of this document is to provide a definitive description and evaluation of the EAS past and present as a basis for recommending ways to make immediate improvements. As this report indicates, the current Emergency Alert System has a number of significant policy, management and operational challenges.

America has an obligation and the technologies to build a national alert system that can warn people regardless of where they are, what time of day or what language they speak.

In May 2003 the PPW issued "A National Strategy for Integrated Public Warning Policy and Capability." This document, developed with input from experts in industry, government and academia, sets forth a vision and strategic plan to create a more effective national public warning capability.

2. Introduction

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The Emergency Alert System (EAS) is our primary national warning system. It serves two functions:

- It provides a method for the President to address the nation during dire national crises.
- When not in use by the President, state and local officials can use it to issue short warning messages of imminent or ongoing hazards through broadcast stations and cable systems in specific regions.

All radio and television stations and cable television systems must broadcast Presidential alerts immediately or leave the air. They may choose to broadcast state and local alerts and can postpone broadcasting a warning or alert that is still in force until there is a programming pause. National alerts are issued through the Primary Entry Point (PEP) system via dialup telephone lines to 34 continental U.S. and territorial radio stations, which cover in theory approximately 90% of the U.S.

All non-PEP 14,000+ broadcast stations and 10,000+ cable systems are required to follow their EAS state plans. Each state's plans specify the monitoring assignments for all broadcast stations and cable systems within that state. At least one PEP station should be monitored by a state's EAS network so that national level EAS messages can be distributed in that state.

All broadcast stations and cable systems have EAS designations that describe their function within EAS. PEP stations have a National Primary (NP) EAS designation since they are the entry point for national level EAS messages. State level entry points have designations of State Primary (SP) and State Relay (SR). Local entry points have designations of Local Primary (LP). There is one national network that has voluntarily agreed to distribute national level messages to its affiliates. National Public Radio (NPR) directly monitors a PEP/NP station and will relay a national level EAS message as soon as it is received. To reduce the likelihood of a single point of failure preventing an EAS message from getting through, FCC

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regulations require all broadcast stations and cable systems to monitor at least two EAS sources that are specified in their EAS state plan.

The National Weather Service (NWS) originates about 80% of all EAS alerts. Some broadcast stations and cable systems voluntarily monitor the NWS's NOAA Weather Radio (NWR). NWR supplies local EAS encoded alerts to broadcast and cable entry points as set out in each approved EAS state and local plan. In some localities, emergency managers can originate EAS alerts through NWS, through a broadcaster or cable operator, or through their own equipment if they have made prior arrangements that are documented in EAS plans. Proper operation of the EAS depends on those state and local plans that specify how stations are linked together in monitoring webs; how SP, SR and LP EAS sources get EAS warnings; how EAS testing is accomplished; and which EAS messages may be relayed.

3. EAS History Highlights

The EAS and its predecessors have been in various forms a concern of every Presidential administration since the 1950s.

- In 1951, President Harry Truman established CONELRAD and issued a White House Statement of Requirements (WHSR) for CONELRAD. Every succeeding administration has issued a WHSR with the latest by President Clinton in 1995.
- In 1958, the FCC established the National Industry Advisory Committee (NIAC) consisting of volunteer industry personnel who provided expert advice to the FCC concerning emergency plans, rules, policies, etc. The NIAC has continuously existed under various names to the present day. The most recent committee is the Media Security and Reliability Council.
- In 1963, CONELRAD became the Emergency Broadcast System (EBS) and the Broadcast Station Protection Program (BSPP) was established to support critical

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components of EBS. The Federal government through the BSPP supplied emergency generators and equipment to selected broadcast stations.

- In 1971, the North American Air Defense Command (NORAD) erroneously transmitted a national level EBS warning message. As a result, NORAD and its “Attack Warning” function were removed from the EBS. Since then, only the President can activate the national level EBS.
- In 1976, the FCC replaced the old CONELRAD inter-station alerting technique with a two-tone EBS Attention Signal. Also, the Defense Civil Preparedness Agency (DCPA), a part of DOD; the FCC; the NWS, and the NIAC signed an Agreement to promote a coordinated effort to develop detailed state and local plans to permit use of the EBS for warning the public about local disasters. The Agreement was updated as an MOU in 1981 but the MOU has not been updated to reflect the EAS. By the mid 1980’s, every state and U.S. territory and over 400 localities had EBS plans.
- In 1983, the FCC and FEMA began studies to backup the primary national level EBS distribution system with a new backup distribution system. FEMA began construction of this backup system in 1987. It was named the PEP. In 1995, FEMA stopped funding the primary national level system and the PEP became the one and only national level distribution system.
- In the early 1990’s, the FCC began investigating new alerting techniques that would work at unattended broadcast stations and cable headends. The 1992 Cable Act required that cable become a part of EBS.
- In 1994, the FCC established EAS to replace EBS. EAS used a digital architecture to provide for automatic operation. It also uses a digital protocol that is identical to the NWS digital protocol transmitted on NOAA Weather Radio.

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- In 1997, all broadcast stations were required to have the new EAS equipment. This requirement was expanded to large cable systems in 1998 and all cable systems in 2001. Cable systems are required to override all program channels with a national level EAS message.

Presently, most states and over 100 localities have an EAS plan. But over 400 localities do not have a plan. Also, almost all states have an AMBER plan that incorporates EAS.

4. How the EAS Works

As provided for in Title 47, Chapter 1, Code of Federal Regulations, Telecommunications, Federal Communications Commission, Emergency Alert System, Part 11

- a. “The EAS provides the President with the capability to provide immediate communications and information to the general public at the National, State and Local Area levels during periods of national emergency.”
- b. “The EAS may be used to provide the heads of State and local government, or their designated representatives, with a means of emergency communication with the public in their State or Local Area.”

If the President ever decides to issue a national alert (none has ever done so), a White House Communications Agency (WHCA) officer contacts the FEMA Operations Center (FOC) or FEMA Alternate Operations Center (FAOC) immediately through special communications channels from wherever the President is located. The FOC or FAOC then activates the Primary Entry Point (PEP) system. Calls are placed simultaneously to the 34 PEP radio stations across the country and U.S. territories. After appropriate “handshaking,” the transmitters at the PEP stations come under government control. Programming on the PEP stations is pre-empted and the President has an open channel to communicate his message. A Presidential message containing the EAS national level Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

code, alert tones and an audio message follows. The audio message can be for an unlimited time and is terminated upon transmission of the EAS End Of Message (EOM) signal. EAS entry points in each state (broadcast stations, Emergency Operating Centers, State Emergency Management Agencies, etc.) monitoring a PEP station will have their EAS equipment captured and transmission of the Presidential message will begin. The message will then be distributed through each state EAS system provided that the state has a working EAS plan. State EAS entry locations need to monitor at least one PEP station. As specified in FCC Part 11, those stations that have elected to terminate programming during a Presidential message will go off the air. They will return to the air upon receipt of a second EAS message containing another EAS national level code. Any broadcast station or cable system in compliance with the FCC's rules for unattended operation will be a de-facto participant in the EAS since properly installed, maintained and tested EAS equipment is a Part 11 unattended operation requirement. The above procedures are specified in the FCC EAS Handbooks for AM, FM and TV broadcast stations and cable systems. State and local alerts may be inserted into EAS several ways:

- a. NWS transmits watches and warnings through the EAS via a complete EAS message on NWR. Many broadcast stations and cable systems purchased EAS equipment with receivers that can monitor NWR.
- b. According to Part 11, broadcasters and cable operators are permitted to originate an EAS alert. Since civil and weather warnings should come from entities with the legal responsibility for public warnings, many EAS experts believe that this activity should be viewed as an emergency backup capability.
- c. A growing number of state and local emergency managers and law enforcement agencies have EAS equipment and enter EAS tests and warnings directly through broadcast stations and cable systems identified in EAS plans. In a few areas officials can originate EAS events through their local NWR station. Implementation procedures should be included in a state and local area EAS plan.

- d. State and local emergency managers may call the local NWS office or a broadcaster to request that an alert be issued according to procedures and authentication methods that should be in published local and state EAS plans.

When EAS is being implemented in a given region, broadcasters, cable operators, emergency managers and others concerned form State and Local Emergency Communication Committees (SECCs and/or LECCs). They design a monitoring plan that determines what entities will serve as the EAS sources and originators of messages (EOCs, 911 centers, NWR, etc.). All other broadcast stations and cable systems must monitor the originating sources. They also decide what communications assets are available, who is authorized to issue warnings, how they will do so, which EAS codes will be issued in their region, and how and when officials will participate in EAS tests. The committee stakeholders design the most effective EAS communications web, determine EAS monitoring assignments, and set up times and dates for EAS Required Monthly Tests (RMTs). They also decide who is authorized to issue warnings, how they will do so, proper authentication procedures and which EAS codes will be considered as essential within their region. Thus, the state and local plans map out how the system is “wired together.” It is a given that EAS will be more likely to work correctly if the relevant SECC and LECC plans are complete, up to date, and undergo rigorous periodic testing.

As outlined previously, all radio and television stations and cable TV systems are required to broadcast national alerts immediately or leave the air. Stations and cable entities may, however, choose whether to broadcast un-expired state and local alerts and may decide to postpone broadcasting the alert until there is a natural pause in programming. No figures are available as to how many of the broadcast stations and cable systems voluntarily carry local EAS activation requests. Estimates suggest only about 50% do so.

Since 1976, the predecessor of EAS, the EBS, operated first under an Agreement and then in 1981 under a Memorandum of Understanding (MOU) between the FCC, FEMA,

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NWS, and the FCC's National Industry Advisory Committee (NIAC). This MOU defined a framework for a cooperative effort for developing and evaluating EBS plans and related capabilities at the state and local levels of EBS operations. Since its implementation, the MOU has not been updated. The EAS was established on November 10, 1994, to replace the EBS.

Presently, successful operation of EAS depends on the following committees of volunteers:

- a. The Primary Entry Point Advisory Committee (PEPAC) convened by FEMA
- b. SECCs
- c. LECCs
- d. EAS Committees of the Society of Broadcast Engineers (SBE), the Society of Cable Telecommunications Engineers (SCTE) and by numerous local chapter activities of these two groups.

For EAS to operate effectively, state and local jurisdictions require a plan that specifies when and how the EAS may be activated. Support for developing and maintaining EAS plans has decreased over the years. Furthermore, the EAS is essentially an un-funded Federal government mandate, with the FCC focusing on enforcement of EAS regulations. Therefore the present EAS is quite inhomogeneous and prone to failure, unlike the earlier EBS where more operational plans were in effect. However, through rigorous oversight, planning and testing, EAS can function as an integral part of a warning system at the national, state and local levels.

In 1992, Patent Number 5,121,430 was issued to Quad Dimension Incorporated for the transmission of messages over radio and television stations. The patent has been re-issued several times based on re-examinations initiated by the Department of Commerce. The outcome of the patent issue is unknown at this time.

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5. EAS Structure

The EAS structure is based in part on how the EBS was set up. A primary goal of the EBS planning program in 1976 was to develop an organized monitoring structure using the new EBS equipment. With the cooperation of broadcasters, NWS personnel and emergency officials, two prototype EBS plans were developed for use as models. One was a local plan for Parkersburg, West Virginia, and the other a state plan for New Hampshire. A key local broadcast station was selected in Parkersburg for the other stations to monitor for EBS messages. In New Hampshire, a key local station was selected for each EBS local area. These key stations then monitored each other to form a state network, with one of them acting as the state entry point for New Hampshire state level EBS messages. Eventually, almost all states were able to adopt the Parkersburg and New Hampshire models. In a few of them, it was impossible to form a network because of the distance between the key local stations. Some states solved this connection problem by using satellites or statewide radio and television networks. As examples, Nebraska uses its statewide Public Television Network, California uses its Emergency Digital Information Service (EDIS), and Florida uses a satellite service. The evolution of these relay systems occurred at low cost and used facilities that were already in place for other purposes.

Many of the old EBS networks were linked in a series configuration. This made them prone to single point failure. The main problem with this concept was that the FCC EBS regulations required that only one source be monitored. This meant that the monitoring chain would be broken if just one station failed to forward a message. This problem was eliminated with the establishment of the EAS. FCC EAS regulations require that broadcasters and cable operators monitor at least two sources for EAS messages. Also, they must receive at least one weekly EAS test from each source. When the new EAS plans were developed, they incorporated many of the monitoring assignments developed by the EBS, with additional assignments to counter the daisy-chain problem. Almost all new EAS

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equipment is capable of monitoring up to six different assignments. Some EAS plans even have NWR as a secondary key local source as long as the local NWS office fully participates in EAS. There are several NWS offices that have FCC-Certified EAS equipment to send and receive EAS tests and local and state non-weather alert messages, but there are no procedures and authorities for those NWS offices to broadcast EAS national level messages that are longer than two minutes. Appendices F and G show parts of the EAS structure and Appendix H contains a list of equipment manufacturers that sell FCC-Certified EAS equipment.

Another concept that is becoming an integral part of EAS is the development of state and local web enabled monitoring structures. Under this idea, broadcast stations, cable systems, emergency operating centers, and NWS offices have EAS equipment set to monitor each other's signals in a robust web arrangement, where there is no central station or facility that is critical to the system. Local officials and NWS personnel can originate EAS messages, and broadcasters and cable operators can receive the messages from multiple sources.

Since the terrorist events of September 11, 2001, and a more recent flood of new abduction alert plans, there is growing interest in improving state and local web monitoring structures. With proper planning, broadcast stations, cable systems, emergency operating centers, and NWS offices can develop much more reliable and robust EAS monitoring webs.

6. National Level and the Primary Entry Point System

National level EAS messages, including Presidential messages, originate from federal government control points. Today, the messages are distributed through the PEP system to selected broadcast stations throughout the country including Alaska, Hawaii and Puerto Rico. PEP stations were selected based on the location of the station's transmitter site in relation to predicted nuclear blast overpressure zones. The combined signal coverage area of all of the PEP stations is in theory approximately 90% of the continental U.S.

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When CONELRAD and the EBS existed, the primary method of distributing national level EAS messages was through the Emergency Action Notification (EAN) Network, essentially a dedicated circuit to the major radio, television, cable and wire service networks. The networks then disseminated the message to their affiliates. The overall distribution of the network programming was under the control of AT&T's "Long Lines" group. The broadcast networks (ABC, CBS, NBC, etc.), national cable program suppliers (HBO, ESPN, etc.), and wire services (AP, UPI, etc.), voluntarily participated in the EAN network by providing personnel to operate EAN equipment at their program control centers. DCPA, a part of the Department of Defense, and later FEMA, leased the EAN equipment and dedicated communications circuits from AT&T.

The PEP concept was formulated in 1983 when the FCC and FEMA began studies to develop new national "Last Resort" EBS procedures. At that time, the breakup of AT&T was jeopardizing the viability of the existing EAN operations because AT&T would no longer be in total control of reconfiguring the telecommunications infrastructure. In addition, the broadcast networks began moving their program distribution from AT&T to their own leased satellite facilities.

In 1987, FEMA began funding PEP through an existing FEMA/FCC program called the Broadcast Station Protection Program (BSPP). The additional funding was used to increase the survivability of the selected PEP broadcast stations and enhance the national "Last Resort" procedures. Participating PEP station transmitter sites were provided with an emergency generator, fuel tank, programming equipment, a shelter area, and a communications link to FEMA via the Public Switched Telephone Network (PSTN). This was later supplemented with a non-standard EAS encoder/decoder wired so that each station's programming could be taken over automatically for a PEP message.

In the early 1990s, FEMA established and funded PEPAC as a not for profit Corporation to advise FEMA concerning PEP system operations and improvements. PEPAC, Inc. is composed of one representative from each PEP station. This group elects a Board of Directors. In 1995, FEMA notified the FCC that funding for the EAN network was going to

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be discontinued and that the PEP system was going to be the only method to activate the national level EAS and transmit Presidential messages. The EAN equipment at the industry network control points and the dedicated circuits were removed from operation. Thus, the major networks and wire services were disconnected from the national level EAS.

The federal government conducts secure weekly closed circuit tests of the PEP system by sending signals to the EAS equipment at each PEP station site. Also, as part of EAS national level readiness testing, all broadcasters and cable operators are required to conduct EAS weekly and monthly tests to ensure their EAS equipment is in operating condition.

As part of a carefully structured plan that will lead to national PEP testing, PEP decoders at each station have already been programmed so they can originate weekly tests triggered by the FEMA Operations Center. All PEP stations have conducted successful tests of this function. The next step will be to do a PEP version of the EAS Required Monthly Test (RMT). The PEP RMTs will likely have an audio message in them to more closely emulate a real national message. All of this is working toward a coordinated national PEP test that could carry the voice of the President. Even though the test would sound like the normal RMT, it would likely be well publicized to avoid creating undue public concern.

In a real national emergency, a PEP message would interrupt all broadcast and cable programming for the President's message. A PEP message has priority over all other EAS events and will even interrupt a state or local EAS message in progress. State EAS entry points (broadcast stations, State Emergency Operating Centers, etc.) monitoring PEP stations would receive the message and relay it in real time to all broadcast stations and cable systems in their state. A study by the FCC in the late 1990s revealed that many EAS state entry points couldn't monitor a PEP station signal even though the combined PEP station signal coverage area is approximately 90% of the continental U.S. The FCC NAC worked with National Public Radio (NPR) to address this issue. The NPR Board approved using their satellite distribution system (NPR cue channel) to allow NPR

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member stations to relay PEP messages into any state or local area EAS system in the country. There are several other approaches now under consideration by FEMA, PEPAC and others to reinforce the PEP distribution system including:

- a. Adding more PEP stations and finding new communications links between them and the state EAS entry points.
- b. Adding more network entities to become part of PEP.
- c. Authorizing a dedicated and secure PEP satellite distribution network.
- d. Adding secure Internet connections.

Even though no on-air tests of the PEP system have been conducted, there is convincing evidence that the system is capable of performing its mission. In 1997, an operator error at the PEP FEMA Operations Center caused an internal PEP test message to be transmitted over a few PEP stations. Stations that were monitoring these PEP transmitters had their programming immediately interrupted with the test message, proving for the first time albeit on a limited basis that the PEP concept really worked. The operator error problem has been corrected by revising PEP operating procedures.

PEP is designed as a last resort system that is available to the President under the direst national emergency situation. But to be successful, PEP must interface with state EAS systems to reach the rest of the 14,000+ broadcast stations and 10,000+ cable system headends. In the view of many EAS experts, PEP would only be needed if the President would not have instant access to the resources of the National Press Corps. This resource is the best and fastest way for the President to talk to the available listening and viewing public.

7. Broadcast Station Protection Program

Over the years, the protection provided under this program has proven to be invaluable when local emergencies knock out commercial power. BSPP stations are able to remain on the air to provide emergency information to the public.

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At the start of the EBS planning program in 1976, over 600 broadcast stations were participating in the BSPP. As EBS state plans were developed and key state entry point stations were selected, BSPP equipment had to be provided to these selected stations because of their standing in the overall EBS structure. In some cases the BSPP equipment was moved from one station to another depending on the station's status within the state plan. During the 1980s, funding for the BSPP decreased to almost zero until the PEP program started. In the mid 1990s, FEMA began removing the BSPP underground fuel tanks because of concerns that they might begin to leak fuel. Some stations elected to take ownership and responsibility for tanks while others wanted the tanks removed. Today, there are about 40 stations in the BSPP that still have BSPP equipment in service including the PEP stations. At the PEP level, there is oversight and budget through the PEPAC whose purpose is to assure all PEP equipment is maintained properly and tested.

Options for Inputting State and Local Information into EAS

As specified in the FCC Part 11 regulations, EAS plans contain guidelines that must be followed by broadcast and cable personnel, emergency officials and NWS personnel to activate the EAS. The plans include the EAS header codes and messages that will be transmitted by key EAS sources (NP, SP, SR and LP). State and local plans contain unique methods of EAS message distribution such as the use of FM and TV subcarrier signals. According to FCC regulations, EAS plans must be reviewed and approved by the Director, Office of Homeland Security, Enforcement Bureau, FCC, prior to implementation to ensure that they are consistent with national plans, FCC regulations, and EAS operation. A State plan contains procedures for State emergency management and other State officials, the NWS, and broadcast and cable personnel to transmit emergency information to the public during a State emergency using the EAS. A Local Area plan contains procedures for local officials or the NWS to transmit emergency information to the public during a local emergency using the EAS. Local plans may be included in the State plan. A Local Area is a geographical area of contiguous communities or counties that may include more than one state.

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9. State EAS Planning

A key factor in the state EAS planning process is the work of dedicated and knowledgeable volunteers. While there has been a history of state level broadcast committee activity going back to the CONELRAD days, current State Chair appointments to what are now called the SECCs are traceable to several sources. Some SECC Chairs received their appointments to the old EBS National Industry Advisory Committee (NIAC) and/or the EBS Advisory Committee (EBSAC). The FCC Chairman and the FCC Defense Commissioner usually signed their appointment documents. Some received their appointments through recommendation from the outgoing Chair while others were appointed through their state's emergency management offices. Presently, the FCC claims no authority to appoint State EAS Chairs. They say this responsibility resides at the State level. At present, there is no clear procedure on how State Chairs are nominated.

To effectively interface with the national level EAS and the PEP system, all state EAS plans need to be current and tested regularly. Development and maintenance of EAS plans is accomplished voluntarily, as is the transmission of state level EAS messages. Some SECCs have roots dating back to CONELRAD and EBS. They have always led in state plan development. As stated by the FCC in its November 1994, Report and Order, "State and local SECCs and LECCs are responsible for the development of plans which detail procedures for stations and officials to follow for activation of the EBS (EAS)." These committees, made up of appointed volunteers, have performed a largely unsung and unpaid public service over the past 40 years. Members have come from the ranks of the broadcast engineering, professional emergency management, and public safety telecommunications communities. To this core group has been added a growing number of state broadcaster association leaders, news directors and law enforcement communications specialists. The latter ranks have swelled now that a growing number of child abduction alert programs are tied into EAS.

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State plan development began in 1976 after the FCC adopted the EBS two-tone attention signal. It provided a reliable method to alert station operators and was deemed an excellent opportunity to begin the development of state plans. Also, a General Accounting Office (GAO) report after the Xenia, Ohio, tornado in the early 1970s, recommended that the country's three warning systems be made to work together to provide a unified warning system. At that time the three systems were EBS, NOAA Weather Radio (NWR) and the National Warning System (NAWAS). As a result, the FCC, NWS, DCPA (now FEMA), and the National Industry Advisory Committee (NIAC), agreed to pool resources to finalize a state plan in all the states. Appendix K contains a copy of the 1981 MOU between the four entities. The plan included procedures on how the three Federal systems would complement each other at state and local levels. Working with the SECCs, at least one EBS planning workshop was scheduled in every state. After 5 years every state had finalized an EBS plan. Work then began to develop local EBS plans in each of the 600+ EBS Local Operational Areas. Eventually, over 400 EBS local plans were developed. Appendix F contains a current list of the EAS state and territory plans.

10. Local EAS Planning

Local EAS planning is usually performed by Local Emergency Communications Committees (LECCs). The SECC Chair appoints LECC Chairs. In states that do not have appointed LECC Chairs, local plans are usually included in the state plan. Most states developed their state plan before developing their local plans, which to date, number more than 100. Local planning was always an important issue because the vast majority of emergencies occur at the local level. State activations are few, while local activations number in the thousands per year (see Appendix E). With the advent of AMBER alerts, the number of state and local activations will undoubtedly increase.

Planning at the local level involves several factors, and development of a local warning plan should include the following.

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- a. Meeting of the key local participants.
- b. Defining local area boundaries.
- c. Identifying area assets and authorities.
- d. Identifying the sources of warnings and emergency information.
- e. Developing local warning messages.
- f. Identifying the types of emergencies that affect the area.
- g. Developing authentication procedures.
- h. Identifying the public distribution systems, i.e., communication links from local authorities to the public.
- i. Conducting regular tests of the plan with local official participation.

Many local EAS committee efforts have seen the same volunteer dedication and spirit present in the state committees. As with state committees, broadcast engineers are now being joined by all stakeholders in the EAS process to plan and work together. Many local committees use email list servers to replace weekly or monthly meetings common in early EBS and EAS days.

11. EAS and NOAA Weather Radio

Even though EBS and NOAA Weather Radio (NWR) had been complementing each other as provided in the EBS plans developed since 1976, there was a disconnect between the two systems because they used different signaling techniques. EBS employed a two-tone signal and NWR used a single tone signal. After extensive testing by NWS in the 1980s, NWR started to use a new digital protocol as its signaling technique. NWS named their digital protocol, “Specific Area Message Encoding” (SAME). When the FCC adopted its EAS digital protocol in 1994, it was identical to NWR's digital protocol. Initially, there was a minor difference between EAS and SAME in the code structure. Because of the operational nature of broadcast stations and cable systems, EAS messages needed to have codes for date/time and identification of the entity transmitting or re-transmitting the message. NWS expanded the SAME code

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structure to include all of the EAS codes. Thus the two protocols and the code structures became identical. Therefore, SAME/EAS signals received via NWR, AM, FM and TV stations and cable systems can be decoded using the same decoder. Broadcasters and cable operators can monitor each other and NWR with their EAS equipment. Appendix J contains examples of SAME/EAS messages.

Historically, EBS and EAS activations for weather warnings have far exceeded the activations for non-weather events. However, this is changing because of Amber child abduction plans now in place in many states and local areas. The February 2002, FCC Report and Order that increased the number of EAS event and location codes will also be a factor. Most of the new codes are for non-weather events and may motivate local emergency managers and law enforcement officials to plan for better local emergency public information that encompasses better emergency warnings. The new codes will allow for more specific text displays on EAS equipment, television sets, and displays in public venues. The new codes could lead to better information for displays such as changeable highway message signs that are not really a part of or directly connected to the current EAS.

An important part of the EAS and NWR data structures is how locations are identified in the messages. Every SAME/EAS message contains a location code or codes to identify the message target area(s). Every state, county, part of a county, and off shore (marine) area, has a specific number according to the Federal Information Processing Standard (FIPS) and NWS warning areas. Even after all of above locations are cataloged, there are still hundreds of unused FIPS numbers that could in theory be used to identify unique areas and situations such as nuclear power plant zones, military bases, neighborhoods, and even groups of individuals such as police, emergency personnel, etc. Therefore, EAS might in the future be better targeted to any of these unique areas and situations, provided procedures and equipment are in place ahead of time. Oregon and Washington are two states now using unique FIPS codes in certain special warning areas. Other areas are considering using unique FIPS location codes.

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Most warning experts agree that the use of EAS by civil authorities needs to increase since this is where both the authority and responsibility for issuing local warnings really rests. One way to accomplish this is if civil authorities purchase, install and operate EAS equipment and create robust communications links to local NWR entry points and to entry points for broadcast stations and cable systems. Then, through established EAS planning processes and longstanding industry cooperation, many more civil authorities will be able to directly transmit emergency messages on NWR and broadcast and cable facilities accurately, rapidly, and seamlessly. With prior coordination, the messages can be transmitted even when the facilities are unattended. With almost 1,000 NWR transmitters, NWR is a significant national asset that has a proven track record saving lives and property. Its interface with EAS is a crucial link in the nation's warning structure.

12. Cable in the EAS

The cable television industry has a long history of involvement in providing emergency alerts, but had not been involved in EAS until more recently. The local alerts were usually required by the local franchise authority and controlled by the mayor or other local official where all channels went to black and live audio from a telephone dial-up replaced the program audio. The FCC adopted a phase-in of EAS obligations for cable systems after the industry was formally brought into the program pursuant to the 1992 Cable Act.

Cable television systems transitioned into EAS by system size. Systems serving more than 10,000 subscribers were required to begin participation by December 31, 1997. Systems serving fewer than 10,000 subscribers were required to participate by October 1, 2002. Generally, all cable systems are required to provide the alerts visually and aurally on all channels. An exception was made for systems below 5,000 subscribers to provide audio messages on all channels with the visual message on a single channel. The cost of participation

for small systems can be very high on a per subscriber basis. Limiting the visual message to a single channel allows the use of lower cost, legacy equipment.

With a cost of \$6,000 and up for basic EAS equipment packages, very small cable systems were hard-pressed to afford participation. While the FCC declined to exempt small cable systems from the EAS, waivers to delay EAS implementation have been granted upon sufficient showing of need. Small systems owned by large Multiple System Operator (MSO) companies could afford to purchase the equipment but systems owned by small independent operators often could not without having larger systems' revenue to help spread the cost. The FCC granted over 260 waivers for approximately 2,500 small cable systems to delay implementation from 12 to 36 months.

13. Cable Override Techniques -- Analog

Cable operators ordered EAS encoder/decoder units similar to those used by broadcast stations. These units were then tied to three primary switching network types listed below in order of lowest to highest cost.

- a. Comb Generators – A cable television system headend originates the complement of channels delivered to the subscribers and can be thought of as a collection of individual, low-power television transmitters. A comb generator is a box that generates a complete set of substitution channels all using the same audio and video source. Earlier versions of comb generators supported audio only and blacked out each channel's picture. The single channel visual approach for small systems allowed the reuse of these older units, where they already existed. When an EAS message is received, an automatic switch activates switching from the complement of channels to the comb generator box to affect the override. This approach is also known as Radio Frequency (RF) switching.
- b. IF switch – Each channel is processed to a common Intermediate Frequency (IF) before being up-converted to its individual output channel. An IF switch substitutes the EAS visual and aural message to each channel, yielding a higher

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- signal quality message than using the comb generator approach. IF switching is more expensive, but allows the option of selectively switching in order to not override broadcast signals that already have EAS messages in place. Selective override is a difficult process with a comb generator requiring extensive filtering.
- c. Baseband switch – Baseband switching replaces the individual audio and video signals with the EAS message. Another baseband option allows overlaying the visual message onto the top line of the video programming in a less disruptive manner than a full screen override.

14. Cable Override Techniques – Digital

Digital channels are more difficult to interrupt than analog channels. With digital, switching is accomplished in the individual subscriber's Set Top Box (STB) converter. Presently, there are only two approaches:

- a. Force tune method – When an EAS alert is received, a signal is broadcast to all digital receiving devices (e.g., STB or DTV) commanding them to tune to a specific analog channel that is carrying the alert message. At the conclusion of the message, the digital receivers tune back to the channels they were tuned to prior to the alert.
- b. Overlay method – When an EAS message is received, a signal is broadcast to all digital receiving devices. This signal contains data for the receiver to compose a text banner at the top of the screen with the visual EAS message and an audio computer file of up to two minutes duration to replace program audio.

Because the audio file is limited to two minutes, a warning such as an EAN national alert must use the force-tune method since an EAN can exceed the 2-minute limitation imposed on all other alerts. The two digital override methods are described in the Society of Cable Telecommunications Engineers (SCTE) standard SCTE 18 2002 (formerly DVS

208), Emergency Alert Message for Cable, approved as a joint standard with CEA as ANSI-J-STD-042-2002, and available at www.scte.org.

15. Cable Television EAS issues

- a. Weighing subscriber disruption and irritation (dealing with phone calls) vs. alerting to hazards.
- b. Local franchise-required alerts – conflict between local franchise-required alerts vs. EAS alerts, plus the requirement for maintaining two override systems and preventing collisions. These franchise-required alerts can also override local television reports dealing with an emergency. In this situation, FCC regulations specify, “Cable systems and wireless cable systems may elect not to interrupt EAS messages from broadcast stations based upon a written agreement between all concerned. Further, cable systems and wireless cable systems may elect not to interrupt the programming of a broadcast station carrying news or weather related emergency information with state and local EAS messages based on a written agreement between all parties”.
- c. Amber - How to provide meaningful information to subscribers when the cable system’s EAS equipment is operating in an automated mode.
- d. Difficulty in targeting alerts to affected areas versus widespread distribution of alerts.

16. EAS Audience

EAS reaches a very large number of people during the day, but a very limited number overnight. Radio stations reach 95% of Americans older than 12, but Americans listen to the radio on average only 12% of their day, mainly between 6 a.m. and 6 p.m. (Arbitron, 2001 Radio Today). While as many as 22% of the population may be listening at any given time during the day, less than 1% are listening in the middle of the night. More than 98% of U.S. households have at least one television but the average set is in use only 31% of the day (Nielsen Media Research, 2000 Report on Television), and 17% of the households

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(Satellite Broadcasting and Communications Association) now get their signals directly from direct broadcast satellite sources that do not participate in EAS. While the EAS does include codes that could activate devices while people are sleeping or otherwise not tuned in, only a few companies are producing such devices. The following statistics are from the Television Bureau of Advertising and the Radio Advertising Bureau:

Total U.S. Households	# of people/HH		% of HH with Media	# of Americans with Media
TV	108,620,000	x 2.7	X 98.2%	= 288 million Americans w/one or more TVs
Radio	108,620,000	x 2.7	X 98.5%	= 289 million Americans w/one or more radios

TV Stats Courtesy of the Television Bureau of Advertising (TVB)

- 98.2% of all U.S. households have television sets. This percentage has been the same for the past five years.
- In 2003, 75.2% of U.S. households have more than one set.
- In 2001, Nielsen Media Research reported that the average TV household watches seven hours and forty minutes of TV a day.
- Based on U.S. Census data, there were 2.62 persons per household in 2000. That number is rounded up to 2.7 for the above figures.

Radio Stats Courtesy of the Radio Advertising Bureau (RAB)

- RAB reports 98-99% of all Americans own one or more radios. The penetration of radio is so great that the U.S. Census stopped recording this data after the 1990 Census.

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- Radio reaches 96% of all consumers every week and 77% of all consumers every day.
- Each week, persons age 12+ spend an average of 20 hours tuned in to their favorite stations.
- Among persons 12+, 37% of radio listening takes place at home, 44% takes place in the car and 20% is done at work or in other places besides the home.
- Radio reaches 84% of adults age 18+ each week while they're driving.

Cell Phone Statistics

- As of the date of this report, there are at least 147 million Americans carrying cellular phones according to the Cellular Telecommunications & Internet Association (CTIA). The latest statistics are available at www.ctia.org.

17. Where Americans Turn in a Crisis

Harris Interactive, a worldwide market research and consulting firm, reports that adults in the U.S. referred to the television (78%) and the radio (15%) as their primary source of information after the terrorist attacks on the World Trade Center and the Pentagon. A survey conducted by TVB on consumer media habits and perceptions found that broadcast television is cited by more adults as their primary news source than other mediums (broadcast TV was named by 43.6%, cable TV by 28%, newspapers by 12.1%, radio by 9.2%, public TV by 3.9%, and the Internet by 3.2%).

Television Households

Year	Total U.S. Households	TV Households	% HH with TV
2000	102,680,000	100,800,000	98.2%
2001	104,080,000	102,200,000	98.2%
2002	107,400,000	105,500,000	98.2%

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2003	108,620,000	106,700,000	98.2%
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% of Radio Listeners on Weekdays & Weekends

Time Frame	Percentage
Monday-Sunday 6 a.m. to 10 a.m.	85%
Monday-Sunday 10 a.m. to 3 p.m.	85.6%
Monday-Sunday 3 p.m. to 7 p.m.	83.8%
Monday-Sunday 7 p.m. to midnight	62.4%
Monday-Sunday midnight to 6 a.m.	37.2%

18. Numbers of EAS and EBS Messages Transmitted

On November 10, 2002, there was a very large outbreak of tornadoes that stretched from Mississippi to Pennsylvania. Seventy-five persons died. Due to the magnitude of this event, NWS formed a service assessment team, as is done for similar weather related disasters, to examine the warning and forecast services provided to emergency managers, government agencies, and the public. Some of the data collected by the team involved the interface between NWS and the media for eight EAS Local Areas stretching from Indiana to Pennsylvania. All of the EAS Local Primary sources (in this case they were all radio broadcast stations) in the eight areas monitor NWR. They received 76 messages via NWR during this outbreak. Using their EAS equipment, they re-transmitted 48 of the messages, most within 18 seconds. Those messages that were not re-transmitted were messages that were either for areas beyond the EAS Local Area or were not warning messages. Based on the monitoring assignments specified in their state and local EAS plans, broadcasters and cable operators are required to monitor the LP sources in their area for EAS messages. However, they are not required to receive or re-transmit state or local messages. If they elect to re-transmit the messages, broadcasters and cable operators are permitted to send them in either an EAS or non-EAS format (no digital or alert signals), such as video crawls, symbols, etc.

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Between 1983 and 1986, the FCC received 3,915 EBS activation reports from broadcasters. Broadcasters filed the reports voluntarily. All of the activations were for local emergencies. Included in the reports was a question concerning what organization had requested EBS activation. NWS was the requesting organization 76% of the time while Emergency Services requested 10%, broadcast station staff 7%, and via an EBS receiver alert 7%. These statistics probably still hold true today since the great majority of EAS activations are for weather warnings issued by NWS through NWR.

Another set of data for 4,168 EAS activation reports was analyzed for the years 1990, 1991 and 1992. NWS was the requesting organization 68% of the time while Emergency Services 8%, broadcast station staff 5%, and via EBS receiver alert 14%. The increase in EBS receiver alerts as the activation vehicle can be attributed in part to the fact that more stations were relying on the receiver as a means of receiving emergency information. This is possibly due to stations cutting costs by dropping news staff, wire service affiliation, or direct monitoring of NWR and NOAA Weather Wire. Appendix E contains the data for the above analysis plus EBS activation statistics for each state and territory.

Undoubtedly, there will be increased EAS activation by Emergency Services as EAS equipment is installed in EOCs and emergency services personnel become trained in EAS operations.

19. EAS Funding

a. Federal Support

During the history of the EBS/EAS, the federal government funded some portions of the system through the Broadcast Station Protection Program (BSPP) and the Emergency Action Notification (EAN) network. Funding for the EAN Network was eliminated in 1995. BSPP funding was reduced to zero in the 1980s. BSPP funding did resume building the PEP system, but the funding was only for the PEP and not the EAS system as a whole. When BSPP funding dried up, there was hope that states and local sources would fill the void, possibly through the use of the funds provided by FEMA grants to the states or federal funds that are distributed after large-scale disasters. But, essentially, that did not happen.

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Today, the only federal funding for any part of the EAS has been through PEPAC, Inc., a not-for-profit incorporated group that exists to advise and manage the PEP program. Membership is made up of representatives from each of the PEP stations. Officers are elected annually from the membership. FEMA plays no part in its management. Except for one year of missed funding, up until 2001 PEPAC received \$150,000 annually from FEMA. This money was used for training PEP station engineering staff. The training program includes regular contact with the PEP station by telephone, email, etc. and an annual meeting of the participants, whose agenda provides for orientation and refresher presentations and discussions critical to the program and at least one major technical presentation specific to the program and its future.

The \$150,000 stipend also helped maintain the infrastructure equipment at the PEP stations originally provided by FEMA in earlier years. This has included Electromagnetic Pulse (EMP) protection, rigorous annual testing and preventive maintenance of the emergency power generator, the fuel tank, and fuel quality, as well as EAS and high frequency equipment.

The Department of Justice is now making available several million dollars in matching grants for state AMBER programs. This funding is not specifically intended for EAS and could be spent in other areas specific to recovery of abducted children such as changeable highway signs. Within the grant's guidelines, each state must determine what aspects of its AMBER program will receive the funding. While some of this money could be used to improve state EAS infrastructure, it is unlikely this funding will be of any significant benefit to the EAS. There is no way of knowing if this funding is going to be only a onetime opportunity. Therefore, the AMBER funding source cannot be counted on to provide near term or sustaining support for EAS.

b. Society of Broadcast Engineers (SBE) Support

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The SBE, to the degree it is able, has tried to fill the vacuum in EAS training and management at the national and local chapter levels. The SBE EAS Committee and SBE FCC Liaison Committee efforts receive a great deal of voluntary support from SBE members, for education of LECC and SECC members, and “Comments and Reply” comments on FCC items. However, there is at this time no money available for travel and other activities separate from SBE national and regional events.

Nationally, the SBE supported the now extinct FCC National Advisory Committee (NAC) by providing some of its best technical experts. This committee worked with the SBE Board and the SBE Liaison Committee to make comments to the FCC on EAS issues. The Chair of the SBE Liaison Committee offers services on a travel cost reimbursement basis to local SBE chapters, regional conventions, and others who want intensive EAS training. Presently, SBE is not able to provide financial support for the Chair’s EAS activities. At the local level, many local SBE chapters support EAS activities. The degree of support is voluntary with no real financial assistance.

c. Broadcaster Association Support

Within the last year, especially when the AMBER issue surfaced, several state broadcaster associations lent their support. Motivated by members who raised concerns about failed tests and other EAS issues, some associations funded projects to help EAS. Notable but not alone in this effort are the California Broadcasters Association, Nevada Broadcasters Association, Arizona Broadcasters Association and the New Jersey Broadcasters Association. Since any support and funding comes from association station members, there is no assurance that these efforts will continue or expand to other states’ broadcaster associations.

d. State and Local Support

While some states have funded positions with some management EAS oversight, the people in these positions are often not devoted exclusively to EAS duties. Some states have purchased EAS equipment for their EOC and 911 centers, but even some of these

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are not linked to the system. There is a great lack of training for personnel who use the equipment. Funding for travel and meetings is almost non-existent and often depends on volunteer resources. Very few local areas fund positions within emergency management for the EAS. Most address EAS programs and issues with one or more people who have other full time jobs. Very few localities have purchased EAS origination equipment. Other local funding for the EAS is essentially non-existent.

20. EAS Concerns

a. Financial

The Government to Media Subcommittee of the FCC Media Security and Reliability Council (MSRC) recently surveyed the SECC (EAS) Chairs concerning the state level EAS (see Appendix F). In the survey many states identified issues having to do with outdated or poor state EAS plans, and a lack of functional links between emergency management warning origination points and broadcast and cable EAS entry points. The lack of funding came up repeatedly as a major concern in the survey. Also identified was the lack of EAS-specific training for law enforcement and emergency management. As to physical infrastructure elements that could benefit from funding, current thinking indicates that a state-by-state needs assessment would have to be conducted. Some EAS experts believe that this assessment itself would have to be a funded project.

State government interest in supporting EAS varies widely from state to state. As might be expected, California, Florida and other areas like the so-called “Tornado Alley” region and states most often in the path of hurricanes and that experience frequent natural disasters commit more resources to EAS. In many states, there is a desire to improve EAS plans and infrastructure, but funds and direction are lacking. In far too many states there seems to be little or no interest at this time in supporting the EAS with financial and other resources.

b. Operational

While deserving of attention as a part of an overall look at the EAS, operational security risks should be kept in perspective. Even a false activation of EAS would not, by itself,

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have catastrophic results. Research into the behavior of warning recipients suggests that a single false alarm, without corroboration from other credible sources, generally elicits only limited reaction from the public. This interpretation is supported by the history of actual false alarms; for example, the extremely limited effects of the erroneous national attack warning message issued accidentally on February 20, 1971 over the (then) EBS network. Even a properly authenticated and genuine-appearing warning may not generate a strong reaction if it contradicts an overall perception of limited current risk. This underscores the importance of managing, integrating and coordinating EAS seamlessly with other available warning systems.

Nonetheless, EAS vulnerabilities could be exploited during periods of heightened public anxiety and uncertainty. Internet Protocol (IP)-based EAS systems and control links could be subjected to “denial of service” attacks aimed at preventing them from functioning when they should, as could any other IP-based information stream. Those most familiar with the EAS system acknowledge that there are security issues. Many of them are direct results of a system that was conceived, designed and deployed at a time when system security was not as much of a national concern and threats within our national borders were considered highly unlikely.

Today’s EAS system is most often used to disseminate weather warnings and more recently Amber alerts. There are many instances of the EAS having been used locally to warn of civil disturbances, evacuations, and other emergencies. These local warnings are not well documented. Low cost and ease of operation for local warnings were the primary design criteria for EAS technology. Sophisticated security and encryption were not. The complete protocol is a matter of public record.

Because of the attacks upon our country, the emergency management community has been forced to take a hard look at the security of all protocols used to disseminate information during emergencies, to include response to acts of terrorism of many forms, EAS security is now very much an issue. Since attacks involving chemical or biological weapons are

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likely to require use of the EAS system to provide official alert information to the public, it is possible that an attacker could decide to cripple the EAS or use it to spread damaging disinformation. Although such scenarios must be considered for the future, no malicious activations of the EAS system have been reported to date.

EAS distribution methods have perhaps the greatest potential for security concerns. Today's system uses a wide variety of distribution links arranged in an uncoordinated and sometimes-complex architecture that is specified in state and local EAS plans. While it is theoretically possible to seize some of these communications links with minimum effort or expertise, a perpetrator would have to know a great deal about monitoring assignments and relative Radio Frequency (RF) signal levels, and be able to comply with protocol requirements to create a successful disruption or a system override. Since two Frequency Modulated (FM) RF signals on the same channel can sometimes act in unpredictable ways, inserting a viable bogus link would require at minimum a high power transmitter and a directional antenna aimed at each potential entry point.

In some locations broadcast stations and cable systems are running in the unattended mode. This is permitted as long as certain FCC rules are followed. However, when a station is operating unattended and no operator is physically present, no one would be available on-site to intervene should an unauthorized seizure occur. In fairness, it must be noted that unless a broadcast station is operating under those FCC Part 73 rules for unattended operation, an operator is always on duty. At this time, most broadcast stations serving large populations do not operate unattended.

There is also a concern about physical security and unauthorized use of the system at EAS activation sites. All FCC certified EAS encoders have the capability for password protection. It is up to each station and cable system to implement sufficient security. At this time, there is no way of knowing which stations use password security. Lack of password security does not by itself mean an unauthorized EAS event can be aired. Other

stations' security measures may be in place. Again, there is no way at this time of cataloging the station-by-station overall security picture.

Another valid security concern is the potential for unauthorized use of the system. Thousands of station operators, from part time interns to chief engineers have been trained to use the encoders. Most are without any form of background investigation. Absent a station-by-station survey, there is no way to know what the actual state of physical security might be, particularly at stations that run in the unattended mode. Mitigating this risk is the fact that a single bogus EAS activation at any one station will not cause a national warning crisis. As will be shown in the next section, the risk for unauthorized activations by operators at PEP stations is even lower.

At the EAS national level, we find the network of PEP station links utilize electronic authentication. It is theoretically possible (though technically quite difficult) to interfere with one or more of them. Late in 2001, a PEPAC engineering group concluded that the most secure portion of the EAS is the national level. While the PEPAC task force developed specific information on why PEP is more secure than other parts of the EAS, it would not serve the public interest to go into more detail in this unclassified report.

The EAS system is now being asked to play a significant role in our national warning strategy. Lack of federal coordination as well as a source of assured funding at any level necessary to allow for control and scrutiny over this system pose valid security issues and concerns. The FCC has oversight of EAS system compliance. Oversight of the other aspects of EAS is a loosely defined but combined ad hoc effort by the FCC, NWS, FEMA, DHS, the states, and volunteer state and local EAS committees. As a result, there is confusion over who is responsible for system security and what the security standards and measures should be, especially at the state and local levels.

21. EAS Looking Forward

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The existing EAS system of today has many positive attributes. The system, when deployed, represented the application of the best engineering practices available at the time given the specific design constraints of a system that must provide in band audio signaling, and remain relatively inexpensive to allow deployment nationwide. It carries traffic on a daily basis, and is available now to disseminate a warning to our populations at risk.

But the system of today is not without problems of such a significant nature as to render its suitability for the task at hand to be in serious question. The support of many broadcasters and cable operators has been lost. They generally consider today's EAS to be a largely un-managed and an un-funded federal mandate for a system that they need to participate in and maintain which in their view basically does not work. This is not the case in all states and EAS acceptance and participation varies from state to state. Its un-managed voluntary nature at the state and local levels, and daisy chain delivery system, contribute to what essentially becomes a "black hole of assured delivery".

The EAS system of tomorrow can be built today, if we utilize the existing EAS technology already in place. We have available for our use as a foundation, a system with a build-out that includes over 14,000 broadcast stations and 10,000 cable systems. With minor modifications, the system is capable of delivering reliable warnings to large and small geographic areas and populations. This existing infrastructure should be used to meet our national need for a viable system. Any new system design should take advantage of this existing infrastructure and be fully backwards compatible with the existing equipment that is in place. It would be difficult to replace or rebuild such a capability today at a reasonable cost.

Technology has of course moved on. There are significant new technologies available to designers today that can be used to supplement and improve the capabilities of the existing EAS system. Perhaps of the greatest significance is the ability of satellites to deliver an EAS message directly to broadcast or cable outlets. Satellite technology can be used to deliver an EAS message very quickly (within seconds). It is very reliable, has available high levels of security, and does not have the geographical limitations of today's EAS system. Satellite

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facilities currently exist in nearly all radio, television, and cable systems for the purpose of delivering network feeds. These systems with proper coordination could easily be configured to carry EAS traffic.

The Internet is another new technology that may have an impact on the EAS system. Although not suitable for use as a primary delivery mechanism, it does provide great value as a redundant or back-up path for communications, including valuable follow-up information on emergencies. One very great value of the Internet is its widespread deployment and general availability at most broadcast and cable outlets, as well now in many homes and businesses.

The Public Television Network is building out a digital transmission capability that when completed anticipates penetration of their digital signal to 95% of the population. These stations have a demonstrated commitment to public broadcasting and can clearly define a benefit to both their network and the public that they serve, resulting from an expanded role in carrying emergency management information and the delivery of warnings to the general public. Such a digital network, if integrated into the national warning strategy, could play a significant role in reliable warning dissemination to both the public and the first responder community.

Although FCC regulations permit the use of the two-minute audio window for the delivery of text and video messages, those standards have yet to be developed or implemented. Future systems may use IP technology to digitally encode the audio, text or video message and transmit a file rather than actual audio. Digital messages are much more suitable to today's transmit media. Satellite delivery would use IP rather than delivery of audio, and as such would also be able to transmit text files, photos, and streaming live audio if necessary.

One of the greatest challenges to establishing the existing EAS system as a critical component of our nation's warning systems is overcoming the difficulties that result from its current configuration as an un-managed system with essentially no funding. In order for any system to be considered as a "national" warning system, it needs to be a managed and funded system.

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The digital transmission medium of today can easily support the interactive requirements of such a managed system.

EAS can also benefit from the development of an EAS chip. The EAS chip would be capable of responding to emergency alerts according to the specific programming entered by the owner of the device. It would be available to alert the user of threatening events even if the actual host device is turned off. Such a device could save many lives annually, particularly in areas of the country that are subject to significant hazardous weather activity. This is similar to the turn-on capability of many NWR receivers and the few EAS AM/FM radios.

Much of this section has been devoted to the gains and benefits possible by using existing digital technology such as satellite distribution and Internet connectivity to supplement and strengthen both the delivery capabilities and security of the existing EAS system. Such an approach would be fully backwards compatible with the equipment already in place and present a great value for a minimal expense. This solution may suffice for the next 5 to 7 years. Technology advancements would dictate that we begin to consider now the next generation of the EAS system. Significant changes in sensor abilities, data processing capabilities, delivery techniques, and alerting mechanisms will all contribute to the EAS system of the future.

22. 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:

- a. 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.

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- 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.
 - i. 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.
 - ii. Involve strategic partners in this training effort such as NEMA, IAEM, SBE, NAB, SCTE, NCTA, and state broadcaster associations.
 - iii. 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.

b. Strengthen and improve the PEP system.

- Improve delivery methods to enhance system security, reliability, and robustness.

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- 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.

c. 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.

d. 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 unfunded mandates on state and local governments, or the broadcast and cable communities. Study incentives for industry to participate voluntarily.

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

23. History of the EAS

The EAS and its predecessors evolved out of a Cold War need to warn the American public in the event of a nuclear attack. It has been in various forms a concern of every Presidential administration since 1951.

1950's

In 1951, President Harry Truman established CONELRAD (CONtrol of ELeCtromagnetic RADiation). CONELRAD required most broadcast stations to go off the air during a
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national emergency. It was designed to prevent an enemy from using AM broadcast transmitters as homing beacons for bomber or missile attacks. The stations designated to remain on the air switched their transmitting frequencies to either 640 or 1240 kilohertz and operated in rotation to fool existing state-of-the-art airborne direction finding equipment. A White House Statement of Requirements (WHSR) for CONELRAD was issued in 1952. CONELRAD became operational in 1953 when the President participated in its nationwide testing. All radio and television networks were enlisted to relay Presidential messages to CONELRAD participants.

In 1958, the FCC established the National Industry Advisory Committee (NIAC) consisting of volunteer industry personnel who provided expert advice to the FCC concerning emergency plans, rules, policies, etc.

1960's

In 1960, an updated WHSR was signed by President Eisenhower. It was further updated and signed in 1962 by Press Secretary Pierre Salinger on behalf of President Kennedy. By 1963, the accuracy of missile and bomber guidance systems made CONELRAD obsolete. However, President Kennedy wanted a last ditch capability to address the nation on short notice during a national emergency. The Emergency Broadcast System (EBS) was developed to meet this need. It allowed participating broadcast stations to remain on the air on their own channels, and retained the CONELRAD network distribution system to get Presidential messages to each participating station. EBS retained a CONELRAD signaling technique that required broadcasters to turn their transmitters off and on in a scheduled pattern to activate special EBS receivers. The FCC issued EBS regulations in Title 47 Code of Federal Regulations (CFR) Part 73. This formalized the use of the major broadcast networks to transmit national (Presidential) EBS messages to participating stations.

At the same time, the Broadcast Station Protection Program (BSPP) was established as a complement to EBS to support the core elements of the EBS infrastructure. The intent of the BSPP was to try to ensure that high power AM stations with wide coverage areas would

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be on the air after a nuclear attack. The Office of Civil Defense (OCD), in cooperation with the Army Corp of Engineers, funded the BSPP. It was designed as a national program to protect broadcast facilities deemed necessary by OCD to transmit a national level (Presidential) EBS message. Under the BSPP, selected stations were provided with an emergency generator, fuel tank, programming equipment, fallout shelter, and two-way radios to link the broadcast station with their local Emergency Operating Center (EOC). The fallout shelter became the property of the station and the equipment became the property of the FCC. The equipment was made available to each station under an Equipment Loan Agreement (ELA) between the FCC and the station licensee. Some stations also received hardware for Electromagnetic Pulse (EMP) protection. In 1966, the WHSR was updated by President Johnson and in 1969 by President Nixon.

1970's

On February 21, 1971, at the time of a regularly scheduled test, the National Warning Center at NORAD in Colorado transmitted an Emergency Action Notification (EAN) message, instead of the scheduled test message. The EAN message was supposed to be issued to the industry network control points only when the President has activated the national level EBS. The EAN message was sent over the AP and UPI wire services, which were for EBS purposes under NORAD's control. Many broadcast stations did not immediately respond to the EAN message as required by the FCC EBS rules. An extensive study of the event was done and a detailed report was issued. Some stations reported that they thought the message was a mistake because it was issued at the same time as the routine NORAD weekly wire service test message. Others searched for confirmation from other sources such as the major networks but could find none. Some stations simply failed to hear the wire service alarm or see the printed wire copy message. Some stations actually aired the message.

In 1972, the government, in cooperation with the NIAC, corrected deficiencies they found as a result of the NORAD error. Their corrective actions were to:

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- Remove the "Attack Warning" function from EBS. This action removed NORAD as an activator of the national level EBS. Only the President could now activate the national level EBS.
- Revise and simplify the EBS instructions issued by the FCC such as the Part 73 EBS rules, EBS Checklists, EBS National Control Procedures, Authenticator Lists, etc.
- Improve the activation and authentication procedures.

In 1976, the FCC replaced the old CONELRAD inter-station alerting technique with a two-tone EBS Attention Signal. NIAC had been testing the new two-tone signal extensively for years and recommended that the FCC implement it. The two-tone signal improved the technical performance and reliability of inter-station message relay for EBS since it did not require broadcast transmitters to be turned off and on as did the CONELRAD technique. It also permitted the production of inexpensive home radios with EBS alerting circuitry. The unique attention signal made it possible to un-mute radios tuned to participating stations. The FCC amended its EBS regulations in Part 73 to permit use of the new signal. All FCC EBS instructions were amended to reflect use of the two-tone Attention Signal.

Also in 1976, the Defense Civil Preparedness Agency (DCPA), a part of the Department of Defense; the FCC; the NWS, a part of the Department of Commerce National Oceanic and Atmospheric Administration (NOAA); and the NIAC signed an Agreement to promote a coordinated effort to develop detailed state and local plans to permit use of EBS for warning the public about local disasters. Until this time, EBS was rarely used by state or local authorities for natural or man-made disasters. Some local areas had devised their own warning networks, and their successes were seen as ways to increase the utility of the EBS. The FCC, DCPA and NWS partnered to give assistance in many forms in the states and territories to broadcasters and state and local officials in their EBS planning. These three federal entities worked with state and local emergency management to provide training materials and host a series of meetings across the nation. Also, a guide to implement the agreement was written entitled "Plan for Nationwide Use of the Emergency Broadcast

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System for State and Local Emergencies.” In 1979, President Carter signed an updated WHSR.

1980’s

In 1981, the 1976 Agreement to develop state and local plans was updated as an MOU (Appendix K). DCPA was now part of the newly formed FEMA, and new administrators were in place at the agencies. The planning effort had made tremendous progress as every state and territory and more than 400 localities completed EBS plans.

In 1982, President Reagan signed an updated WHSR and the FCC reorganized the NIAC to include new Working Groups.

In 1983, the FCC and FEMA began studies to develop new national level “Last Resort” EBS procedures. The national level EBS consisted of dedicated circuits from the Federal government to each of the major radio and television networks. FEMA funded the circuits and equipment located at the major network control points. The networks then distributed national level EBS messages to their affiliates via their own facilities. AT&T provided a “Last Resort” capability in the event of the failure of the dedicated circuits because AT&T controlled the nation's telecommunications infrastructure. Under the “Last Resort” procedures, the federal government would contact key AT&T program control centers to patch national level EBS messages to the networks for distribution. But, the breakup of AT&T jeopardized this plan since AT&T would no longer be in total control of reconfiguring the telecommunications infrastructure and the number of AT&T program control centers was being reduced. To compound the challenge, the broadcast networks began to bypass AT&T and use their own leased satellite facilities for program distribution. Any new “Last Resort” procedures would need to bypass the AT&T program control centers and the major network control points, most of which were located in high risk areas. The new “Last Resort” procedures would likely have to provide communications links from the Federal government directly to selected broadcast station transmitters at some distance from the intense overpressures predicted for nuclear

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detonations in high-risk areas. However, funding to implement the new “Last Resort” procedures was not available until the late 1980s.

In 1984, Executive Order 12472 reaffirmed EBS operational responsibilities. The Order instructed FEMA to “develop, upon request and to the extent consistent with law and in consonance with regulations promulgated by and agreements with the Federal Communications Commission, plans and capabilities for, and provide policy and management oversight of, the Emergency Broadcast System, and advise and assist private radio licensees of the Commission in developing emergency communications plans, procedures and capabilities.” Also, the FCC would, “Review the policies, plans and procedures of all entities licensed or regulated by the Commission that are developed to provide national security or emergency preparedness communications services, in order to ensure that such policies, plans and procedures are consistent with the public interest, convenience and necessity.”

In 1986, the national level EBS dedicated circuit network was upgraded and renamed the EAN (Emergency Activation Notification) Network. The network upgrade included new equipment and new EBS National Control Procedures. Also, the FCC dissolved NIAC and replaced it with two new committees: the National Security and Emergency Preparedness Advisory Committee (NSEPAC) and the Emergency Broadcast System Advisory Committee (EBSAC).

In 1987, a special EBS Working Group, established by the FCC Executive Director to include participation from FEMA, NWS and the National Telecommunications and Information Administration (NTIA), released a report concerning the survivability of the national level EBS during and after a nuclear attack. One of the conclusions of the report emphasized that national on-air tests needed to be performed to insure that the national system worked from end to end. However, this conclusion was never implemented. Also, FEMA began funding the “Last Resort” procedures developed in 1983 to backup the EAN Network. The “Last Resort” procedures became the PEP system. Goals of the PEP

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were to increase the survivability of 30 selected continental U.S. and 4 territorial broadcast stations with equipment under the BSPP and provide secure communication links to these stations from the designated Federal government-warning center.

During the 1980s, NWS began investigating a new signaling technique to replace the single tone signal used by NWR. When transmitted on NWR, the single tone signal would turn on all NWR consumer receivers within range of an NWR transmitter. An audio message following the tone alerted the consumer to a weather announcement. This signaling technique alerted more people than might be necessary. NWS wanted to have a system that would target specific messages to a specific area. NWS studies resulted in the development of a digital coding system called, “Specific Area Message Encoding” (SAME) or Weather Radio SAME or WR-SAME. WR-SAME specified that a digitally coded signal be transmitted before the single tone signal. The digital signal contained codes for the type of weather event, the location(s) and the valid time period of the message. A complete message consisted of the digital codes, the single tone signal, the audio message and an End of Message digital code. A special NWR consumer receiver could be programmed to respond to messages by the type of event and location. NWS would begin to deploy WR-SAME in the early 1990s.

As early as the mid 1980s, it was becoming apparent to some broadcast engineers that EBS equipment and procedures did not lend themselves to automated operation or expeditious dissemination of emergency information. Pending future FCC approval, some broadcasters were already thinking about operating their stations as unattended facilities at certain times, especially during the overnight hours. However, broadcasters found it difficult to operate EBS equipment in the automatic mode primarily because of the lack of an end-of-message signal. EBS transmissions consisted of the EBS two-tone signal followed by an audio message. The audio message contained information that had to be received and acted upon by an operator. The other option that was not thought to be a good solution was to automatically re-transmit all received EBS messages.

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The basic idea behind any upgrade to EBS was to develop a way to speed up the delivery of emergency messages. Broadcast engineers wanted to avoid the delay associated with the process of listening and repeating emergency messages. Society of Broadcast Engineers (SBE) members in the mid-west began experimenting with various signaling schemes. In Colorado, demonstrations of frequency shifted Digital Tone Multi Frequency (DTMF) were presented at various SBE-sponsored events. These added some security to the signaling techniques. Other ideas included being able to scan several sources of information looking for the shifted DTMF header, keeping costs low, and using background, i.e. non-broadcast, channels and levels of alert to inform news departments on off-line channels.

1990's

In the early 1990s, trade journals published articles concerning the above efforts. In 1990, President Bush signed an updated WHSR and released a one-minute video statement praising industry participation in EBS. The message was part of a video training tape for broadcast station operators, which was voluntarily produced by Durham Life Broadcasting in Raleigh, North Carolina.

In 1991, the FCC approved a Notice of Inquiry seeking technological improvements to EBS; and a Rule Making/Inquiry to shorten the length of the EBS two-tone signal, prohibit false EBS signals, improve broadcast station remote control operation, and revise the weekly EBS test script.

In 1992, FEMA further upgraded the EAN Network dedicated circuitry and equipment and began testing the communications links to the PEP stations. The FCC approved a Further Rule Making to improve the EBS structure, including equipment and operations.

In the early 1990s, many broadcasters began serious planning to operate their stations as unattended facilities. Also at this time, the Cable Act of 1992 required standards to ensure that cable systems provide emergency information to their subscribers. The Act read in

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part, “Each cable operator shall comply with such standards as the Commission shall prescribe to ensure that viewers of video programming on cable systems are afforded the same emergency information as is afforded by the emergency broadcasting system pursuant to Commission regulations.” But, it was not practical to install EBS equipment at cable head ends that were mostly unattended. So the FCC issued a Notice of Inquiry looking for methods to improve EBS and a Notice of Proposed Rule Making to revise certain EBS requirements. All of these events led the FCC to consider replacing EBS with a new alerting system.

In December 1992, the Commission invited manufacturers to demonstrate their proposed solutions to alert the public. Several companies participated and showed different approaches. SBE filed Comments and Reply Comments in response to all of the FCC EAS Notices. The demonstration was followed by field tests in 1993 determine the feasibility of new alerting techniques under real operating conditions. Some of the goals of these tests were to examine the ability of broadcast, cable, satellite and other means to transmit digital information; to test speed, redundancy and reliability factors; and to determine operator needs for equipment responsiveness. During this exploratory time, the government received a great deal of volunteer assistance and free use of private facilities. Help came from broadcasters, cable operators, individuals, equipment manufacturers, state telecommunications experts, emergency managers, state broadcaster associations and the SBE. Many of the individuals who participated were volunteer members of the FCC's Emergency Broadcast System Advisory Committee (EBSAC).

The FCC later wrote in its 1994 Report and Order that,

“The Western Field Test was conducted June 27 through June 30, 1993, in Denver. More than 75 representatives from broadcast stations, cable systems, satellite companies, emergency management offices, consulting engineering firms, amateur radio organizations, and manufacturers of alerting equipment and consumer end products, voluntarily provided their own personnel and resources for the tests. In-

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band, sub-carrier, satellite, HF radio, VHF, UHF, microwave, and telephone were the primary transmission modes tested. More than 35 devices were demonstrated during the tests. Three focus groups and one composite focus group offered some insight into audience perception of the systems and equipment.”

“The Eastern Field Test was conducted September 12, 1993, through September 15, 1993, in Baltimore. The tests involved more than 60 representatives from government, industry, and manufacturing. Technical/emergency management personnel and others served as official observers to record the test results. Testing sites included the State Emergency Operation Center, experimentally licensed AM and FM stations, 25 FCC field facilities, the NWS office, a cable head-end, existing AM and FM stations, and Spanish language television and radio stations.”

“The goals of both tests were to examine the ability of broadcast, cable, satellite, and other means to transmit digital information; to test speed, redundancy and reliability factors; to determine operator needs for equipment responsiveness; to test as many of the parameters in the Notice of Proposed Rule Making/Further Notice of Proposed Rule Making in different situations as feasible; and to experiment with an architecture broad enough to encompass other technologies as they become available. In response to the field-testing, we (FCC) received 42 Comments and 9 Reply Comments. The test data demonstrated that (1) monitoring of multiple sources of emergency information was successful in providing reliability and redundancy; (2) a small geographic area could be alerted without affecting other areas; (3) transmissions could be easily relayed from point-to-point via different transmission means; (4) equipment could automatically receive, store, and forward alerts and messages; (5) in-band and sub-carrier transmissions could co-exist; (6) satellite and cable technology could

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interface with the EAS digital transmission scheme; (7) mobile reception of in-band and sub-carrier were equally susceptible to multipath, distortion, shadowing, and other propagation anomalies; and (8) consumer radio receiver equipment could turn itself on from an “off” position in response to broadcasters’ digital signals, such as Radio Broadcast Data System (RBDS) signals.”

The FCC further stated, “we adopt new rules for the establishment of an Emergency Alert System that is designed with a flexible architecture to accommodate current and future technologies and that will deliver instantaneous emergency information to the public. The new system will emphasize speed, reliability, and efficiency.”

The FCC received hundreds of comments concerning what technology to adopt to replace EBS. Some even suggested that each state should be allowed to develop its own system. Most recommended a single standard specified in federal government regulations because; (1) interstate areas could not support multiple systems; (2) one nationwide standard would allow manufacturers to mass-produce lower cost hardware; and (3) broadcast station and cable system personnel would have to learn the procedures for only one system regardless of where they were employed. Some technologies possessed characteristics that had certain advantages and disadvantages over the technology adopted and of course there were policy and promotional issues in the mix. The FCC 1994 Report and Order that established EAS was supportive of a number of alternate technologies but the final standard was the NWS SAME protocol with additional code elements. The FCC encouraged the use of alternate technologies in support of EAS. Some states have adopted such technologies as specified in their State EAS plan. Some close to the EAS standards process felt that politics significantly influenced the proceedings. Future standards processes should strive to keep undue political influence at bay and ensure that the best warning technology is selected.

On November 10, 1994, the FCC adopted a Report and Order that formally established the EAS to replace EBS. The EBS rules in Part 73 were replaced by EAS rules in a new Part 11. Local cable systems were included in EAS. Highlights included the following:

- a. Any transmission means could be used to send and receive EAS alerts and tests including satellite, telephone, radio, pagers, etc.
- b. EAS messages could be formatted for specific events and locations.
- c. The old EBS designations for key broadcast stations were replaced with new EAS designations; i.e. EAS Local Primary (LP) replaced EBS Common Program Control Station (CPCS).
- d. The EAS digital signal could be used to display visual messages on devices with view screens.
- e. The EAS digital signal could be interfaced with computers and other digital devices.
- f. The EAS digital signal time stamp code would prevent the transmission of outdated or duplicate messages.
- g. EAS equipment would have to be able to monitor at least two sources for EAS messages. Eventually, almost all EAS equipment would be able to monitor up to six sources.
- h. EAS equipment can store two minutes of audio message for later retrieval automatically. National level messages are not limited to the two minutes.
- i. National level messages would not use the EAS “Store and Forward” model. If an EAS device were captured by a national level EAS code, the audio message would not be limited to two minutes and would only terminate on receipt of a national End Of Message (EOM) code.
- j. The EBS weekly test would be replaced by two new EAS tests: a weekly test of the digital signal (Required Weekly Test - RWT) and a monthly test (Required Monthly Test - RMT). The RMT would include an audio message that could be developed by state and local officials.
- k. All incoming EAS messages would be visually displayed on the EAS equipment at broadcast stations and cable systems.

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- l. The EAS digital signal could be used on any FM or TV sub-carrier signals.
- m. The EAS digital signal would be identical to the NWS WR-SAME signal, therefore, EAS equipment would have to be capable of decoding NWS NOAA Weather Radio (NWR) SAME digital signals.
- n. EAS equipment could be operated in either the manual, semi-automatic or automatic mode.
- o. The old EBS two-tone signal would be transmitted after the EAS digital signal and before the audio message. This would allow legacy EBS two-tone alert decoders to still function and maintain an alerting capability to consumers, schools, hospitals, and other critical warning recipients with such equipment. It would also serve as an audio alert signal before the audio message.
- p. After the audio message, an End-Of-Message (EOM) code would be used to reset the equipment. This EOM code can be used as a signal to return broadcast stations and cable systems to normal programming automatically.

Between the years of 1994, when the FCC established EAS, and 1997, when broadcast stations had to install and operate EAS equipment, an effort was made to update the state EBS plans bearing in mind the new features that would be available with the new EAS equipment. Workshops were held in several states, with the cooperation of the SECCs, LECCs, SBE, SCTE, NAB, and state broadcaster associations. Also during this time, equipment manufacturers were developing prototype EAS equipment for certification by the FCC Laboratory. By the time of the 1997 EAS equipment installation deadline, the manufacturers had stockpiled enough equipment to meet the needs of the 14,000+ broadcast stations. One year later, large cable systems with 10,000 or more subscribers had to have EAS equipment installed along with switching equipment to provide EAS messages on all program channels. By October 2002, all cable systems and wireless cable systems had to meet this requirement.

In 1995, President Clinton signed an updated WHSR. On October 30, 1995, FEMA informed the FCC that the White House had determined that the President's daily access

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to the media is considered very reliable under all but the most severe conditions and that the Primary Entry Point (PEP) system will serve as the cornerstone for the new national level EAS replacing the EAN Network. The EAN Network was disconnected and the national networks were removed from the national level EAS. Also, the FCC amended Part 11 by adopting a Memorandum Opinion and Order clarifying certain EAS requirements for broadcasters and cable operators.

In 1996, FEMA developed two Civil Preparedness Guides. CPG 1-40 provides guidance to State and local governments to assist them in working with broadcasters and cable operators in their areas to develop State and local area EAS plans. CPG 1-41 is an EAS program guide for State and local jurisdictions.

In 1997, the FCC amended Part 11 by adopting a Second Report and Order modifying EAS as it applies to cable systems. Highlights included the following:

- a. Systems that serve 10,000 or more subscribers shall install EAS equipment and provide EAS audio and video messages on all channels by December 31, 1998.
- b. Systems that serve 5,000 or more, but fewer than 10,000 subscribers shall install EAS equipment and provide EAS audio and video messages on all channels by October 1, 2002.
- c. Systems that serve fewer than 5,000 subscribers shall either provide national level EAS messages on all programmed channels (including the required EAS test messages), or install EAS equipment and provide a video interrupt and audio alert message on all programmed channels and EAS audio and video messages on at least one programmed channel by October 1, 2002.
- d. Wireless cable systems shall participate in EAS on the same basis as wired cable systems. Wireless cable operators that serve 5,000 or more subscribers per fixed station transmission site or head end shall install EAS equipment and provide EAS audio and video messages on all channels by October 1, 2002. Wireless cable operators that serve less than 5,000 subscribers are subject to the same requirements as wired cable systems that serve fewer than 5,000 subscribers.

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- e. The requirements of existing local franchise agreements for special warning systems will not be preempted by the EAS so long as they do not conflict with EAS requirements under FCC Part 11 rules. (See website address in Appendix I).

In 1998, the FCC adopted a Third Report and Order in response to a Second Further Notice of Proposed Rule Making concerning amending the EAS rules that would prohibit cable systems from overriding broadcasters' emergency related programming with state and local EAS messages. The FCC reaffirmed its earlier decision whereby cable operators and broadcasters should reach a mutual agreement concerning the override of television signals on cable systems.

Also, the FCC sent a letter to FEMA asking if FEMA and the White House Communications Agency (WHCA) wanted to continue use of the EAS Authenticator Lists for national level messages. The Authenticator Lists were used to verify procedures and personnel under conditions that no longer existed under the EAS. The new EAS equipment at broadcast stations and cable systems operates automatically upon receipt of a national level message with the proper codes in the EAS digital signal. After checking with WHCA, FEMA responded by letter dated August 25, 1998, that they and WHCA had no further requirement for the EAS Authenticator Lists.

The FCC's EAS Handbook, required to be posted at EAS broadcast and cable control points, was updated in 1998 to reflect deletion of the authentication procedure. However, it still contained references to outdated national level procedures. This temporarily caused confusion in the broadcast and cable communities should a national level activation take place before the Handbook would be reissued.

The FCC established the National Advisory Committee (NAC) to replace the EBSAC, which in turn had replaced the NIAC in 1986. NAC held its first meeting in 1998 to both organize and discuss EAS issues. They met once each subsequent year. While the NAC was primarily a group of the most learned EAS broadcast engineers tracing its lineage to

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engineers critical to making CONELRAD work, the membership was gradually expanded to include cable operators and emergency managers and other stakeholders in EAS. NAC membership included the Chair of PEPAC, the Chairs of the SBE and SCTE EAS Working Groups, and several senior SECC Chairs. As provided for in the NAC Charter, the NAC was composed of three subcommittees: Training and Education, Planning and Technical. The NAC Charter specified the following list of duties: (1) develop a cooperative working relationship with government agencies involved in emergency communications, (2) represent the views of industry, (3) study and submit recommendations to the FCC related to the planning and operational procedures of the EAS, (4) assist the FCC in the implementation of its new EAS rules, (5) develop a cooperative working relationship to foster voluntary participation in EAS planning by state and local industry members, (6) assist the SECCs and LECCs in establishing a list of state and local officials authorized to activate EAS, (7) develop programs at the national, state and local levels for industry and public service entities, (8) produce video and audio training tapes, (9) produce Public Service Announcement (PSAs) to educate the public about EAS and, (10) provide information to the SECCs and LECCs to help them develop and maintain state and local plans.

2000's

In 2000, Part 11 was amended by FCC Order adopted March 31, 2000, to conform to the discontinuance of the use of the EAS authenticator Lists.

In 2001, the FCC updated the EAS Handbook to reflect deletion of the authentication procedure and adopted a Notice of Proposed Rule Making to:

- a. Solicit comment on requested revisions to the Part 11 rules governing EAS set forth in petitions for rule making filed by the National Weather Service (NWS) and the Society of Broadcast Engineers (SBE).

- b. Revise Part 11 to eliminate references to the now-defunct Emergency Action Notification (EAN) network and its participants, the major networks and cable program suppliers.
- c. Delete the requirement that international High Frequency (HF) broadcast stations purchase and install EAS equipment.

In 2002, the FCC adopted a Report and Order amending Part 11. This was in response to the NWS and SBE petitions. The technical and operational revisions included the following:

- a. Add new digital EAS codes for state and local events, including a Child Abduction Event Code, and new location codes.
- b. Permit broadcast stations and cable systems to program their EAS equipment to selectively display and log state and local EAS messages.
- c. Increase the time for each participating EAS entity to re-transmit the EAS monthly test from 15 to 60 minutes of receipt of the message.
- d. Revise the minimum required broadcast modulation level of EAS codes to conform to established broadcast audio processing techniques.
- e. Permit broadcast stations to air the audio of a Presidential EAS message from a higher quality, non-EAS source.
- f. Eliminate references to the now-defunct Emergency Action Notification (EAN) network.
- g. Eliminate the requirements that international High Frequency (HF) broadcast stations purchase and install EAS equipment and cease broadcasting immediately upon receipt of a national level EAS message.
- h. Exempt satellite/repeater broadcast stations that rebroadcast 100% of the programming of their hub station from the requirement to install EAS equipment.
- i. Authorize cable systems serving fewer than 5,000 subscribers to meet the October 1, 2002 deadline by installing certified EAS decoders, to the extent that such decoders may become available, rather than both encoders and decoders.

- j. Provide that low power FM stations need not install EAS decoders until one year after the Commission certifies any such decoders.

In 2002, the NAC held its last meeting and was not continued by the FCC. The FCC did not renew its Charter when it expired in July 2002. The FCC established the Media Security and Reliability Council (MSRC) consisting of senior broadcast executives (www.fcc.gov/MSRC/). MSRC was particularly interested in the survivability and restorability of broadcast facilities during crises. Several committees of front-line workers were formed under MSRC and two of these are addressing some key EAS issues. Thus, the EAS and its predecessors have been in development for more than 50 years, each time adapting several times over that period to meet changing needs and new technologies. From the late 1970's to the early 1990's, considerable effort was made to train state and local personnel in EAS operations and to develop state and local plans. This work has come to a virtual halt in recent years as Federal funding and personnel have been withdrawn.

D. Reports Issued By PPW

April 25, 2002 – Comments provided to the Director, Federal Bureau of Investigation, regarding the proposed Homeland Security Advisory System

http://www.partnershipforpublicwarning.org/ppw/docs/ppw_response.pdf

July 5, 2002 – Comments provided to Governor Tom Ridge, Director, Office of Homeland Security, regarding the proposed Homeland Security Advisory System

http://ppw.us/ppw/docs/hsas_report.pdf

November 25, 2002 – “Developing A Unified All Hazards Public Warning System”, A Report by the Workshop on Effective Hazard Warnings

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The purpose of this report is to propose a national all-hazard public warning architecture and to outline some of the issues that will need to be addressed in creating such an architecture.

http://ppw.us/ppw/docs/11_25_2002report.pdf

May 16, 2003 – “A National Strategy for Integrated Public Warning Policy and Capability”

Results of a PPW sponsored workshop that was held at the Emergency Management Institute in Emmitsburg, MD, to develop the first draft of a ‘Public Warning National Strategy’

<http://ppw.us/ppw/docs/nationalstrategyfinal.pdf>

May 2003 – “Accessing And Originating Warnings from Consequence Management Tools”

The purpose of this document is to explore issues involved in making warning information available as a resource to improve overall emergency management and to help emergency managers generate timely and authoritative public warnings.

<http://ppw.us/ppw/docs/consmgmttools.pdf>

September 2003 – “Public Alert and Warning: A National Duty, A National Challenge: Implementing the Vision”

Plan to create a national consensus on a national, all-hazard public warning capability while providing the standards, policies and relationships necessary to forge that capability.

http://www.partnershipforpublicwarning.org/ppw/docs/natlstrat_implement.pdf

December 30, 2003 – Letter to DHS Undersecretary Frank Libutti with summary of public comments received on the Homeland Security Advisory System

February 2004 – “The Emergency Alert System: An Assessment”

The purpose of this document is to provide a definitive description and evaluation of the EAS past and present as a basis for recommending ways to make immediate improvements.

http://www.partnershipforpublicwarning.org/ppw/docs/eas_assessment.pdf

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March 16, 2004 – “The Homeland Security Advisory System: Threat Codes & Public Responses”, PPW testimony before the House Subcommittee on National Security, Emerging Threats and International Relations

Testimony presented by the PPW to the House Subcommittee on National Security, Emerging Threats and International Relations, on March 16, 2004.

http://www.partnershipforpublicwarning.org/ppw/docs/hsas_testimony.pdf

June 2004 – “Protecting America’s Communities: An Introduction to Alert and Warning”

This document provides a brief overview of the many considerations that should be taken into account when developing or evaluating a public warning process and system. It is intended to assist emergency managers and officials, both public and private, in understanding and developing effective warning systems.

<http://ppw.us/ppw/docs/handbook.pdf>

June 2004 – “Alerting America: A Directory of Public Warning Products, Services and Technologies”

This directory provides information regarding the state-of-the art in public warning products, services and technologies. It has been prepared to assist emergency managers, government officials, decision makers and the public in understanding and locating public warning options

<http://ppw.us/ppw/docs/directory.pdf>

E. 1981 State and Local EBS Memorandum of Understanding

State And Local Emergency Broadcasting System (EBS) Memorandum Of Understanding Among The Federal Emergency Management Agency (FEMA), Federal Communications Commission (FCC), The National Oceanic And Atmospheric Administration (NOAA), And The National Industry Advisory Committee (NIAC)

1. Purpose

This Memorandum of Understanding defines a framework for a cooperative effort among FEMA, FCC, NOAA's National Weather Service (NWS) and the NIAC for developing and evaluating effective EBS plans and related capabilities at the State and local levels of EBS operations. The agreement addresses the following:

- a. The joint and cooperative actions necessary to define and achieve objectives.
- b. The joint and individual responsibilities of FEMA, FCC, NOAA's NWS and NIAC.
- c. The coordination link between the Federal, State and local levels of government and the broadcast industry.
- d. The mechanism required to define the status and objectives, related programming and budgetary needs, and coordinated implementation.

2. References

- a. Plan for Nationwide Use of Emergency Broadcast System for State and Local Emergencies, revised September 13, 1976.
- b. Communications Act of 1934.
- c. Executive order 11490, dated October 30, 1969.
- d. Executive Order 12127; dated March 31, 1979.
- e. Executive Order 12148, dated July 20, 1979.
- f. Disaster Relief Act of 1974.
- g. Federal Civil Defense Act of 1950, as amended.

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3. Objectives

- a. Achieve capabilities at State and local level by which EBS can be used effectively to disseminate warning notifications and emergency public information in relation to natural disaster¹, manmade disaster², and attack.
 - i. Natural disasters include tornadoes, flash floods, hurricanes, severe winter storms or quickly developing blizzards, volcanic eruptions, earthquakes, tsunamis, ', forest fires, and serious air pollution episodes.
 - ii. Manmade disasters include civil disorders, commercial power outages, chemical spills, industrial explosions and fires, discharges of toxic gases, nuclear power plant accidents, transportation accidents involving hazardous materials, and industrial accidents with possible severe environmental pollution episodes.
- b. Enhance a unified planning effort of warning dissemination and other emergency information by the broadcast industry, Federal, State, and local government agencies.
- c. Develop current guidance, procedures and model plans for State and local activation of the EBS.
- d. Evaluate EBS State and local operational area plans and communications system effectiveness, define deficiencies, and program cost-effective upgrading.
- e. Assign in the planning, the responsibility for maintaining procedures and lists of authorized persons that can activate the EBS during an emergency.
- f. Ensure that the EBS is complementary to existing emergency public information and warning systems and plans.
- g. Continue efforts for implementation of new plans and improvement of existing plans at the State and operational area levels. Undertake a cooperative program to evaluate the quality and effectiveness of the operational plans.

4. Agency Responsibilities

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The responsibilities outlined in this section are those related only to the cooperative efforts of the participating agencies to meet the objectives of this agreement, as it applies to State and local aspects of EBS.

FEMA is responsible for:

- a. Coordinating with FCC and NOAA's NWS, the scheduling of EBS operational area planning seminars, and providing for appropriate notification to State and local government officials.
- b. Assisting in providing instructions to the public through the State and local EBS, in support of effective comprehensive emergency preparedness.
- c. Assisting in the development and evaluation of the State and local plans and guidance.
- d. Assisting in the establishment of a list of authorized State and local officials who can activate the EBS when required.
- e. Coordinating the guidelines of the EBS National Plan with each of its regional offices. FEMA Regional Directors will coordinate representation of State and local emergency management officials at the EBS planning meetings.
- f. Monitoring and evaluating the effectiveness of EBS, in support of comprehensive emergency preparedness.

The FCC is responsible for:

- a. Maintaining, establishing, revising and coordinating the rules and regulations for the EBS and providing for all coordination with State Emergency Communications Committee (SECC) and Operational Area (Local) Emergency Communications Committee (OAECC) members.
- b. Ensuring that the integrity of the EBS is maintained at the State and local level for immediate activation should the need arise.
- c. Taking the lead in a continuing education program for local broadcasters, and State and local officials related to responsible use of the EBS for local

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- emergency public information and warning purposes (including providing literature, displays, and presentations).
- d. Providing staff personnel on site to assist in State and local level operational area planning and follow-up assistance as appropriate
 - e. Maintaining a unified coordination link between the ten subcommittees of the NIAC and the agencies listed in this agreement.
 - f. Providing FEMA Regional Directors and NOAA's NWS regional office EBS focal points with signed copies of State and local EBS operational area plans when they are completed.
 - g. Assisting in developing EBS operational area planning meetings and giving official advance notice to FEMA and NOAA's NWS Headquarters.

NOAA NWS is responsible for:

- a. Preparing and issuing warnings for quick developing weather events that are life threatening and requesting activation of the EBS using NOAA Weather Radio and NOAA Weather Wire Service and telephone as the primary means of delivery wherever these are available. Earthquake prediction is the responsibility of the U.S. Geological Survey. The NOAA's NWS will disseminate the earthquake warnings. Ensuring that warnings are delivered as quickly as possible to all concerned.
- b. Establishing NOAA's NWS EBS focal points for dealing with State and local government agencies.
- c. Evaluating the effectiveness of using the EBS to disseminate NOAA's NWS warnings to the general public during major and significant natural disasters.
- d. Designating a NOAA's NWS EBS program manager to coordinate necessary actions between NOAA's NWS, FEMA, FCC, and the NIAC as well as oversee the necessary activities within NOAA's NWS. The NOAA's NWS EBS program manager will notify the NWS regions and field offices of impending meetings and coordinate planning actions

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- e. Coordinating with the broadcasters and local officials. The NOAA's NWS Meteorologist-in-Charge (MIC) or Official-in-Charge (OIC) of the NWS field offices will suggest which weather events warrant activating the local EBS.
- f. Supporting the State and local EBS operational area planning effort. The MIC or OIC will be responsible for coordinating and reviewing NOAA's NWS role and signing the final version of the EBS plan for their local warning area of responsibility.

The NIAC is responsible for:

- a. Developing a cooperative working relationship between its subcommittees and the participants of this agreement.
- b. Studying and submitting recommendations to the FCC from the subcommittees related to the planning and operational procedures of the EBS.
- c. Acting as the National representative of industry for this agreement.
- d. Developing a cooperative working relationship to foster voluntary participation in the EBS Operational Area Planning by State and local industry members.
- e. Assisting SECC and OAECC in the establishment of a list of authorized State and local officials that can activate the EBS when required.

The Joint responsibilities of the four participants are:

- a. To provide coordinated advice and guidance to Federal, State and local government officials and the broadcast industry in developing EBS operational area plans.
- b. To hold State and local EBS planning meetings until all sections of the United States have completed and signed EBS State and local plans and existing plans are upgraded.
- c. To assure that State EBS and local operational area plans are tested and exercised and follow-up evaluations are made in each State.

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- d. To conduct an annual review of the performance of the EBS program during the past year and recommend program changes, as required.
- e. To review and develop EBS publications, videotapes, slide presentations and floor displays.
- f. To review annually and revise as necessary the "Plan for Nationwide Use of the Emergency Broadcast System for State and Local Emergency."
- g. To develop plans annually to share costs of publications, displays, awards and brochures necessary for the education of industry, government officials and the general public.
- h. To assure that each Agency's field offices advise their Headquarters of significant problems or events.

6. Implementation

- a. This memorandum shall take effect upon its signing by authorized representatives of the respective agencies.
- b. Within one calendar year of the date of this memorandum, FEMA, FCC, NOAA's NWS and the NLAC will review this agreement, and coordinate such revisions to this agreement as may be necessary.

7. Amendment And Termination

- a. This memorandum may be amended at any time by mutual written agreement of all parties.
- b. The memorandum will be in effect until terminated.
- c. The memorandum may be terminated by one or more parties based on a written notification of intent, followed by a period of 90 calendar days of receipt of such notification.
- d. Approved by: Administrator, NOAA, August 3, 1981
Defense Commissioner, FCC, August 20, 1981
Director FEMA November 9, 1981
Chairperson, NIAC, April 21, 1982

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F. Partnership for Public Warning Accessibility Resources

This heading contains additional information regarding the Partnership for Public Warning and accessibility. It may also contain content that can be found elsewhere on this site. These accessibility resources have been gathered together, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

1. Public Warning: The Top Priority for Deaf and Hard of Hearing People

<http://www.partnershipforpublicwarning.org/ppw/docs/cheppner-final.pdf>

A presentation given at the PPW hosted “Second National Summit on Public Warning in America” on June 28th, 2004.

2. PPW Partners with WGBH on Project Addressing Communication & Warning Needs of People with Sensory Disabilities: October, 2004

<http://www.partnershipforpublicwarning.org/ppw/wgbh.html>

Information regarding a PPW/WGBH National Center for Accessible Media collaboration to research and disseminate data gathered from emergency alert providers, local information resources, telecommunications industry and broadcasting representatives, and consumers concerning how to best make emergency warnings accessible.

X. The Satellite Broadcasting and Communications Association (SBCA)

A. General Information

The Satellite Broadcasting and Communications Association (SBCA) is the national trade organization representing all segments of the satellite industry. It is committed to expanding the utilization of satellite technology for the broadcast delivery of video, audio, data, music, voice, interactive and broadband services. SBCA is composed of DBS, C-band, broadband, satellite radio, and other satellite service providers, content providers, equipment manufacturers, distributors, retailers, encryption vendors, and national and regional distribution companies that make up the satellite services industry. SBCA was founded on December 2, 1986, in Anaheim, California, as the result of a merger between the Society for Private and Commercial Earth Stations (SPACE) and the Direct Broadcast Satellite Association (DBSA). SBCA has approximately 1,000 members. SBCA membership is divided into five groups:

B. SBCA Membership Division

1. Programming
 - Programmers
 - DBS platform providers
 - Satellite Radio Providers

2. Manufacturing
 - Reception systems
 - Communications technology
 - C-Band

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3. Retail Distribution

- Independent retailers
- Distributors

4. Multiple Dwelling Units

5. Broadband and Satellite Internet

C. SBCA On EAS

The Satellite Broadcasting and Communications Association voiced support for satellite radio's voluntary participation in the Emergency Alert System (EAS), telling the Federal Communications Commission that it should consider "the contributions satellite radio providers can make in a new and improved emergency alert system." With nearly ten million subscribers today, "satellite radio is positioned to voluntarily play a pivotal role in the distribution of national emergency alerts when and if such a need exists," the organization said.

D. Satellite Radio

Satellite radio is a subscription service by which a digital radio receives signals broadcast by a communications satellite. Currently, the two American satellite radio providers are Sirius and its larger rival, XM Radio. A monthly fee is charged for both services. Both services are available mainly via portable receivers in automobiles, but both have many accessories so that one can listen at home. Both services also have some form of receiver that is completely portable. Sirius and XM both offer news, weather, sports, and a great variety of music channels. Both companies have issued comments regarding EAS.

1. Sirius Radio

While it has local traffic and weather services, Sirius commented that its service faces technological challenges in delivering some locally-specific EAS

information, as well as regulatory hurdles concerning use of its terrestrial repeater network. Due to the limitations, the company proposed to distribute local and regional EAS messages via the text box normally containing channel name and programming as well as pre-empting relevant channels normally used for local traffic and weather to transmit emergency information.

2. XM Radio

XM proposed the use of satellite-based infrastructure as an additional complement to the current EAS system, noting that satellite radio would help mitigate failures or problems occurring throughout the EAS distribution chain. XM also said satellite radio "may be the only source of emergency information in rural and remote areas." Also, XM has a separate public safety/emergency alert channel dedicated to providing information before, during and after disasters and emergencies. XM's Emergency Alert channel delivers survival information such as evacuation routes, shelter locations and updated weather emergency information for impacted areas. It provides data from a variety of national and local government sources, including the Federal Emergency Management Agency (FEMA), National Oceanic and Atmospheric Administration (NOAA) National Weather Service, U.S. Department of Health and Human Services, American Red Cross, local police and fire departments and eyewitness reports.

[For More Information About the SBCEA Please Click Here](#)

<http://www.sbca.com/index.asp>

[For More Information About Sirius Please Click Here](#)

<http://www.sirius.com>

[For More Information About XM Please Click Here](#)

<http://xmradio.com>

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E. Satellite Radio Accessibility Resources

This heading contains additional information regarding satellite radio and accessibility. These accessibility resources have been gathered, in this separate section, to provide easy availability to those for whom accessibility is a foremost concern.

1. Satellite Radio: Accessible Entertainment Option?

<http://www.voiceofthenationsblind.org/articles/61/satellite-radio>

An article by the National Federation for the Blind regarding the emerging satellite radio industry and accessibility concerns.

XI. NHK & CURRENT EAS RESEARCH & DEVELOPMENT IN JAPAN

A. General Information

NHK (Nippon Hoso Kyokai - Japan Broadcasting Corp) has led the research and development of emergency broadcasting technology since the late 1970's. In 2000, the Japanese government mandated that all broadcasters convert to digital terrestrial broadcast systems and that there will be no more analog broadcast by 2011. As emergency broadcast technology existed in analog broadcast systems in the past, emergency alert systems (EAS) are being implemented into the digital systems of today. Having the ability to reach many people through portable devices and digital television, this EAS technology is increasingly becoming an important aspect of emergency broadcasting.

Many technology companies have also joined the effort to refine the emergency broadcasting technology, such as Panasonic, Fujitsu, and KDDI.

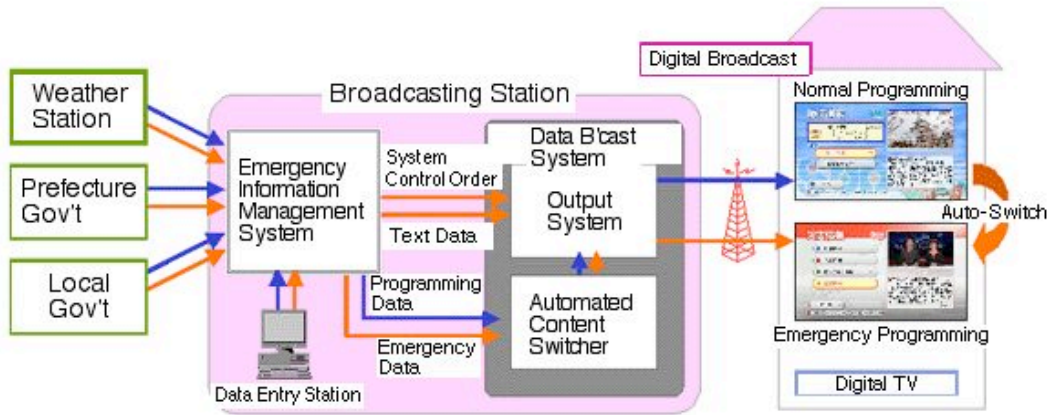
B. Digital Television

Partly funded by National Institute of Information and Communications Technology (NICT), Panasonic has developed the following technology for emergency broadcast.

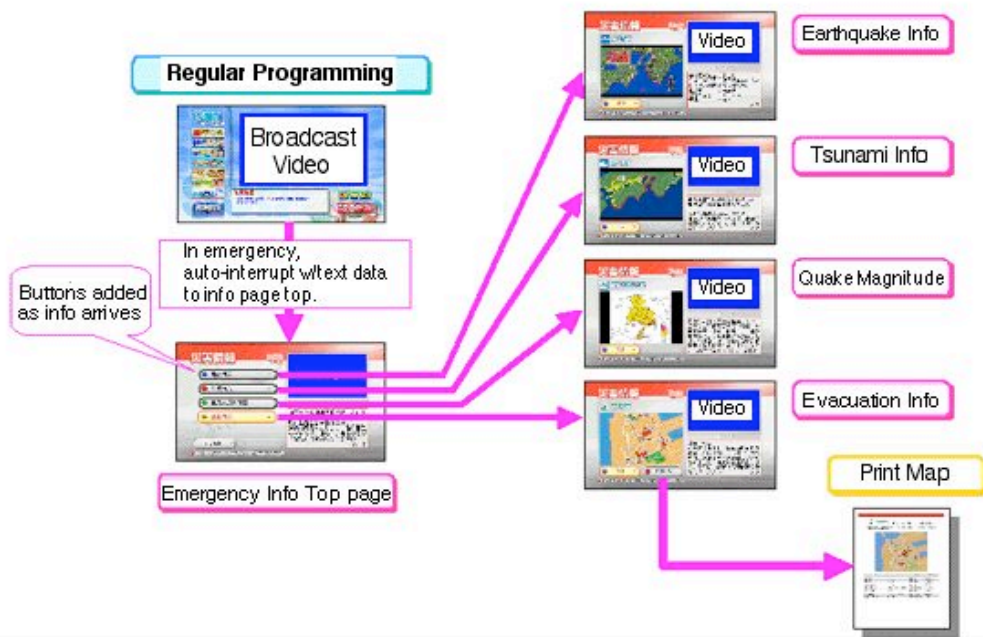
1. **Data Broadcast Interruption/Push technology:** A technology offering flexible switching and simultaneous data broadcast by Automated Program Controller (APC) at broadcast stations.
2. **The Dynamic Broadcast Bandwidth Controller:** A technology that maximizes emergency data broadcast depending on the content of current programming.

These technologies make it possible for automated switching to emergency broadcast as requested by local and other agencies, with scalable response depending on emergency level, and without interrupting the normal data broadcast. For example, the TV system will automatically switch to emergency data broadcasting without use of remote control by viewers. This way, the public can receive emergency data broadcast immediately and reliably.

Overview of Emergency Broadcast System via Digital Terrestrial Network



Sample Images from UN ISDR World Conference, Jan. 2005



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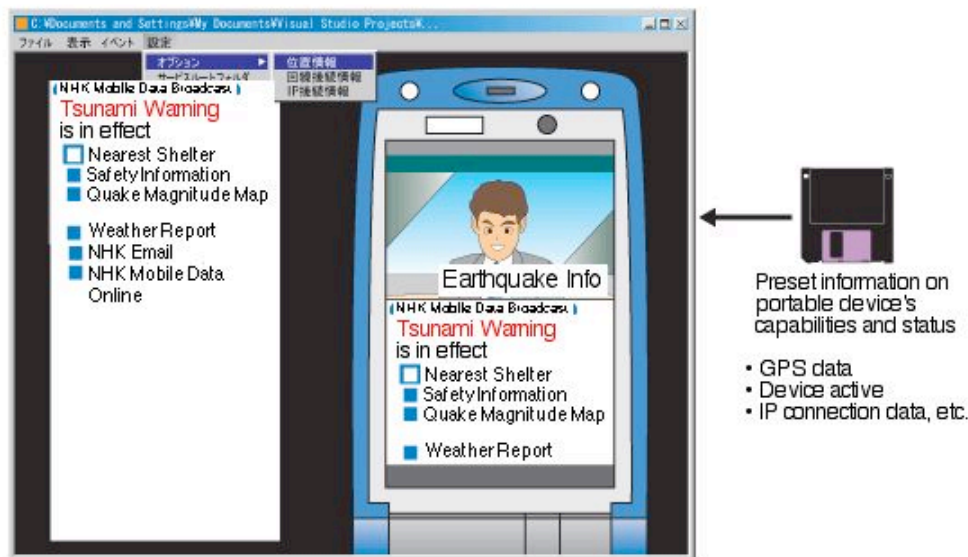
C. Portable Devices

In spring of 2006, Digital Terrestrial Network will begin broadcasting specifically to portable devices, such as cell phones and portable TVs. One of the challenges in emergency broadcast is to design portable devices to automatically activate on demand to alert users. It has been difficult for such devices to "standby" for Emergency Warning Signals (EWS) for an extended period of time due to limited battery power. NHK has been successful in developing new portable devices with minimal power consumption. The new design lets these portable devices wait for Emergency Warning Signals in a specified narrow frequency, thereby saving power. This also allows the device to fully respond and receive data in areas of weak signal. A similar circuit design can be incorporated into TV remote control, so it can automatically turn on television in emergency situations. NHK is currently incorporating this new design into commercially available portable devices.

The encoder/decoder (codec) used in broadcasting to portable devices is AVC/H.264, which can accommodate 320x240 video at maximum 15 frames per second. The bit rate is very low at 128-192kbps. NHK recently developed a real time encoder to keep the quality as high as possible. The video signal is processed before the encoding to remove noise, smooth transitions and complicated patterns, resulting in reduced pixilation and blocking artifacts. The process spots areas that are susceptible to degradation such as facial images, and emphasize those areas to retain maximum details. This device is slated for launch in early 2006.

BML is a language based on XML and XHTML, and users can customize which data to be sent/received via digital data broadcast. Using BML, if, for example, a user creates a preset to send the device's GPS location, it receives the nearest evacuation information. These portable devices can also take advantage of BML data broadcasting in conjunction with their built-in GPS and email capabilities.

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Test Data Broadcast for Portable Devices BML Browser

D. Accessible “Barrier Free” Technology

NHK has been researching broadcast technology for people with disabilities utilizing principles of universal design, known in Japan as “barrier free” technology. Some of the functionalities include converting text data to larger sizes/braille/synthesized speech, and real-time captioning technology with automated voice recognition.

1. Technologies For Blind And Visually Impaired

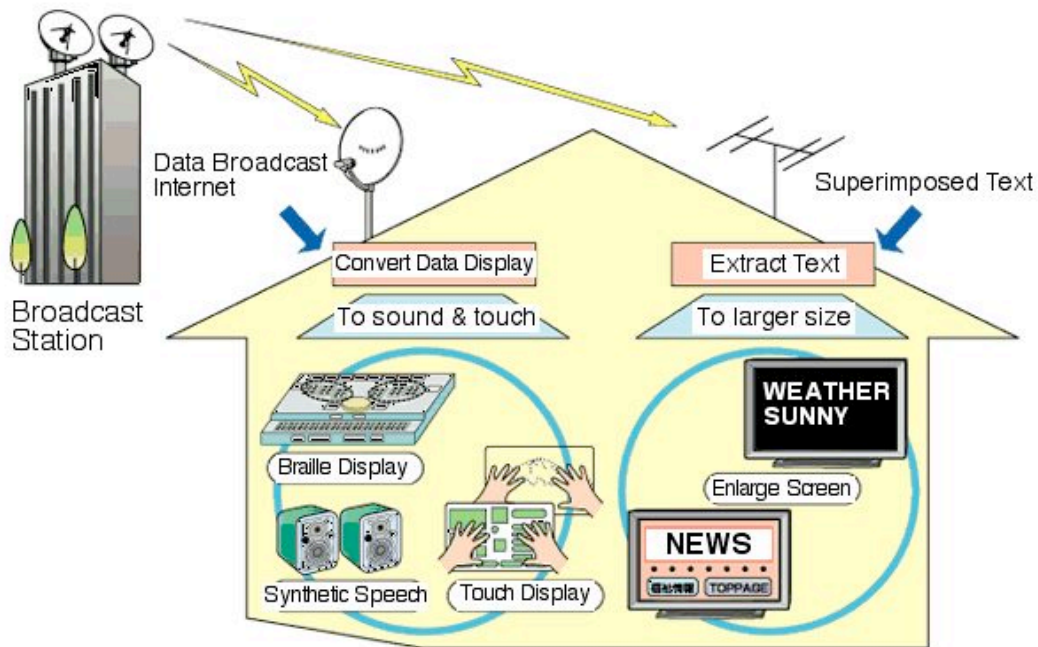
For blind or visually impaired individuals, NHK is developing various devices that can convert graphic and text information in data broadcast, as well as extracting text, subtitles, and emergency broadcast information in normal broadcast into:

- Large size text or high-contrast colors
- Interactive touch screen pad that can display graphic information and menu/button items

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- Natural sounding synthesized speech

From data broadcast and via the Internet, blind and visually impaired people can potentially receive information via Braille display, touch display (graphic shapes or menu items that are selectable), or synthesized speech. For those with limited vision, graphic letters and subtitles can be magnified, or converted to synthesized speech.



Barrier-Free Information Devices for Blind and Visually Impaired

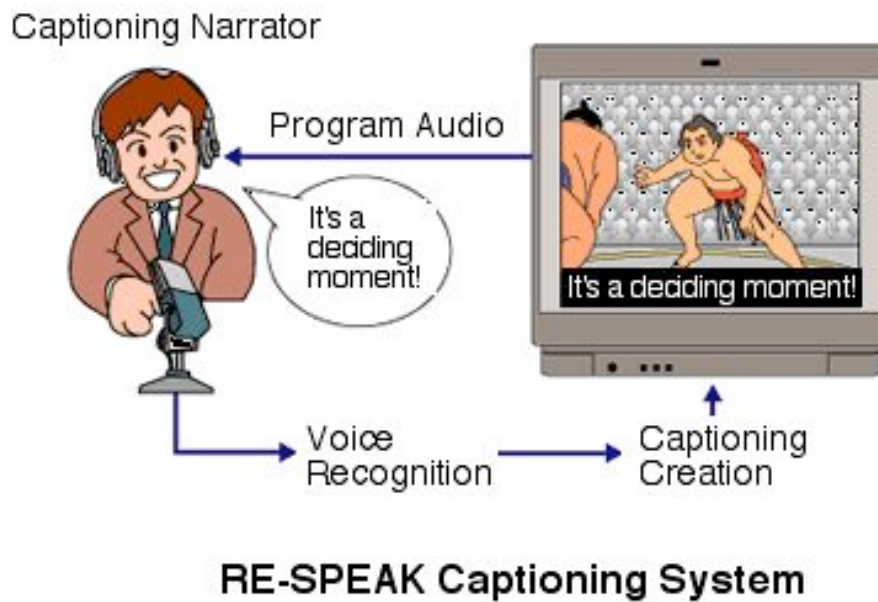
2. Technologies For Deaf And Hearing Impaired

NHK has developed technologies to capture and create captions live by voice recognition, called the RE-SPEAK Captioning System. During live broadcast of sporting events or concerts, the captioning narrator re-reads what's being spoken, and a computer then converts it to captioning data. Not only can this process help create error-free captions when there is much background noise, but the captioning narrator can modify the original narration in order to make captioning more easily understood by the deaf/hard of hearing viewer.

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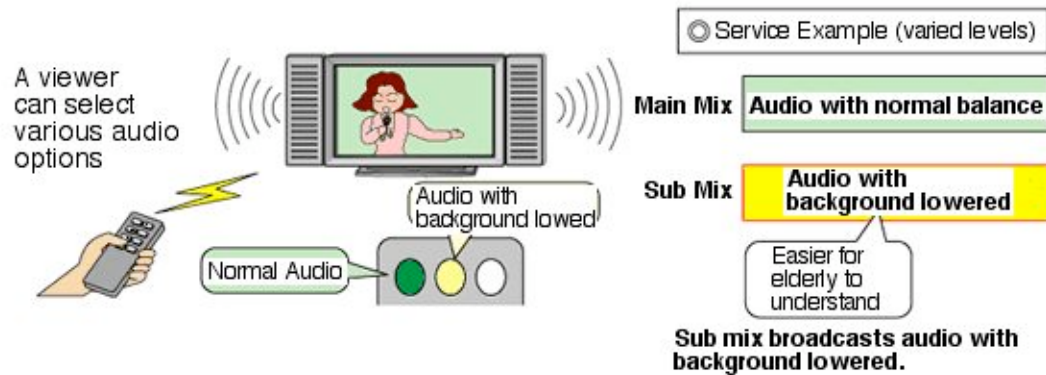
The captioning narrator's voice is recognized through his/her voice characteristics profile, and statistical probability of words spoken in each context. This is achieved by analyzing past episode of the show, and increases the accuracy of the captioning.

The RE-SPEAK Captioning System has been used in variety of programming such as Winter Olympics, Sumo Wrestling tournament, Battle of Singers and other live broadcast. Many viewers reported positively, that they enjoyed the programs more by learning additional information missing in video content.



3. Audio Mix for the Hard of Hearing

Many hard of hearing individuals have said that they have difficult time understanding dialog or narrators while watching TV. For better understanding, NHK has created a secondary audio mix with lowered background sound. NHK is in the developmental phase of providing these additional mixes for within program offerings.



XII. The UN International Strategy for Disaster Reduction (ISDR)

A. General Information

The UN/ISDR is the focal point in the UN System to promote synergies and coordination between disaster reduction activities in the socio-economic, humanitarian and development fields. It also serves to support policy integration, and to act as an international information clearinghouse on disaster reduction. The UN/ISDR develops awareness campaigns and produces articles, journals, and promotional materials related to disaster reduction. The UN/ISDR headquarters is based at the Palais des Nations in Geneva. It conducts outreach programs in Costa Rica and Kenya.

B. The UN/ISDR Mission

The UN/ISDR aims at building disaster resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development, with the goal of reducing human, social, economic and environmental losses due to natural hazards and related technological and environmental disasters. In order to fulfill this mission, the UN/ISDR promotes four objectives as tools towards reaching disaster reduction for all:

1. Promoting increased global public awareness of the importance of disaster reduction.
2. Obtaining commitment from public authorities to implement disaster reduction policies and actions.
3. Stimulating interdisciplinary and intersectoral partnerships, including the expansion of risk reduction networks.
4. Improving scientific knowledge about disaster reduction.

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The UN/ISDR maintains an extremely thorough website which includes information on their organization, disaster statistics, public awareness, the Inter-Agency Taskforce on Disaster Reduction, media, links, meetings and conferences on disaster reduction, tsunami early warning, on-line dialogues and much more.

[To Access the ISDR Website Please Click Here](#)

<http://www.unisdr.org>

C. UN/ISDR Events

1. WCDR

The United Nations General Assembly recently requested that the ISDR secretariat serve as the secretariat of a World Conference on Disaster Reduction (WCDR). The purpose of this conference was to take stock of progress in disaster risk reduction accomplished since the Yokohama Conference of 1994, and to make plans for the next ten years. The WCDR was composed of three main processes, an intergovernmental segment, a thematic segment, and a public forum. The main outcome of the World Conference on Disaster Reduction was a strong commitment of the international community to address disaster reduction and to engage in a determined, results-oriented plan of action for the next decade. The WCDR was hosted by the Japanese government in Kobe, Japan and took place January 18 – 22, 2005. The WCDR brought together some 4,000 people from governmental and non-governmental bodies around the world, with participants from 168 States, 78 observer organizations, and over 560 journalists.

2. ISDR

The ISDR is currently promoting their Third International Conference on Early Warning (EWC III). The EWCIII is slated to convene in Bonn Germany, under UN auspices, March 27 - 29, 2006. Salvano Briceño, Director of the secretariat of the International Strategy for Disaster Reduction, stated, "the conference's main outcome will be the

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launch of a range of short and long-term early warning projects in high priority countries." The meeting is expected to bring together over 600 representatives of governments, parliaments and international organizations, as well as practitioners and members of the scientific community.

[For More Information on the EWC III Please Click Here](#)

<http://www.ewc3.org>

[For More Information on the WCDR Please Click Here](#)

<http://www.unisdr.org/wcdr/>

D. The Inter-Agency Taskforce on Disaster Reduction

The ISDR combines the strengths of many key players through the Inter-Agency Task Force on Disaster Reduction, The IATF/DR is the principal body for the development of disaster reduction policy. It is headed by the UN Under-Secretary General for Humanitarian Affairs and consists of 25 UN, international, regional and civil society organizations. The purpose of the IATF/DR is to serve as the main forum within the United Nations for continued and concerted emphasis on natural disaster reduction, in particular for defining strategies for international cooperation at all levels in this field, while ensuring complimentary action with other agencies. The mandated functions of the Inter-Agency Task Force for Disaster Reduction are:

1. to serve as the main forum within the United Nations system for devising strategies and policies for the reduction of natural hazards;
2. to identify gaps in disaster reduction policies and programs and recommend remedial action;
3. to provide policy guidance to the ISDR secretariat; and
4. to convene ad hoc meetings of experts on issues related to disaster reduction.

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For More Information on the IATF/DR Please Click Here

<http://www.unisdr.org/eng/task%20force/force/tf-functions-responsibilities-eng.html>

XIII. The National Center for Accessible Media (NCAM)

The WGBH Educational Foundation's Media Access Group has been a pioneer in accessible media since the 1970s. In 1993 WGBH established the National Center for Accessible Media (NCAM) to continue this important legacy. NCAM is currently involved in working on accessibility solutions for emergency preparedness.

A. The National Center for Accessible Media's 'Technology Opportunities Program (TOP) Grant

NCAM is currently working on a project that proposes to unite emergency alert providers, local information resources, telecommunications industry, public broadcasting representatives, and consumers in a collaborative effort to research and disseminate replicable approaches to make emergency warnings and community-based information accessible.

For more information on NCAM's TOP grant, please click here.
<http://ntiaotiant2.ntia.doc.gov/top/details.cfm?oeam=256004026>

B. National Center for Accessible Media's Accessibility Resources

- **The Media Access Group's Descriptive Services**
<http://main.wgbh.org/wgbh/pages/mag/services/description/>
- **The Media Access Group's Captioning Services**
<http://main.wgbh.org/wgbh/pages/mag/services/captioning/>
- **The Media Access Group's Description and Captioning for the Web**
<http://main.wgbh.org/wgbh/pages/mag/services/description/>

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XIV. Bridge Multimedia

A. General Information

Founded in 2002, Bridge Multimedia Corporation is a New York City-based media company dedicated to supporting all facets of universally accessible media, including accessible emergency alert systems and communication. Since its establishment, Bridge has been awarded both a NIDRR and an OSEP grant by the United States Department of Education, for the purpose of researching and developing educational technologies which are universally accessible. In 2005, working under the auspices of the American Foundation for the Blind, Bridge Multimedia undertook a research project to assemble information regarding accessibility and emergency communications. The result of our collaboration was this Emergency Preparedness Online website, posted to provide information and resource lists pertaining to the Emergency Alert System.

B. EAS Related Activities in Progress

1. EmergencyPrepOnline.org Website Expansion

Bridge plans to continue expanding upon Emergency Preparedness Online with the goal of creating an active, evolving site to be utilized by the emergency preparedness community or anyone seeking the most recent updates on accessibility and emergency warnings.

2. Dissemination and Network Building

In 2006 Bridge Multimedia will launch an outreach program geared towards relevant associations and organizations, both local and national, that might be interested in linking to our website with the aim of establishing a vital network where news and ideas regarding emergency notification can be freely exchanged.

3. Accessible Recovery Notification

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Bridge's technical division is in the process of developing a prototype designed to convey accessible post-emergency recovery information. Bridge is currently exploring grant and partnership opportunities to assist in bringing this important project to fruition.

C. Other Online Resource Directory MicroSites Published by Bridge Multimedia:

1. Ed-TechOnline

Ed-TechOnline.com, the only comprehensive online resource directory listing all federal grants to K-12 schools for educational technology, posts information regarding funding for accessible technology and media materials for students with disabilities. The directory, developed in association with the American Institutes for Research and the American Foundation for the Blind, launched in May 2005 as a micro-site within Bridge Multimedia's website.

2. www.bridgetransitions.com Online Transition Planning Directory

Bridge Multimedia is in the process of creating www.bridgetransitions.com, a MicroSite to provide comprehensive information about post-secondary programs geared towards students with special needs. These listings will include 2-year academic programs, 4-year academic programs, vocational programs, and 'assisted independent living' programs. This Online Transition Planning Directory, titled *Bridge Transitions*, is slated to launch in the spring of 2006.

D. Bridge Multimedia's media production services:

1. Audio Description in all media formats, including broadcast & cable TV, video, streaming media, Internet, CD-ROM and DVD.
2. Captioning in all media formats; closed and open caption configurations. We are fully equipped for captioning production in both linear and non-linear formats.

We can archive all captioned data as AVID media assets for a program or series.

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3. **Bilingual Accessibility:** Bridge offers bilingual description and captioning, as well as translation and dubbing of any media content. Bilingual and Spanish adaptations of EXTRA info(TM) are available.
4. **Accessible Website Development** both for new sites and assessing and configuring existing video and Internet content to add universal W3C- and 508-compliant accessibility in HTML, XML, SMIL, Flash MX, Windows Media and other downloadable formats. Working with AFB's respected team led by one of Section 508's authors, Bridge works with clients to create engaging web content that is accessible to the widest possible audience.
5. **Cross-Disability Product Design:** Our technology integrates the needs of the blind/low-vision, deaf/hard of hearing, print-disabled, learning-impaired, mobility-impaired, and low-literacy populations.
6. **English As A Second Language:** Bridge develops scripts and carefully edits supplementary content to ensure that key concepts are presented without difficult linguistic constructions, in a context that enhances understanding by those who are in the process of acquiring English language skills. Bilingual and Spanish adaptations of program content and EXTRA Info(TM) are available.
7. **Comprehensive Media Production:** Bridge has extensive technical resources. From concept to post-production, Bridge is the single source for the delivery of digital media for television, video, audio, DVD, CD and the web.

[Please Click Here for More Information about Bridge Multimedia](#)

www.bridgemultimedia.com

[Please Click Here to Contact Bridge Multimedia](#)

XV. MITRE Corporation

A. General Information

The MITRE Corporation, established in 1958, is a not-for-profit organization which conducts work in systems engineering, information technology, operational concepts, and enterprise modernization. MITRE was originally formed by several hundred employees from the Massachusetts Institute of Technology's Lincoln Laboratories who came together to create new technology for the Department of Defense. The company expanded in 1963 after the Federal Aviation Administration gave the company systems engineering responsibility for the projected National Airspace System. Over the years, the company has continued to evolve to meet the public interest by providing top-notch engineers and scientists experienced in a wide range of technologies. MITRE has 5,700 scientists, engineers and support specialists who work on hundreds of different projects across the company. MITRE has headquarters in Bedford, Massachusetts, and McLean, Virginia, with more than 60 sites around the world. MITRE manages three Federally Funded Research and Development Centers (FFRDCs) in addition to its own independent research and development program that explores new technologies and their uses.

[For More Information on FFRDCs Please Click HERE](#)

B. MITRE's Recommendations to NTIA

In 1999 the National Telecommunications and Information Administration, an agency of the U.S. Department of Commerce and the Executive Branch's principal voice on domestic and international telecommunications and information technology issues, published *Saving Lives With an All-Hazard Warning Network*. This report made several important observations about the nation's warning system and the future needs for effective warnings. The following document is MITRE's official response.

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All Hazard Warning – Comment, Docket No. 000609173-0173-01

Comments from Jim Chadwick, Darrell Ernst, and Jim Marshall of the MITRE Corporation

1.0 Introduction

As the technology for new broadcast and personal communications systems advances, there are many opportunities for substantial enhancements to emergency alerting systems. These new opportunities make it technically feasible to deliver hazard warnings of many types by a wide variety of media. However, there are a number of obstacles to actual deployment of advanced all-hazard warning systems. Some of these obstacles are technical in nature, while others are economic, administrative, jurisdictional, or legal in nature. This document briefly addresses some of the technical considerations and obstacles and provides some recommendations for changes in public policy that would facilitate overcoming these obstacles.

2.0 Technical Considerations

2.1 System of Systems

Providing effective emergency alerting for all areas of the nation will require a system made up of multiple systems. This will be required because of the wide variety of hazards, sensor systems, cognizant administrations, available delivery media, intended recipients, desired actions, timeliness requirements, etc. In many different ways, the requirements for emergency alerting are widely diverse. Consequently, no one system will fill all needs. As a result, one of the main technical challenges will be to make multiple existing and future systems work together effectively.

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2.2 Broadcast Media

An effective emergency alert system must be composed of many parts. One of the most important of these is the "last mile" message delivery component. Many media alternatives are being used, or have been suggested for this part, including:

- Broadcast radio and TV
- Cable TV
- Internet
- Cellular and digital Personal Communications Service (PCS) phones
- Broadcast satellite
- Pagers
- Standard telephone
- NOAA Weather Radio (NWR)
- Mobile Satellite Service (MSS)

Of the alternatives listed above, many are wireless in nature. These wireless methods of warning delivery are attractive for emergency alerting for several reasons. First, wireless delivery methods have the capability to deliver warning messages to people in all types of situations, depending on the receive devices. For example, people can be reached whether they are at home, driving in their car, or walking in a park. Other approaches, for example those based on landline technology, could not reach people on foot or traveling in a car.

Second, wireless media are inherently broadcast in nature. This is advantageous for emergency alerting because it scales well. A single alert message can reach all the people in a give area, whether there are many people in the vicinity, or few.

2.3 Multiple Media

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While broadcast wireless media have many advantages for emergency alerting, they also have disadvantages. One important disadvantage is the lack of perfect RF coverage of any one system. As a result, the coverage and reliability of the "system of systems" must be enhanced by utilizing as many media as possible.

2.4 Forward Looking

Once enhanced emergency alert systems are deployed, it is important for these new systems to be as long-lived as possible. Accomplishing this will require the new systems to be compatible with emerging technologies and not directly dependent on older technologies that may have a limited remaining lifetime. In keeping with this idea, it is important for the new system to use digital message formats. In addition, the new systems must be flexible and expandable so future requirements can be accommodated.

2.5 Standard Message Sets

Given the use of many different digital, broadcast wireless media as delivery mechanisms for emergency alert messages, it should be clear that a standardized set of digital emergency messages should be developed. This new message set should be compatible with many different wireless media. It should incorporate the many important features of the existing Emergency Alert System (EAS) message sets, but should go beyond EAS and NWR in capabilities.

2.6 Location Specific Precision

One important feature of any new emergency alert message set, should be its ability to provide precise geographically specific alert regions. These regions might be of any size or shape. This ability to precisely warn specific areas is essential to prevent the problems of over-warning the public. With the proliferation of Global Positioning System (GPS)

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technology, and the ability to send digital messages, sending warning messages that contain precise geographic coordinates of the threatened area is feasible. These messages could be broadcast to all receivers in the coverage area of the various transmitters. The receivers would filter the messages based on the location of the receiver. Only those inside the threatened region would alarm the user to the danger. In this way, only the people with a need to be alerted are notified of the danger by the receiving device. People who do not need to be alerted will not be needlessly disturbed by unnecessary alarms. This technique for prevention of "over warning" would improve the effectiveness of the system in several ways. First, the "cry wolf" effect would be minimized. People would not become frustrated and skeptical about the system because they were frequently warned about hazards that did not apply to them. Second, minimizing over warning helps prevent situations where people think they are fleeing a particular danger, but are actually fleeing into some sort of danger. Messages could tell, not only where the danger is, but also suggest safe places to go. Finally, minimizing over-warning helps prevent roads clogged with people who do not need to flee, obstructing those who really do need to leave an area.

Besides being precise geographically, standard emergency alert messages should not rely on man-made boundaries, such as counties, zip codes, telephone area codes, or voting districts. Alerting based on man-made regions has several problems. First, the boundaries of these regions can change. This can result in significant configuration control problems and ultimately can cause dangerous confusion. Second, and more importantly, many of the people being warned may not know which region (for example, which county) they are in. This is clearly a dangerous issue. It is especially significant for tourists, or others traveling in an unfamiliar area. Finally, man-made regions may not be the correct size and shape for any particular emergency threat. Again, this can result in over-warning the public. In summary, emergency alerting should be done based on alert regions described in terms of latitude and longitude. Mobile RX will need GPS and fixed receivers need to have their location entered in some way.

2.7 System Architecture

There are significant administrative, jurisdictional, and legal obstacles and pitfalls associated with emergency alerting. Some of these can be minimized by developing a system that provides alert message injection direct from the people monitoring the "sensor" that provides data on the hazard. In this way, administrative decision layers are bypassed, jurisdictional issues tend to be avoided, and time is saved.

Such an architecture would need to address the distribution of all types of messages all the way from the sensor to the public. Alerting should be considered for: earthquakes, fires, tsunamis, tornadoes, hazardous materials (HAZMAT) situations, terrorism, biological warfare, floods, ice storms, hurricanes, disease outbreaks, volcanoes, lahars, high winds, cold snaps, animal attacks, lightning storms and others.

3.0 Questions

3.1 Is it technically feasible?

Yes, it is technically feasible to deliver emergency alert messages to many of the devices described in the request for public comment. Pagers are already being used for weather information and emergency alerting. Digital cellular systems have a broadcast channel that might be used for such messages. Messages could be provided over the Internet, but most current internet technology uses information pull, not information push. Broadcast TV, radio, and cable systems are already used for EAS messages, although these messages should be enhanced. Other emerging technologies could also be used. New digital broadcast services could be especially effective for emergency alerting. However, to be useful, these new services would need an ancillary data channel that could be made available for emergency alerting.

3.2 What are the trade-offs among systems?

Digital wireless broadcast media are generally better for emergency alerting applications. These technologies are scalable for alerting large populations quickly. They are also well suited for "information push" instead of "information pull. Finally, they have the capability to reach people wherever they are. Global coverage broadcast systems, such as those using geosynchronous satellites, would be well suited for alerts that need to go to the whole nation. On the other hand, they may not be well suited for delivering alerts for many different local emergencies over a continental area. More local broadcast systems such as broadcast TV or radio cover a more suitable area for local emergencies.

Individual cell sites cover too small an area, but this can be overcome by using many cell sites in a cellular or PCS system. In addition, cellular phones provide a good means for reaching people in many different situations and locations. The use of standard telephone systems has the advantage of high reliability. In addition, the public is very familiar with its use, so no training is needed. On the other hand, it is not scalable for alerting large populations, and will not work for reaching people on the move.

3.3 What are the economic impediments?

The sensing, identification, message generation, and message delivery needed for emergency alerting requires money. These expenses are required both in terms of initial investment, as well as ongoing operation and maintenance. Funding for such a system must come from somewhere. Possibilities include government subsidies, additional services fees (such as the E-911 fee charged to cellular customers), subscription fees, and advertisements. An open question is whether the public would be willing to pay a subscription fee to improve their safety in the case of an unlikely hazardous event.

A good economic model for the whole system should be developed, but here is one possibility:

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- a. The federal government mandates that all new digital broadcast wireless media have an ancillary broadcast data channel. This channel could be used for revenue bearing data traffic, such as subscription data services or digital advertisements. However, the channel must also be available for emergency alert messages, on a priority basis.
- b. The wireless system operators use the ancillary data channel for revenue bearing traffic most of the time. Equipment manufacturers will build RX to process this data, as long as it has a perceived value to the public and an economic value to the system operator. Full time use by this revenue bearing traffic, ensures that the system is always up and running.
- c. Emergency alert messages could be generated and injected into the commercial system when the need arises. These messages would take priority over other messages.
- d. Government agencies would bear the cost of generating the message, but not for delivering the message or for the equipment that receives it. These costs are borne by the wireless system operator and by the public respectively.

3.4 What are the legal impediments?

MITRE has no comments on this question at this time.

3.5 What legal measures should be taken to foster the delivery of messages?

MITRE has no comments on this question at this time.

3.6 What policy measures should be taken to foster dissemination of warnings?

The development of an effective emergency alert system would be facilitated if the accessibility of an ancillary data channel for emergency alert messages was mandated for all broadcast wireless media.

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4.0 Recommendations

We make the following recommendations associated with national and local emergency alerting in the future.

- a. The All Hazard Roundtable should initiate a working group to define a standard set of messages for delivery of emergency alerts on digital broadcast wireless media. This message set must be flexible enough to work with a variety of wireless media and capable of being used for a wide range of hazards. It must allow for growth and evolution of the alert messages. It should provide geographically specific alert regions, based on the vertices of geographic polygons, and described in terms of latitude and longitude. It should be capable of providing some encrypted messages, not decodable by the public, but accessible to emergency managers.
- b. The Federal Communications Commission (FCC) should mandate that an auxiliary digital broadcast channel should be made available in all new digital broadcast wireless media. This channel could normally be used for a variety of data traffic including digital advertisements, but must be accessible to alert providers when the need arises. The FCC should further mandate that an ancillary broadcast data channel on new PCS systems be made accessible for emergency alert messages. This channel should be incorporated into third generation cellular systems. Facilitating this addition will require participation in the international standards bodies. A Roundtable sponsored working group should find a way to get messages to proper cell sites and should address the issue of using multiple cell sites to cover a large area.
- c. The All-Hazard Roundtable should study and recommend a system architecture for getting alert information from the "sensors" to the public. The architecture must provide for local, as well as regional or national injection of alert messages, where appropriate. The architecture must address both technical connectivity and

organizational and administrative issues. This system must minimize the number of administrative obstacles that might slow important messages. The group must also consider economic issues and recommend funding mechanisms to support the complete system. The group must also consider liability and other legal issues associated with the architecture.

[Click here for the link to this document online.](#)

C. Federally Funded Research and Development Centers (FFRDCs)

1. Introduction

A Federally Funded Research and Development Center (FFRDC) is a unique organization that assists the United States government with scientific research and analysis, development and acquisition, and/or systems engineering and integration. FFRDCs address long-term problems of considerable complexity, analyze technical questions with a high degree of objectivity, and provide creative and cost-effective solutions to government problems. Working in the public interest, FFRDCs operate as long-term strategic partners with their sponsoring government agencies. In order to ensure the highest levels of objectivity, FFRDCs are organized as independent entities with limitations and restrictions on their activities. This unique standing permits special access to government information and a long-term perspective. Since FFRDCs are prohibited from manufacturing products, competing with industry, or working for commercial companies, industry and government confidently provide them with sensitive information. As private entities, FFRDCs have greater flexibility than the government in recruiting and managing a highly skilled technical workforce. Sponsors conduct comprehensive reviews of their FFRDCs every five years to ensure the quality, efficiency, and appropriateness of the work program. FFRDCs commonly transfer the practical results of their work to the public through such methods as cooperative research

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and development, technology licensing, open source participation, and contributions to industry standards. MITRE's three FFRDCs are:

2. C3I: The Department of Defense FFRDC

In 1958 the MITRE DOD C3I FFRDC was created to support the development and fielding of electronically-based air defense systems. In 2006, the C3I FFRDC supports a varied set of sponsors within the Department of Defense and the Intelligence Community. These include the military departments, defense and intelligence agencies, the combatant commands, and elements of both the Office of the Secretary of Defense and the Office of the Joint Chiefs of Staff. The system engineering activities for these sponsors cover a wide range from concept development through the acquisition and fielding of advanced capabilities.

[For More Information on the DOD C3I Please Click Here](http://www.mitre.org/about/ffrdcs/c3i.html)

<http://www.mitre.org/about/ffrdcs/c3i.html>

3. Center for Advanced Aviation System Development (CAASD): Federal Aviation Administration FFRDC

Since MITRE's inception in 1958, the corporation has helped the Federal Aviation Administration (FAA) address the nation's most crucial aviation issues. In recognition of this long-standing and productive relationship, the FAA designated MITRE's aviation program as a Federally Funded Research and Development Center in 1990. The new entity was called the Center for Advanced Aviation System Development (CAASD). In addition to supporting the FAA, CAASD works with civil aviation authorities around the world, all of which face similar challenges.

[For More Information on the CAASD Please Click Here](#)

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<http://www.mitre.org/about/ffrdcs/caasd.html>

4. Center for Enterprise Modernization (CEM): Internal Revenue Service FFRDC

In the fall of 1998, the Internal Revenue Service chose The MITRE Corporation to operate a new FFRDC to assist it in its ongoing effort to modernize systems for tax administration. Today, that FFRDC, now known as the Center for Enterprise Modernization (CEM), advances enterprise modernization within the IRS and across government, working with other government agencies—including the Bureau of Customs and Border Protection, the Coast Guard, other Treasury agencies, the Department of Veterans Affairs, and the Peace Corps—on their modernization programs.

For More Information on the CEM Please Click Here

<http://www.mitre.org/about/ffrdcs/cem.html>

XVI. OF RELATED INTEREST

A. American Red Cross Disaster Services

Every year, the American Red Cross responds to more than 70,000 disasters, including fires, hurricanes, floods, earthquakes, tornadoes, hazardous materials spills, transportation accidents, explosions, and other natural and man-made disasters. Red Cross disaster relief focuses on meeting people's immediate emergency disaster-caused needs. When a disaster threatens or strikes, the Red Cross provides shelter, food, and health and mental health services to address basic human needs.

To visit the American Red Cross Website please click here
www.redcross.org

PLEASE NOTE: Additional American Red Cross disability related resource listings can be found in Section XVI of EmergencyPreparednessOnline.

1. American Red Cross Emergency Preparedness Kit

http://www.redcross.org/services/disaster/0,1082,0_217_.00.html

The American Red Cross offers a website which provides downloadable information regarding the preparation of special kits designed specifically for disaster readiness.

2. Emergency Disaster Response and Preparedness

http://www.redcross.org/services/intl/0,1082,0_443_.00.html

Downloadable information about the Red Cross International Services including their Emergency Response Unit, Community Based Disaster Preparedness Interventions, and International Response Team.

3. Disaster Services Publications

<http://www.redcross.org/pubs/dspubs/cdelist.html>

An online directory of community disaster education materials listed by hazard, which include chemical emergencies, drought, earthquakes, fire, flood, heat waves, hurricanes, thunderstorms, tornadoes, volcanic eruptions, and winter storms.

4. Materials for Teachers and Schools

<http://www.redcross.org/pubs/dspubs/tchrschl.html>

An online listing of links to Red Cross community disaster education materials that are specifically designed for classroom/school use.

5. Preparing Your Business for the Unthinkable

http://www.redcross.org/services/disaster/0,1082,0_606_.00.html

Information about disaster preparedness and response in the workplace.

6. After a Disaster

http://www.redcross.org/services/disaster/0,1082,0_502_.00.html

[Information and links on post-disaster dangers and recovery issues.](#)

B. Disaster News Network

Disaster News Network (DNN) is a not-for-profit news service that tells the story of disaster response and suggests appropriate ways the public can help survivors. It also facilitates information sharing among disaster responders. Disaster News Network, which receives most of its funding from disaster response organizations, also covers related special topics such as preparedness and mitigation, public violence, environmental hazards, and terrorist disasters.

To visit the DNN website, please click here

<http://www.disasterresponse.net/>

C. Disaster Preparedness and Emergency Response Association (DERA)

Founded in 1962, The Disaster Preparedness and Emergency Response Association (DERA) assists communities with disaster preparedness, hazard mitigation, emergency response-recovery, and serves as a worldwide professional association linking professionals, volunteers, and organizations that are active in all phases of emergency management. DERA currently has active members around the world, representing nongovernmental relief organizations (NGOs), national governments, non-profit associations, local agencies and departments, educational institutions, corporations, and small business concerns. Members also include emergency management professionals, researchers, students and individual volunteers.

To visit the DERA website, please click here

<http://www.disasters.org/>

D. Emergency Response Resource Map

The Public Broadcasting Service posts a useful webpage with an interactive map that provides a complete state-by-state listing of emergency response departments and health agencies

To visit the Emergency Response Resource Map website, please click here

<http://www.pbs.org/now/society/emergencymap.html>

E. National Association of State EMS Officials (NASEMSO)

Each state in the USA has a lead Emergency Medical Services (EMS) agency, which is responsible for the overall planning, coordination, and regulation of the EMS system within the state, as well as for licensing or certifying EMS providers. The National Association of State Emergency Medical Services Officials (NASEMSO) is a non-profit organization formed in 1980 to be a lead voice for the development of effective, integrated, community-based, universal and consistent EMS systems. The EMS system plays a vital part in the medical aspects of response to a terrorist incident or natural disaster. State Emergency Medical Services offices are generally charged with the responsibility for coordinating the EMS response. Some of these responsibilities may include determining the availability of EMS resources, directing ambulances into needed areas, and directing the flow and destination of patients evacuated from the event area. The NASEMSO provides technical support and resources to assist states in meeting the challenges of preparedness.

[Click here to for more information on the National Association of State EMS Officials:](http://www.nasemsd.org/)

<http://www.nasemsd.org/>

F. The U.S. Department of Transportation

The U.S. Department of Transportation established an Emergency Transportation Subcommittee to serve as a mechanism to evaluate the status of emergency preparedness as it relates to people with disabilities and transportation systems. The Emergency Transportation Subcommittee is evaluating existing transportation regulations and their relationship to the needs of individuals with disabilities during an emergency. In addition, the Subcommittee plans to research, evaluate and provide examples of best practices and systems for planning and implementing emergency preparedness transportation policies and programs for people with disabilities, their family members, their employers and service providers.

[For more information visit:](#)

<http://www.dotcr.ost.dot.gov/asp/emergencyprep.asp>

PLEASE NOTE: Additional Department of Transportation disability related resource listings can be found in Section XVI of EmergencyPreparednessOnline.

XVII. ADDITIONAL DISABILITY RESOURCES

A. Disability Centers

1. Administration on Developmental Disabilities Accessibility Resources

The Administration on Developmental Disabilities (ADD) operates under the Department of Health and Human Service's Administration of Children and Families. The ADD is the Federal agency responsible for implementation and administration of the Developmental Disabilities Assistance and Bill of Rights Act.

ADD's mission is to improve and increase services to individuals with developmental disabilities.

To visit the ADD website, please click here

<http://www.acf.dhhs.gov/programs/add/index.html>

a. Katrina: Information for People with Disabilities

<http://www.acf.hhs.gov/programs/add/resources/hurricanekatrina.html>

The ADD maintains a website with information for people with disabilities and their families who have been affected by Hurricane Katrina.

b. Coping With Disaster: Suggestions for Helping Children with Cognitive Disabilities

<http://www.acf.dhhs.gov/programs/add/Sept11/addcoping.html>

This guide provides suggestions for helping children with cognitive impairments or delays to cope with this disaster. It provides strategies for caregivers and

teachers to use with children with mental retardation, autism, or other disabilities affecting learning, communication, and understanding.

2. Center for Development and Disability Accessibility Resources

The Center for Development and Disability (CDD) works to achieve the full inclusion of people with disabilities and their families in their community by engaging individuals in making life choices; partnering with communities to build resources; and improving systems of care. The CDD accomplishes this mission through innovative interdisciplinary training, dissemination of information, provision of exemplary direct service and technical assistance, and applied research.

To visit the CCD website, please click here

<http://cdd.unm.edu/>

a. Tips for First Responders

http://cdd.unm.edu/products/tips_web020205.pdf

Tips for First Responders , is an 11-page, laminated 4.5 x 5.5-inch field guide on how to assist persons with a wide range of disabilities, including: Seniors, People with Service Animals, People with Mobility Challenges, People with Mental Illness, Blind or Visually Impaired People, Deaf or Hard of Hearing People, and People with Cognitive Disabilities.

3. Center for Disability and Special Needs Preparedness

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The Center for Disability and Special Needs Preparedness is focused on helping ensure that all individuals are included in the development of and inclusion in plans for protection from both natural and man-made emergencies. The Center provides resources to assist local emergency planning organizations in the planning for individuals who need specialized communications, transportation, and medical supports. The Center has a wide variety of resources available including print and multi-media materials, bibliographical references, training materials and packages for training professionals on-site or through distance education. In addition, customized technical assistance is available for organizations that are evaluating and/or revising their emergency planning or procedures.

To visit the Disability Preparedness Center's website, please click here
<http://www.disabilitypreparedness.com/>

4. Disability Funders Network

The Disability Funders Network (DFN) is a group that works towards the inclusion of disability concerns in grantmaking programs as well as the inclusion of people with disabilities in grantmaking organizations. DFN maintains a website that provides an extensive list of disability related information including resources, links to publications, tools for grantmakers, a DFN Newsletter archive, employment data, philanthropy links, and other pertinent lists.

To visit the DFN website, please click here
<http://www.disabilityfunders.org/>

5. Disability Resources Accessibility Resources

Disability Resources (DR) is a nonprofit 501(c)(3) organization established to promote and improve awareness, availability and accessibility of information that can help people with disabilities live, learn, love, work and play independently. DR disseminates information about books, pamphlets, magazines, newsletters, videos, databases,

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government agencies, nonprofit organizations, telephone hotlines and on-line services that provide free, inexpensive or hard-to-find information to help people with disabilities live independently

To visit the DR website, please click here

<http://disabilityresources.org>

a. The Disability Resources Monthly

<http://www.disabilityresources.org/index.html>

b. Disaster Preparedness for People With Disabilities

<http://www.disabilityresources.org/DISASTER.html>

6. National Disability Rights Network Accessibility Resources

The National Disability Rights Network (NDRN) is the nonprofit membership organization for the federally mandated Protection and Advocacy (P&A) Systems and Client Assistance Programs (CAP) for individuals with disabilities. Through training, technical assistance, legal support, and legislative advocacy, ~~the NDNR~~ **NDRN** works to create a society in which people with disabilities are afforded equality of opportunity. The National Disability Rights Network serves a wide range of individuals with disabilities by guarding against abuse; advocating for basic rights; and ensuring accountability in health care, education, employment, housing, and transportation.

To visit the NDRN website, please click here

<http://www.ndrn.org/>

a. Links to Emergency Services

<http://www.ndrn.org/katrinalinks.htm>

This extensive webpage provides links to government resources, Katrina related resources, resources for those involved with disaster relief, advocacy centers, and information and referral centers.

B. Domestic Preparedness

1. The Federal Alliance for Safe Homes Accessibility Resources

The Federal Alliance for Safe Homes (FLASH) is a non-profit, 501(c)3 organization dedicated to promoting disaster safety, property protection, property loss mitigation and economic well-being by strengthening homes and safeguarding families from natural and manmade disasters. FLASH partners with like-minded organizations from the public, private and non-profit sector; to demonstrate leadership through creation of useful and reliable disaster safety education programs. FLASH also sponsors ongoing outreach initiatives to encourage citizens to build, buy and use buildings that are constructed or retrofitted with disaster safety in mind.

To visit the FLASH website, please click here

<http://www.flash.org/home.asp>

a. Disaster Safety for People with Disabilities

<http://www.flash.org/activity.cfm?currentPeril=1&activityID=166>

b. FLASH Card

<http://www.flash.org/resources/files/Flash%20Disabilities.pdf>

2. Independent Living Research Utilization Accessibility Resources

The Independent Living Research Utilization (ILRU) program is a national center for information, training, research, and technical assistance in independent living. Its goal is

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to expand the body of knowledge in independent living and to improve utilization of results of research programs and demonstration projects in this field. Since ILRU was established in 1977, it has developed a variety of strategies for collecting, synthesizing, and disseminating information related to the field of independent living.

To visit the ILRU website, please click here

<http://www.ilru.org/index.html>

a. Hurricane Relief Assistance for People with Disabilities

<http://www.ilru.org/html/whatsnew/announcements/katrina.html>

An extremely thorough list of resources for individuals and organizations that include listings of phone numbers, web links, advocacy, medical, and financial information.

b. ILRU Resources

<http://www.ilru.org/html/resources/index.html>

A variety of resources and useful links including information on ADA, independent living, grant writing, and technology resources.

3. Nobody Left Behind

The ~~NIDRR~~ CDC sponsored Research and Training Center on Independent Living developed *Nobody Left Behind: Disaster Preparedness for Persons with Mobility Impairments* as a research program to determine if disaster plans and emergency response systems for homes, businesses, and communities include the health, safety, and survival

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needs for persons with mobility impairment. Also to identify emerging or Best Practices models for counties to assist in disaster plans and emergency responses to meet the needs of persons with mobility impairments in hopes of preventing injuries and saving lives. Nobody Left Behind posts a website with a great deal of information about disaster preparedness for people with disabilities, resources for emergency managers and first responders, as well as recent news regarding disaster readiness.

To visit the Nobody Left Behind website, please click here

<http://www.nobodyleftbehind2.org/>

4. Project Safe EV-AC: Evacuation and Accommodation of People with Disabilities

Project Safe EV-AC is a three year development project which will improve evacuation from buildings, vehicles, and other settings during emergencies by providing training materials on the evacuation and accommodation of people with disabilities. This project is being funded by a Dept. of Education, NIDRR grant.

To visit the Project Safe EV-AC website, please click here

<http://evac.icdi.wvu.edu/>

C. Emergency Managers

1. International Association of Emergency Managers Accessibility Resources

The International Association of Emergency Managers (IAEM) is a non-profit educational organization dedicated to the goal of saving lives and protecting property during emergencies and disasters. The mission of the IAEM is to provide information, networking and professional opportunities and to advance the emergency management profession. The IAEM produces an informative website complete with listings of events, resources, news items, and a discussion group.

To visit the IAEM website, please click here

<http://www.iaem.com/>

a. Special needs and emergency preparedness 3/05 bulletin

<http://www.eadassociates.com/March2005IAEM%20bulletin.pdf>

A downloadable 2005 bulletin that focuses upon emergency preparedness for those with individual requirements.

b. Special needs and emergency preparedness 4/05 bulletin

<http://www.eadassociates.com/April2005IAEMBulletin.pdf>

Part two of the IAEM's special bulletin regarding emergency preparedness for those with individual requirements

c. Information on Special Needs Committee

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<http://www.iaem.com/about/committees/SpecialNeeds/SpecialNeeds.htm>

2. New Jersey Office of Emergency Management Accessibility Resources

The Emergency Management Section organizes, directs, staffs, coordinates and reports the activities of the Communications Bureau, Emergency Preparedness Bureau, and Recovery Bureau. The Section supervisor and staff facilitate the flow of information to and from the various Bureaus supervised and serve as a conduit for communication with other Division entities. The Section is also responsible for planning, directing and coordinating emergency operations within the State which are beyond local control.

To visit the NJ Office of Emergency Management website, please click here

<http://www.state.nj.us/njoem/index.html>

a. Resources and Links for Individuals with Disabilities and Special Needs

<http://www.state.nj.us/njoem/plan/special-needs.html>

Online information and resource links about disaster readiness and people with disabilities.

D. Fire Safety

1. National Fire Protection Association Accessibility Resources

Established in 1896, the National Fire Protection Association (NFPA) serves as the world's leading advocate of fire prevention and is an authoritative source on public safety. The mission of the international nonprofit NFPA is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating codes and standards, research, training, and education. NFPA membership totals more than 79,000 individuals from around the world and more

To visit the NFPA website, please click here

<http://www.nfpa.org/index.asp>

a. Safety for People with Disabilities

<http://www.nfpa.org/itemDetail.asp?categoryID=824&itemID=20919&URL=Learning/Public%20Education/Safety%20for%20people%20with%20disabilities>

Downloadable information sheet, for people with disabilities, regarding the establishment of workplace escape plans and the importance of people with disabilities being included in safety planning.

2. The U.S. Fire Administration Accessibility Resources

Operating under the Department of Homeland Security, the mission of the United States Fire Administration (USFA) is to reduce life and economic losses due to fire and related emergencies, through leadership, advocacy, coordination, and support. The USAF serves

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the Nation independently, in coordination with other Federal agencies, and in partnership with fire protection and emergency service communities. The USAF provides public education, training, technology and data initiatives. The USFA maintains a website that provides fire statistics, public fire education campaign materials, and information on home fire safety.

To visit the USFA website, please click here

<http://www.usfa.fema.gov/index.shtm>

a. Fire Home Safety for the Visually Impaired

<http://www.usfa.fema.gov/safety/atrisk/disabilities/fswy20.shtm>

Downloadable fire safety fact sheet produced by the USFA and geared towards people who are blind or visually impaired.

b. Fire Home Safety for the Deaf and Hard of Hearing

<http://www.usfa.fema.gov/safety/atrisk/disabilities/fswy19.shtm>

Downloadable fire safety fact sheet produced by the USFA and geared towards people who are deaf or hard of hearing.

c. Fire Home Safety for People with Disabilities and their Caretakers

<http://www.usfa.fema.gov/safety/atrisk/disabilities/fswy22.shtm>

Downloadable fire safety fact sheet produced by the USFA and geared towards people with disabilities and their caretakers.

d. Fire Home Safety for People with Special Needs

<http://www.usfa.fema.gov/safety/atrisk/disabilities/fswy23.shtm>

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Downloadable fire safety fact sheet produced by the USFA and geared towards people with special needs.

e. Fire Home Safety for Older Americans

http://www.usfa.fema.gov/safety/atrisk/older/older_am.shtm

Downloadable fire safety fact sheet produced by the USFA and geared towards older Americans.

f. Fire Home Safety: Removing the Barriers

<http://www.usfa.fema.gov/downloads/pdf/fswy22.pdf>

E. Health Centers

1. Administration on Developmental Disabilities

Operating under the Administration for Children and Families, The Administration on Developmental Disabilities (ADD) is the U.S. Government organization responsible for implementation of the Developmental Disabilities Assistance and Bill of Rights Act of 2000. ADD provides nationwide funding, monitoring, and policy guidance to its programs. The ADD posts a webpage with links to resources, publications, and related programs.

To visit the ADD website, please click here

<http://www.acf.dhhs.gov/programs/add/index.html>

a. Coping With Disaster: Suggestions for Helping Children With Cognitive Disabilities

<http://www.acf.dhhs.gov/programs/add/Sept11/addcoping.html>

Online information and resource links regarding methods of aiding children with cognitive disabilities to contend with disasters and their aftermaths.

2. American Association on Health and Disability Accessibility Resources

The American Association on Health and Disability (AAHD) exists to support health promotion and wellness initiatives for people with disabilities at the federal, state and local level. The AAHD is also dedicated to reducing health disparities between people

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with disabilities and the general population. AAHD achieves its mission through research, education, public awareness and advocacy.

To visit the AAHD website, please click here

<http://www.aahd.us/index.htm>

a. Emergency Preparedness and People with Disabilities

<http://www.aahd.us/research/BestPractices/emergencyPrep.htm>

b. Emergency Managers and Emergency Planners

<http://www.aahd.us/research/BestPractices/EmergencyPrep/EmergencyManagers.htm>

3. American Red Cross Disaster Services for People with Disabilities and Other Special Needs

Every year, the American Red Cross responds to more than 70,000 disasters, including fires, hurricanes, floods, earthquakes, tornadoes, hazardous materials spills, transportation accidents, explosions, and other natural and man-made disasters. Red Cross disaster relief focuses on meeting people's immediate emergency disaster-caused needs. When a disaster threatens or strikes, the Red Cross provides shelter, food, and health and mental health services to address basic human needs.

To visit the American Red Cross Website please click here

www.redcross.org

PLEASE NOTE: Additional American Red Cross resource listings can be found in Section XV of EmergencyPreparednessOnline.

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a. Prepare.Org: People with Disabilities

<http://www.prepare.org/disabilities/disabilities.htm>

The American Red Cross sponsors the **Prepare.org** website which provides a section that contains information designed to assist people with disabilities and medical concerns to prepare for disasters.

b. Disaster Preparedness for People with Disabilities

<http://www.redcross.org/services/disaster/beprepared/disability.pdf>

A 48 page downloadable book designed to help people who have physical, visual, auditory, or cognitive disabilities to prepare for natural disasters and their consequences.

c. Preparing for Disaster for People with Disabilities and Other Special Needs

<http://www.redcross.org/images/pdfs/preparedness/A4497.pdf>

A downloadable booklet that provides information about getting informed, making a plan, assembling a kit, and maintaining these plans for people with mobility problems or who have hearing, learning, or seeing disabilities.

d. American Red Cross: Disaster Preparedness for Seniors by Seniors

http://www.redcross.org/services/disaster/0,1082,0_9_,00.html

e. American Red Cross: Tips for People with Special Needs & Concerns

<http://www.redcross.org/services/disaster/beprepared/mobileprogs.html>

f. American Red Cross: Sign Language for Emergency Situations

http://www.redcross.org/static/file_cont1249_lang0_566.pdf

4. Center for Disability Issues in the Health Profession Accessibility Resources

Established in 1998, the Center for Disability Issues in the Health Profession (CDIHP) sponsors educational activities and curriculum development for health professionals serving people with disabilities. The Center also conducts applied research to develop continuing education programs for current health care providers. These activities are designed to improve patient care delivery through advocating basic changes in social and policy issues affecting the health of people with disabilities

To visit the CDIHP website, please click here

<http://www.westernu.edu/xp/edu/cdihp/home.xml>

a. CDIHP Evacuation Preparedness Guide

<http://www.cdihp.org/products.html#eeguide>

Downloadable information for people with disabilities concerning disaster preparedness in the face of earthquakes, power outages, fires, floods, hurricanes, nuclear power plant accidents, tornados, tsunamis, volcanoes, winter storms and extreme weather

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5. Centers for Disease Control and Prevention Accessibility Resources

Operating under the Department of Health and Human Services, the Center for Disease Control and Prevention (CDC) leads public health efforts to prevent and control infectious and chronic diseases, injuries, workplace hazards, disabilities, and environmental health threats. The CDC is globally recognized for conducting research and investigations and then applying these findings when responding to health emergencies.

To visit the CDC website please click here

<http://www.cdc.gov/>

a. Resources for People with Disabilities

<http://www.cdc.gov/ncbddd/hurricanes/resources.htm>

b. Earthquakes and People with Special Needs

<http://www.bt.cdc.gov/disasters/earthquakes/disabilities.asp>

F. Katrina-Related Resources

1. Administration for Children and Families Accessibility Resources

Operating under the Department of Health and Human Services, the Administration for Children and Families (ACF) is responsible for federal programs that promote the economic and social well-being of families, children, individuals, and communities. The ACF posts a webpage with a downloadable directory of services, available in many different languages.

To visit the ACF website, please click here

<http://www.acf.hhs.gov/index.html>

a. Katrina Information for People with Disabilities

<http://www.acf.hhs.gov/programs/add/resources/hurricanekatrina.html>

Informative list of websites and links regarding people with disabilities and the effects of Hurricane Katrina

2. Katrina Disability Information

The Katrina Disability Info website is a comprehensive and up-to-date compendium of resources designed to help people with disabilities cope with disasters, as well as aiding them in finding support for their everyday needs. Developed by Information on Disability for Empowerment, Advocacy, and Support (IDEAS), this project was begun as a grassroots response to the inadequacy of aid to the disability community after hurricane Katrina demolished the gulf coast. This important website has topical pages, and a

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‘clickable’ map that provides disability information for each state, territory & commonwealth.

To visit the Katrina Disability Information website, please click here

<http://www.katrinadisability.info/>

3. Louisiana Disability Information Resource

The Hurricane Katrina Louisiana Disability Information Resource is a website which was created to provide information to people with disabilities and their families who have been affected by Hurricane Katrina. The website is serving as a central location for the Louisiana Developmental Disabilities Council, Louisiana Citizens for Action Now, Families helping Families of Louisiana, and Arc of Louisiana, all of which serve people with disabilities. This website offers information on financial aid, employment, events, schools, housing, medical assistance, and regional information. It also offers a link that provides information about Louisiana Disability Programs.

To visit the Louisiana Disability Information website, please click here

<http://www.katrina-la.net/>

To visit the Disability Program Information webpage, please click here

<http://www.katrina-la.net/disability-programs/>

4. National Center for Learning Disabilities Accessibility Resources

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The National Center for Learning Disabilities (NCLD) works to ensure that the nation's 15 million children, adolescents and adults with learning disabilities have every opportunity to succeed in school, work and life. NCLD provides essential information to parents, professionals and individuals with learning disabilities, promotes research and programs to foster effective learning and advocates for policies to protect and strengthen educational rights and opportunities.

To visit the NCLD website, please click here

<http://www.nclld.org/>

a. Katrina Resources and Services for Students with LD

<http://www.nclld.org/index.php?option=content&task=view&id=422>

Online information about basic education rights of students affected by Hurricane Katrina. This site also offers a resource list compiled to ensure that students with LD gain access to special education services in their new schools.

G. Pediatrics and Geriatrics

1. Administration on Aging

Operating under the Department of Health and Human Services, the Administration on Aging (AoA) provides home and community-based services to older persons through programs funded by the Older Americans Act. The AoA runs a National Family Caregiver Support Program that provides a variety of services to help people who are caring for family members with disabilities. The AoA posts a website with information on disaster assistance and the special needs of older disaster victims.

For more information about the AoA, please click here.

<http://www.aoa.gov/index.asp>

For the AoA Disaster Assistance website, please click here

http://www.aoa.gov/eldfam/Disaster_Assistance/Disaster_Assistance.asp

2. American Academy of Pediatrics Accessibility Resources

The American Academy of Pediatrics (AAP) is an organization consisting of 60,000 pediatricians who are dedicated to achieving the maximum physical, mental, and social health and well being for infants, toddlers, children, adolescents, and young adults. The AAP posts a website that provides general and up-to-date health information for parents of children from one to 21. The website also features a section about ‘Advocacy’ with topics including *Federal Advocacy* and *State Legislative Resources*.

To visit the AAP website, please click here

<http://www.aap.org/>

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a. Emergency Preparedness for Children with Special Health Care Needs

<http://www.aap.org/advocacy/emergprep.htm>

H. Transportation

1. Easter Seals: Project Action Accessibility Resources

Congress originally commissioned Easter Seals Project ACTION, in 1988, as a research and demonstration project to improve access to public transportation for people with disabilities. With the passage of the ADA two years later, Easter Seals Project ACTION expanded their goals to help transportation operators implement the new law's transportation provisions. Project Action's current mission is 'Accessible Community Transportation in our Nation.'

To visit the Project Action website, please click here

<http://projectaction.easterseals.com>

a. Accessible Transportation Fact Sheets

http://projectaction.easterseals.com/site/PageServer?pagename=ESPA_fact_sheets

Informative resource in the form of downloadable fact sheets that briefly summarize pertinent information on topics related to accessible transportation in our nation. Developed by the Easter Seals Project Action staff, these fact sheets serve as introductions or easy references guides to a wide range of topics.

2. The U.S. Department of Transportation (DOT) Accessibility Resources

a. Emergency Preparedness and Individuals with Disabilities

<http://www.dotcr.ost.dot.gov/asp/emergencyprep.asp>

The U.S. Department of Transportation's webpage with information on their Emergency Transportation Subcommittee, which serves as a mechanism to
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evaluate the status of emergency preparedness as it relates to people with disabilities and transportation systems

b. The U.S. Department Of Transportation's Website on Emergency Preparedness Guidelines for People with Disabilities

http://www.dotcr.ost.dot.gov/documents/dotpart/pwd_guidelines.htm

Downloadable 2003 guidelines which require that each of DOT's Operating Administrators account for the unique needs of those with disabilities in their emergency preparedness plans.

I. United States Agencies

1. The National Citizen Corps Accessibility Resources

The National Citizen Corps, in partnership with the Interagency Coordinating Council, brought together representatives from national disability consumer and advocacy organizations to form The National Citizen Corps Subcommittee on Individuals with Disabilities. Representing a wide cross-section of the disability population, the Subcommittee assists in the exchange of information between the disability community and the Interagency Coordinating Council. This Subcommittee also promotes the participation of the disability community in emergency preparedness training, exercises and volunteer programs.

[For more information visit:](#)

<http://www.citizencorps.gov/programs/partners.shtm>

a. Accommodating Special Needs

<http://www.citizencorps.gov/cert/start-3-1b.shtm#item1>

The Citizen's Corps' Community Emergency Response Team (CERT) maintains a webpage containing information on accommodations designed to ensure that *everyone* gets the most from the CERT program.

b. Citizen Preparedness Publications

http://www.citizencorps.gov/ready/cc_pubs.shtm

Website with downloadable publications on emergency preparedness with information about preparedness for those with disabilities.

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2. National Council on Disabilities Accessibility Resources

The National Council on Disability (NCD) is an independent federal agency making recommendations to the President and Congress to enhance the quality of life for all Americans with disabilities and their families. NCD's main goal is to promote policies, programs, practices, and procedures that guarantee equal opportunity for all individuals with disabilities, regardless of the nature or severity of the disability. The NCD also works to empower individuals with disabilities to achieve economic self-sufficiency, independent living, and inclusion and integration into all aspects of society.

To visit the NCD website, please click here

<http://www.ncd.gov/>

a. NCD's Saving Lives: Including People with Disabilities in Emergency Planning

http://www.ncd.gov/newsroom/publications/2005/saving_lives.htm

Online report providing an overview of necessary steps to build a solid and resilient infrastructure that will enable the government to include the diverse populations of people with disabilities in emergency preparedness, disaster relief, and homeland security programs.

3. The U.S. Access Board Accessibility Resources

Created in 1973, The Access Board is an independent Federal agency devoted to accessibility for people with disabilities. The Board develops and maintains design criteria for the built environment, transit vehicles, telecommunications equipment, and

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for electronic and information technology. It also provides technical assistance and training on these requirements and on accessible design. The Board is structured to function as a coordinating body among Federal agencies and to directly represent the public, particularly people with disabilities.

To visit the U.S. Access Board website, please click here

<http://www.access-board.gov/>

a. Resources on Emergency Evacuation and Disaster Preparedness

<http://www.access-board.gov/evac.htm>

An in-depth website containing information regarding evacuation planning and assistive products, resources on disaster preparedness, and requirements pertinent to emergency notification.

XVII. Emergency Preparedness Community Link

The following links provide information, interactive communication, and statistics to be utilized by anyone involved and/or interested in emergency preparedness. Further tools will be featured in the near future. Current resource information:

A. The Common Alerting Protocol

The Common Alerting Protocol (CAP) is an open, flexible, non-proprietary data format used for collecting and distributing emergency alerts and public warnings over information networks and public alerting systems.

B. Bridge Community Link

A web-based forum for members of the emergency preparedness ‘community’ to post their comments, suggestions, insights, project information, anything they wish to share with their colleagues.

C. Emergency Preparedness and Communication Statistics

Figures, surveys, and statistics concerning emergency preparedness will be posted as they become available. Current statistics are from a 2005 survey commissioned by the National Organization on Disability’s Emergency Preparedness Initiative.

D. Upcoming Emergency Preparedness Events

Information about upcoming events involving Emergency Preparedness for individuals with disabilities will be posted as it becomes available.

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A. The Common Alerting Protocol (CAP)

The Common Alerting Protocol (CAP) is an open, non-proprietary XML-based data format for collecting and distributing emergency alerts and public warnings over information networks and public alerting systems. CAP allows a consistent warning message to be disseminated over many different alert systems at the same time, in order to increase warning effectiveness while simplifying the warning activation task for the appropriate officials. The CAP data structure is compatible with existing alert formats including the Emergency Alert System. The Common Alerting Protocol possesses added capabilities including:

- Flexible geographic targeting using latitude/longitude “boxes” and other geospatial representations in three dimensions;
- Multilingual and multi-audience messaging;
- Phased and delayed effective times and expirations;
- Enhanced message update and cancellation features;
- Template support for framing complete and effective warning messages;
- Digital encryption and signature capability; and,
- Facility for digital images, audio and video.

In November 2000 the National Science and Technology Council (NSTC) issued a report on “Effective Disaster Warnings,” which stated that “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.” In 2001 an international, independent group of over 120 emergency managers began specifying and prototyping the Common Alerting Protocol data structure based on the recommendations of the NSTC report. In 2002 that effort was adopted by the Partnership for Public Warning, a national public-private partnership of agencies, vendors and academic experts. In 2003 the Partnership for Public Warning sponsored CAP into the Organization for the Advancement of Structured Information Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*, 9/14/08

Standards (OASIS) process for refinement and testing. In April 2004, CAP 1.0 was adopted as an OASIS standard. OASIS is a not-for-profit, international consortium dedicated to the development, convergence and adoption of e-business standards. OASIS produces worldwide standards for security, web services, conformance, business transactions, supply chain, public sector, and interoperability within and between marketplaces. In October 2005 the OASIS Emergency Management Technical Committee adopted an updated CAP specification, the latest version, CAP 1.1. Among the list of public and private organizations that support or have implemented the Common Alerting Protocol are:

- AtHoc, Inc
<http://www.athoc.com/>
- Blue292
<http://www.blue292.com>
- California Office of Emergency Services
www.oes.ca.gov/
- Capital Wireless Integrated Network (CapWIN)
<http://www.capwin.org/>
- Centers for Disease Control
http://www.cdc.gov/phn/architecture/implementation_guides/index.html
- Comlabs, Inc.
<http://www.comlabs.com/>
- Department of Homeland Security
<http://www.dhs.gov/>

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- Disaster Management Interoperability Services
<http://www.dmi-services.org/>
- E Team
<http://www.eteam.com/>
- GeoDecisions, Inc.
<http://www.geodecisions.com/>
- Hormann America, Inc.
<http://www.hormannamerica.com/>
- IEM, Inc.
<http://www.ieminc.com/default.htm>
- Los Angeles Fire Department
<http://www.lafd.org/>
- mobileFoundations
<http://www.mobilefoundations.com/>
- MyStateUSA
<http://www.mystateusa.com/>
- National Weather Service
<http://www.nws.noaa.gov/>
- NDS, Ltd.
<http://www.nds.com/>

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- New Technology Management Incorporated
<http://www.ntmi.com/>
- Oregon RAINS
<http://www.rainsnet.org/>
- Roaming Messenger
<http://www.roamingmessenger.com/>
- Ship Analytics
<http://www.shipanalytics.com/>
- SpectraRep Inc.
<http://www.spectrarep.com/>
- United States Geological Survey
<http://www.usgs.gov/>
- Virginia Department of Transportation
<http://www.virginiadot.org/>
- Wallace Wireless
<http://wallacewireless.com/index.html>
- Warning Systems, Inc.
<http://www.warningsystems.com/>

Click Here to Access the CAP 1.1 Specifications

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<http://www.oasis-open.org/committees/download.php/14759/emergency-CAPv1.1.pdf>

Click Here to Access a 2003 Whitepaper describing the CAP/EAS relationship

http://www.incident.com/cap/docs/aps/Advanced_EAS_Concept.pdf

Click Here to Access the OASIS Website

http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=office

B. BRIDGE COMMUNITY LINK: INPUT AND COMMUNICATION

This page has been reserved for *your* input. We invite all comments and ideas on how we might improve this new website. Bridge Multimedia is interested in developing a forum by which ideas, contacts, and news can be exchanged by anyone involved with, or concerned about, emergency preparedness, particularly as it relates to those with individual requirements. We also ask that you keep us up to date on any accessible emergency alert news within your local area.

As we all know, national movements often begin at a 'grass roots' level. There are no *small* successes in furthering the cause of accessible emergency notification. Each tiny step is a major coup, and deserves recognition. Bridge Multimedia seeks information on all local initiatives, community groups, individual efforts, and state programs regarding emergency preparedness, in order that we might properly promote them. Commercial organizations, non-profit associations, even lone volunteers...if you are involved in any facet of emergency notification, please send us your information so that we might assist in disseminating it. Bridge believes it is important that people in the emergency preparedness community are kept aware of the efforts and achievements of their contemporaries.

Within the next few months Bridge will be reviewing all of the input that we receive. We will post all appropriate information and strive to keep that data as up to date as possible. If you are interested in having your information included in our listings please e-mail us with:

- The name of your organization/business/program
- Background Information
- Short history
- Any relevant statistics

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- Contact Information
- Address or website

Revisit this address in the months ahead to view the results of your feedback. With your help, we will make available an exciting new resource for the perpetuation of emergency preparedness information and communication.

C. EAS STATISTICS

A 2005 Harris Poll, commissioned by the National Organization on Disability, reveals that although emergency preparedness in the workplace is on the decline, personal preparedness for people with disabilities is on the rise. Findings include:

- **40%** of people with disabilities report some level of anxiety over recently occurring natural disasters.
- **47%** of people with disabilities have made plans to safely evacuate their homes, up from 39% in 2003.
- **54%** of people with disabilities know whom to contact about emergency plans in their community, up from 44% in 2003.
- **57%** of people with disabilities indicate that they have a workplace plan, down from 68% in 2003.
- **59%** of people with disabilities rank non-profit organizations as doing an excellent or pretty good job in preparing them for disasters and other emergencies.

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- **59%** of people with disabilities believe that local government is doing a fair or poor job at preparing them for disasters.
- **61%** of people with disabilities felt corporations were doing a fair or poor job of preparing the disabled population for disaster response.
- **63%** of people with disabilities believe that the federal government is doing a fair or poor job at preparing them for disasters.

To Download The Complete Survey, Please Click Here

<http://www.nod.org/Resources/PDFs/episurvey05.pdf>

D. Upcoming Emergency Preparedness Events

September 13th, 2008 East Carbon, Utah

Emergency Preparedness, Awareness and Response Fair

This event will offer free workshops and classes open to the public, demonstrated and taught by professionals in their area of expertise. A few of the workshops include: classes on properly using fire extinguishers, building an emergency preparedness kit, CPR and First Aid. Hosted by the Community Development Coalition, ABC Learning Center, GIFT, and various others. Contact Tina Urbanik for more information: tinaurbanik@hotmail.com or 435-650-7130

September 18th, 2008 Yonkers, New York

Saint John's Riverside Hospital Preparedness Day

Saint Johns Riverside Hospital and the Yonkers Office of Emergency Management will set up tables and provide free information on how to prepare for a disaster, and the steps that the hospital has taken to prepare. Hands on demonstrations on how to use a Fire Extinguisher will be performed throughout the day.

For more information please visit

<http://www.cityofyonkers.com/index.aspx?recordid=2095&page=23>

September 23rd, 2008 Vancouver, BC, Canada

Emergency Preparedness and Response Seminar

An effective emergency management plan will promote the safety of workers, responders and the public; reduce the potential for costly damage; reduce environmental and other impacts; assist emergency staff in initiating corrective actions; reduce recovery time and associated costs; and ensure employee and public confidence in your organization's ability to manage crisis. This seminar will guide participants through the requirements for an effective plan.

For more information please visit

https://learningcentre.csa.ca/lc_site/be.asp?gid=50009573&tid=50009639

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September 25th, 2008 Dayton, Ohio

Sinclair College Annual Safety Awareness Expo

The Sinclair Police Department, Miami Valley Crime Prevention Association, and other safety-related agencies from Ohio will provide information and demonstrations to community members, as well as staff, students and visitors of Sinclair Community College.

For more information please visit

<http://www.sinclair.edu/about/offices/police/scasae/>

September 26th, 2008. Bethlehem, PA

Northampton County National Preparedness Month Fair

Hosted by the City of Bethlehem Health Bureau and Northampton County Emergency Management Services, the fair is an opportunity to meet local first responders, sign up for volunteer opportunities, and take part in interactive educational presentations on emergency preparedness.

For more information please contact Julie Zumas at jzumas@bethlehem-pa.gov

October 1st, 2008 Anaheim, CA

24th Annual Disaster Preparedness Academy

The mission of this event is to provide information to the community regarding preparedness planning, mitigation, response skills and recovery operations. This public-private collaboration is essential for emergency/disaster preparedness and business continuity.

For more information please visit

<http://www.oc-redcross.org/show.aspx?mi=4614#General>

November 15-20th 2008 Kansas City, Kansas

IAEM 56th Annual Conference 2008

Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*,
9/14/08

The IAEM Annual Conference provides a forum for current trends and topics, information about the latest tools and technology in emergency management and homeland security, and advances IAEM committee work. Sessions encourage stakeholders at all levels of government, the private sector, public health and related professions to exchange ideas on collaborating to protect lives and property from disaster. For more information please visit <http://www.iaem.com/events/annual/intro.htm>

PART 79--CLOSED CAPTIONING AND VIDEO DESCRIPTION OF VIDEO
PROGRAMMING

Current through February 18, 2004

§ 79.2 Accessibility of programming providing emergency information.

(a) Definitions.

(1) For purposes of this section, the definitions in §§ 79.1 and 79.3 apply.

(2) Emergency information. Information, about a current emergency, that is intended to further the protection of life, health, safety, and property, i.e., critical details regarding the emergency and how to respond to the emergency.

Examples of the types of emergencies covered include tornadoes, hurricanes, floods, tidal waves, earthquakes, icing conditions, heavy snows, widespread fires, discharge of toxic gases, widespread power failures, industrial explosions, civil disorders, school closings and changes in school bus schedules resulting from such conditions, and warnings and watches of impending changes in weather.

Note to paragraph (a)(2): Critical details include, but are not limited to, specific details regarding the areas that will be affected by the emergency, evacuation orders, detailed descriptions of areas to be evacuated, specific evacuation routes, approved shelters or the way to take shelter in one's home, instructions on how to secure personal property, road closures, and how to obtain relief assistance.

(b) Requirements for accessibility of programming providing emergency information.

(1) Video programming distributors must make emergency information, as

defined in paragraph (a) of this section, accessible as follows:

(i) Emergency information that is provided in the audio portion of the programming must be made accessible to persons with hearing disabilities by using a method of closed captioning or by using a method of visual presentation, as described in § 79.1 of this part;

(ii) Emergency information that is provided in the video portion of a regularly scheduled newscast, or newscast that interrupts regular programming, must be made accessible to persons with visual disabilities; and

(iii) Emergency information that is provided in the video portion of programming that is not a regularly scheduled newscast, or a newscast that interrupts regular programming, must be accompanied with an aural tone.

(2) This rule applies to emergency information primarily intended for distribution to an audience in the geographic area in which the emergency is occurring.

(3) Video programming distributors must ensure that:

(i) Emergency information should not block any closed captioning and any closed captioning should not block any emergency information provided by means other than closed captioning; and

(ii) Emergency information should not block any video description and any video description provided should not block any emergency information provided by means other than video description.

(c) Complaint procedures. A complaint alleging a violation of this section may be transmitted to the Commission by any reasonable means, such as letter, facsimile transmission, telephone (voice/TRS/TTY), Internet e-mail, audio-

cassette recording, and Braille, or some other method that would best accommodate the complainant's disability. The complaint should include the name of the video programming distributor against whom the complaint is alleged, the date and time of the omission of emergency information, and the type of emergency. The Commission will notify the video programming distributor of the complaint, and the distributor will reply to the complaint within 30 days.

§ 79.1 Closed captioning of video programming.

(a) Definitions. For purposes of this section the following definitions shall apply:

(1) Video programming. Programming provided by, or generally considered comparable to programming provided by, a television broadcast station that is distributed and exhibited for residential use. Video programming includes advertisements of more than five minutes in duration but does not include advertisements of five minutes' duration or less.

(2) Video programming distributor. Any television broadcast station licensed by the Commission and any multichannel video programming distributor as defined in § 76.1000(e) of this chapter, and any other distributor of video programming for residential reception that delivers such programming directly to the home and is subject to the jurisdiction of the Commission. An entity contracting for program distribution over a video programming distributor that is itself exempt from captioning that programming pursuant to paragraph (e)(9) of this section shall itself be treated as a video programming distributor for purposes of this section. To the extent such video programming is not otherwise exempt from captioning, the entity that contracts for its distribution shall be required to comply with the closed captioning requirements of this section.

(3) Video programming provider. Any video programming distributor and any other entity that provides video programming that is intended for distribution to residential households including, but not limited to broadcast or nonbroadcast television network and the owners of such programming.

(4) Closed captioning. The visual display of the audio portion of video programming pursuant to the technical specifications set forth in part 15 of this chapter.

(5) New programming. Video programming that is first published or exhibited on or after January 1, 1998.

(6) Pre-rule programming.

(i) Video programming that was first published or exhibited before January 1, 1998.

(ii) Video programming first published or exhibited for display on television receivers equipped for display of digital transmissions or formatted for such transmission and exhibition prior to the date on which such television receivers must, by Commission rule, be equipped with built-in decoder circuitry designed to display closed-captioned digital television transmissions.

(7) Nonexempt programming. Video programming that is not exempt under paragraph (d) of this section and, accordingly, is subject to closed captioning requirements set forth in this section.

(b) Requirements for closed captioning of video programming.--

(1) Requirements for new English language programming. Video programming distributors must provide closed captioning for nonexempt video programming that is being distributed and exhibited on each channel during each calendar

quarter in accordance with the following requirements:

(i) Between January 1, 2000, and December 31, 2001, a video programming distributor shall provide at least 450 hours of captioned video programming or all of its new nonexempt video programming must be provided with captions, whichever is less;

(ii) Between January 1, 2002, and December 31, 2003, a video programming distributor shall provide at least 900 hours of captioned video programming or all of its new nonexempt video programming must be provided with captions, whichever is less;

(iii) Between January 1, 2004, and December 31, 2005, a video programming distributor shall provide at least an average of 1350 hours of captioned video programming or all of its new nonexempt video programming must be provided with captions, whichever is less; and

(iv) As of January 1, 2006, and thereafter, 100% of the programming distributor's new nonexempt video programming must be provided with captions.

(2) Requirements for pre-rule English language programming.

(i) After January 1, 2003, 30% of the programming distributor's pre-rule nonexempt video programming being distributed and exhibited on each channel during each calendar quarter must be provided with closed captioning.

(ii) As of January 1, 2008, and thereafter, 75% of the programming distributor's pre-rule nonexempt video programming being distributed and exhibited on each channel during each calendar quarter must be provided with closed captioning.

(3) Requirements for new Spanish language programming. Video programming

distributors must provide closed captioning for nonexempt Spanish language video programming that is being distributed and exhibited on each channel during each calendar quarter in accordance with the following requirements:

(i) Between January 1, 2001, and December 31, 2003, a video programming distributor shall provide at least 450 hours of captioned Spanish language video programming or all of its new nonexempt Spanish language video programming must be provided with captions, whichever is less;

(ii) Between January 1, 2004, and December 31, 2006, a video programming distributor shall provide at least 900 hours of captioned Spanish language video programming or all of its new nonexempt Spanish language video programming must be provided with captions, whichever is less;

(iii) Between January 1, 2007, and December 31, 2009, a video programming distributor shall provide at least an average of 1350 hours of captioned Spanish language video programming or all of its new nonexempt Spanish language video programming must be provided with captions, whichever is less; and

(iv) As of January 1, 2010, and thereafter, 100% of the programming distributor's new nonexempt Spanish language video programming must be provided with captions.

(4) Requirements for Spanish language pre-rule programming.

(i) After January 1, 2005, 30% of the programming distributor's pre-rule nonexempt Spanish language video programming being distributed and exhibited on each channel during each calendar quarter must be provided with closed captioning.

(ii) As of January 1, 2012, and thereafter, 75% of the programming distributor's pre-rule nonexempt Spanish language video programming being distributed and

exhibited on each channel during each calendar quarter must be provided with closed captioning.

(5) Video programming distributors shall continue to provide captioned video programming at substantially the same level as the average level of captioning that they provided during the first six (6) months of 1997 even if that amount of captioning exceeds the requirements otherwise set forth in this section.

(c) Obligation to pass through captions of already captioned programs. All video programming distributors shall deliver all programming received from the video programming owner or other origination source containing closed captioning to receiving television households with the original closed captioning data intact in a format that can be recovered and displayed by decoders meeting the standards of part 15 of this chapter unless such programming is recaptioned or the captions are reformatted by the programming distributor.

(d) Exempt programs and providers. For purposes of determining compliance with this section, any video programming or video programming provider that meets one or more of the following criteria shall be exempt to the extent specified in this paragraph.

(1) Programming subject to contractual captioning restrictions. Video programming that is subject to a contract in effect on or before February 8, 1996, but not any extension or renewal of such contract, for which an obligation to provide closed captioning would constitute a breach of contract.

(2) Video programming or video programming provider for which the captioning requirement has been waived. Any video programming or video programming provider for which the Commission has determined that a requirement for closed captioning imposes an undue burden on the basis of a petition for exemption filed in accordance with the procedures specified in

paragraph (f) of this section.

(3) Programming other than English or Spanish language. All programming for which the audio is in a language other than English or Spanish, except that scripted programming that can be captioned using the "electronic news room" technique is not exempt.

(4) Primarily textual programming. Video programming or portions of video programming for which the content of the soundtrack is displayed visually through text or graphics (e.g., program schedule channels or community bulletin boards).

(5) Programming distributed in the late night hours. Programming that is being distributed to residential households between 2 a.m. and 6 a.m. local time. Video programming distributors providing a channel that consists of a service that is distributed and exhibited for viewing in more than a single time zone shall be exempt from closed captioning that service for any continuous 4 hour time period they may select, commencing not earlier than 12 a.m. local time and ending not later than 7 a.m. local time in any location where that service is intended for viewing. This exemption is to be determined based on the primary reception locations and remains applicable even if the transmission is accessible and distributed or exhibited in other time zones on a secondary basis. Video programming distributors providing service outside of the 48 contiguous states may treat as exempt programming that is exempt under this paragraph when distributed in the contiguous states.

(6) Interstitials, promotional announcements and public service announcements. Interstitial material, promotional announcements, and public service

announcements that are 10 minutes or less in duration.

(7) ITFS programming. Video programming transmitted by an Instructional Television Fixed Service licensee pursuant to §§ 74.931(a), (b) or (c) of the rules.

(8) Locally produced and distributed non-news programming with no repeat value. Programming that is locally produced by the video programming distributor, has no repeat value, is of local public interest, is not news programming, and for which the "electronic news room" technique of captioning is unavailable.

(9) Programming on new networks. Programming on a video programming network for the first four years after it begins operation, except that programming on a video programming network that was in operation less than four (4) years on January 1, 1998 is exempt until January 1, 2002.

(10) Primarily non-vocal musical programming. Programming that consists primarily of non-vocal music.

(11) Captioning expense in excess of 2% of gross revenues. No video programming provider shall be required to expend any money to caption any video programming if such expenditure would exceed 2% of the gross revenues received from that channel during the previous calendar year.

(12) Channels producing revenues of under \$3,000,000. No video programming provider shall be required to expend any money to caption any channel of video programming producing annual gross revenues of less than \$3,000,000 during the previous calendar year other than the obligation to pass through video programming already captioned when received pursuant to paragraph (c) of this section.

(13) Locally produced educational programming. Instructional programming that is locally produced by public television stations for use in grades K-12 and post secondary schools.

(e) Responsibility for and determination of compliance.--

(1) Compliance shall be calculated on a per channel, calendar quarter basis;

(2) Open captioning or subtitles in the language of the target audience may be used in lieu of closed captioning;

(3) Live programming or repeats of programming originally transmitted live that are captioned using the so-called "electronic newsroom technique" will be considered captioned, except that effective January 1, 2000, and thereafter, the major national broadcast television networks (i.e., ABC, CBS, Fox and NBC), affiliates of these networks in the top 25 television markets as defined by Nielsen's Designated Market Areas (DMAs) and national nonbroadcast networks serving at least 50% of all homes subscribing to multichannel video programming services shall not count electronic newsroom captioned programming towards compliance with these rules. The live portions of noncommercial broadcasters' fundraising activities that use automated software to create a continuous captioned message will be considered captioned;

(4) Compliance will be required with respect to the type of video programming generally distributed to residential households. Programming produced solely for closed circuit or private distribution is not covered by these rules;

(5) Video programming that is exempt pursuant to paragraph (d) of this section that contains captions, except video programming exempt pursuant to paragraph (d)(5) of this section (late night hours exemption), can count towards the compliance with the requirements for new programming prior to January 1,

2006. Video programming that is exempt pursuant to paragraph (d) of this section that contains captions, except that video programming exempt pursuant to paragraph (d)(5) of this section (late night hours exemption), can count towards compliance with the requirements for pre-rule programming.

(6) For purposes of paragraph (d)(11) of this section, captioning expenses include direct expenditures for captioning as well as allowable costs specifically allocated by a programming supplier through the price of the video programming to that video programming provider. To be an allowable allocated cost, a programming supplier may not allocate more than 100% of the costs of captioning to individual video programming providers. A programming supplier may allocate the captioning costs only once and may use any commercially reasonable allocation method;

(7) For purposes of paragraphs (d)(11) and (d)(12) of this section, annual gross revenues shall be calculated for each channel individually based on revenues received in the preceding calendar year from all sources related to the programming on that channel. Revenue for channels shared between network and local programming shall be separately calculated for network and for non-network programming, with neither the network nor the local video programming provider being required to spend more than 2% of its revenues for captioning. Thus, for example, compliance with respect to a network service distributed by a multichannel video service distributor, such as a cable operator, would be calculated based on the revenues received by the network itself (as would the related captioning expenditure). For local service providers such as broadcasters, advertising revenues from station-controlled inventory would be included. For cable operators providing local origination programming, the annual gross revenues received for each channel will be used to determine compliance. Evidence of compliance could include certification from the network supplier that the requirements of the test had been met. Multichannel

video programming distributors, in calculating non-network revenues for a channel offered to subscribers as part of a multichannel package or tier, will not include a pro rata share of subscriber revenues, but will include all other revenues from the channel, including advertising and ancillary revenues. Revenues for channels supported by direct sales of products will include only the revenues from the product sales activity (e.g., sales commissions) and not the revenues from the actual products offered to subscribers. Evidence of compliance could include certification from the network supplier that the requirements of this test have been met.

(8) If two or more networks (or sources of programming) share a single channel, that channel shall be considered to be in compliance if each of the sources of video programming are in compliance where they are carried on a full time basis;

(9) Video programming distributors shall not be required to provide closed captioning for video programming that is by law not subject to their editorial control, including but not limited to the signals of television broadcast stations distributed pursuant to sections 614 and 615 of the Communications Act or pursuant to the compulsory copyright licensing provisions of sections 111 and 119 of the Copyright Act (Title 17 U.S.C. 111 and 119); programming involving candidates for public office covered by sections 315 and 312 of the Communications Act and associated policies; commercial leased access, public access, governmental and educational access programming carried pursuant to sections 611 and 612 of the Communications Act; video programming distributed by direct broadcast satellite (DBS) services in compliance with the noncommercial programming requirement pursuant to section 335(b)(3) of the Communications Act to the extent such video programming is exempt from the editorial control of the video programming provider; and video programming distributed by a common carrier or that is distributed on an open video system

pursuant to section 653 of the Communications Act by an entity other than the open video system operator. To the extent such video programming is not otherwise exempt from captioning, the entity that contracts for its distribution shall be required to comply with the closed captioning requirements of this section.

(10) In evaluating whether a video programming provider has complied with the requirement that all new nonexempt video programming must include closed captioning, the Commission will consider showings that any lack of captioning was de minimis and reasonable under the circumstances.

(f) Procedures for exemptions based on undue burden.--

(1) A video programming provider, video programming producer or video programming owner may petition the Commission for a full or partial exemption from the closed captioning requirements. Exemptions may be granted, in whole or in part, for a channel of video programming, a category or type of video programming, an individual video service, a specific video program or a video programming provider upon a finding that the closed captioning requirements will result in an undue burden.

(2) A petition for an exemption must be supported by sufficient evidence to demonstrate that compliance with the requirements to closed caption video programming would cause an undue burden. The term "undue burden" means significant difficulty or expense. Factors to be considered when determining

whether the requirements for closed captioning impose an undue burden include:

- (i) The nature and cost of the closed captions for the programming;
 - (ii) The impact on the operation of the provider or program owner;
 - (iii) The financial resources of the provider or program owner; and
 - (iv) The type of operations of the provider or program owner.
- (3) In addition to these factors, the petition shall describe any other factors the petitioner deems relevant to the Commission's final determination and any available alternatives that might constitute a reasonable substitute for the closed captioning requirements including, but not limited to, text or graphic display of the content of the audio portion of the programming. Undue burden shall be evaluated with regard to the individual outlet.
- (4) An original and two (2) copies of a petition requesting an exemption based on the undue burden standard, and all subsequent pleadings, shall be filed in accordance with § 0.401(a) of this chapter.
- (5) The Commission will place the petition on public notice.
- (6) Any interested person may file comments or oppositions to the petition within 30 days of the public notice of the petition. Within 20 days of the close of the comment period, the petitioner may reply to any comments or oppositions filed.
- (7) Comments or oppositions to the petition shall be served on the petitioner and

shall include a certification that the petitioner was served with a copy. Replies to comments or oppositions shall be served on the commenting or opposing party and shall include a certification that the commenter was served with a copy.

(8) Upon a showing of good cause, the Commission may lengthen or shorten any comment period and waive or establish other procedural requirements.

(9) All petitions and responsive pleadings shall contain a detailed, full showing, supported by affidavit, of any facts or considerations relied on.

(10) The Commission may deny or approve, in whole or in part, a petition for an undue burden exemption from the closed captioning requirements.

(11) During the pendency of an undue burden determination, the video programming subject to the request for exemption shall be considered exempt from the closed captioning requirements.

(g) Complaint procedures.--

(1) No complaint concerning an alleged violation of the closed captioning requirements of this section shall be filed with the Commission unless such complaint is first sent to the video programming distributor responsible for delivery and exhibition of the video programming. A complaint must be in writing, must state with specificity the alleged Commission rule violated and must include some evidence of the alleged rule violation. In the case of an alleged violation by a television broadcast station or other programming for which the video programming distributor is exempt from closed captioning responsibility pursuant to paragraph (e)(9) of this section, the complaint shall be sent directly to the station or owner of the programming. A video programming distributor receiving a complaint regarding such programming must forward the

complaint within seven days of receipt to the programmer or send written instructions to the complainant on how to refile with the programmer.

(2) A complaint will not be considered if it is filed with the video programming distributor later than the end of the calendar quarter following the calendar quarter in which the alleged violation has occurred.

(3) The video programming distributor must respond in writing to a complaint no later than 45 days after the end of the calendar quarter in which the violation is alleged to have occurred or 45 days after receipt of a written complaint, whichever is later.

(4) If a video programming distributor fails to respond to a complaint or a dispute remains following the initial complaint resolution procedures, a complaint may be filed with the Commission within 30 days after the time allotted for the video programming distributor to respond has ended. An original and two (2) copies of the complaint, and all subsequent pleadings shall be filed in accordance with § 0.401(a) of this chapter. The complaint shall include evidence that demonstrates the alleged violation of the closed captioning requirements of this section and shall certify that a copy of the complaint and the supporting evidence was first directed to the video programming distributor. A copy of the complaint and any supporting documentation must be served on the video programming distributor.

(5) The video programming distributor shall have 15 days to respond to the complaint. In response to a complaint, a video programming distributor is obligated to provide the Commission with sufficient records and documentation to demonstrate that it is in compliance with the Commission's rules. The response to the complaint shall be served on the complainant.

(6) Certifications from programming suppliers, including programming

producers, programming owners, networks, syndicators and other distributors, may be relied on to demonstrate compliance. Distributors will not be held responsible for situations where a program source falsely certifies that programming delivered to the distributor meets our captioning requirements if the distributor is unaware that the certification is false. Video programming providers may rely on the accuracy of certifications. Appropriate action may be taken with respect to deliberate falsifications.

(7) The Commission will review the complaint, including all supporting evidence, and determine whether a violation has occurred. The Commission shall, as needed, request additional information from the video programming provider.

(8) If the Commission finds that a violation has occurred, penalties may be imposed, including a requirement that the video programming distributor deliver video programming containing closed captioning in an amount exceeding that specified in paragraph (b) of this section in a future time period.

(h) Private rights of action prohibited. Nothing in this section shall be construed to authorize any private right of action to enforce any requirement of this section. The Commission shall have exclusive jurisdiction with respect to any complaint under this section.

§ 79.3 Video description of video programming.

(a) Definitions. For purposes of this section the following definitions shall apply:

(1) Designated Market Areas (DMAs). Unique, county-based geographic areas designated by Nielsen Media Research, a television audience measurement service, based on television viewership in the counties that make up each DMA.

(2) Second Audio Program (SAP) channel. A channel containing the frequency-modulated second audio program subcarrier, as defined in, and subject to, the Commission's OET Bulletin No. 60, Revision A, "Multichannel Television Sound Transmission and Processing Requirements for the BTSC System," February 1986.

(3) Video description. The insertion of audio narrated descriptions of a television program's key visual elements into natural pauses between the program's dialogue.

(4) Video programming. Programming provided by, or generally considered comparable to programming provided by, a television broadcast station that is distributed and exhibited for residential use.

(5) Video programming distributor. Any television broadcast station licensed by the Commission and any multichannel video programming distributor (MVPD), and any other distributor of video programming for residential reception that delivers such programming directly to the home and is subject to the jurisdiction of the Commission.

(6) Prime time. The period from 8 to 11:00 p.m. Monday through Saturday, and 7 to 11:00 p.m. on Sunday local time, except that in the central time zone the relevant period shall be between the hours of 7 and 10:00 p.m. Monday through Saturday, and 6 and 10:00 p.m. on Sunday, and in the mountain time zone each station shall elect whether the period shall be 8 to 11:00 p.m. Monday through Saturday, and 7 to 11:00 p.m. on Sunday, or 7 to 10:00 p.m. Monday through

Saturday, and 6 to 10:00 p.m. on Sunday.

(b) The following video programming distributors must provide programming with video description as follows:

(1) Commercial television broadcast stations that are affiliated with one of the top four commercial television broadcast networks (ABC, CBS, Fox, and NBC), as of September 30, 2000, and that are licensed to a community located in the top 25 DMAs, as determined by Nielsen Media Research, Inc. for the year 2000, must provide 50 hours of video description per calendar quarter, either during prime time or on children's programming;

(2) Television broadcast stations that are affiliated or otherwise associated with any television network, must pass through video description when the network provides video description and the broadcast station has the technical capability necessary to pass through the video description, unless using the technology for providing video description in connection with the program for another purpose that is related to the programming would conflict with providing the video description;

(3) Multichannel video programming distributors (MVPDs) that serve 50,000 or more subscribers, as of September 30, 2000, must provide 50 hours of video description per calendar quarter during prime time or on children's programming, on each channel on which they carry one of the top five national nonbroadcast networks, as defined by an average of the national audience share during prime time of nonbroadcast networks, as determined by Nielsen Media Research, Inc., for the time period October 1999-September 2000, that reach 50 percent or more of MVPD households; and

(4) Multichannel video programming distributors (MVPDs) of any size:

(i) Must pass through video description on each broadcast station they carry, when the broadcast station provides video description, and the channel on which the MVPD distributes the programming of the broadcast station has the technical capability necessary to pass through the video description, unless using the technology for providing video description in connection with the program for another purpose that is related to the programming would conflict with providing the video description; and

(ii) Must pass through video description on each nonbroadcast network they carry, when the network provides video description, and the channel on which the MVPD distributes the programming of the network has the technical capability necessary to pass through the video description, unless using the technology for providing video description in connection with the program for another purpose that is related to the programming would conflict with providing the video description.

(c) Responsibility for and determination of compliance.

(1) The Commission will calculate compliance on a per channel, calendar quarter basis, beginning with the calendar quarter April 1 through June 30, 2002.

(2) In order to meet its fifty-hour quarterly requirement, a broadcaster or MVPD may count each program it airs with video description no more than a total of two times on each channel on which it airs the program. A broadcaster or MVPD may count the second airing in the same or any one subsequent quarter.

(3) Once a commercial television broadcast station as defined under paragraph (b)(1) of this section has aired a particular program with video description, it is required to include video description with all subsequent airings of that program on that same broadcast station, unless using the technology for providing video description in connection with the program for another purpose that is related to

the programming would conflict with providing the video description.

(4) Once an MVPD as defined under paragraph (b)(3) of this section:

(i) Has aired a particular program with video description on a broadcast station they carry, it is required to include video description with all subsequent airings of that program on that same broadcast station, unless using the technology for providing video description in connection with the program for another purpose that is related to the programming would conflict with providing the video description; or

(ii) Has aired a particular program with video description on a nonbroadcast station they carry, it is required to include video description with all subsequent airings of that program on that same nonbroadcast station, unless using the technology for providing video description in connection with the program for another purpose that is related to the programming would conflict with providing the video description.

(5) In evaluating whether a video programming distributor has complied with the requirement to provide video programming with video description, the Commission will consider showings that any lack of video description was de minimis and reasonable under the circumstances.

(d) Procedures for exemptions based on undue burden.

(1) A video programming provider may petition the Commission for a full or partial exemption from the video description requirements of this section, which the Commission may grant upon a finding that the requirements will result in an undue burden.

(2) The petitioner must support a petition for exemption with sufficient evidence to demonstrate that compliance with the requirements to provide programming with video description would cause an undue burden. The term "undue burden" means significant difficulty or expense. The Commission will consider the following factors when determining whether the requirements for video description impose an undue burden:

(i) The nature and cost of providing video description of the programming;

(ii) The impact on the operation of the video programming distributor;

(iii) The financial resources of the video programming distributor; and

(iv) The type of operations of the video programming distributor.

(3) In addition to these factors, the petitioner must describe any other factors it deems relevant to the Commission's final determination and any available alternative that might constitute a reasonable substitute for the video description requirements. The Commission will evaluate undue burden with regard to the individual outlet.

(4) The petitioner must file an original and two (2) copies of a petition requesting an exemption based on the undue burden standard, and all subsequent pleadings, in accordance with § 0.401(a) of this chapter.

(5) The Commission will place the petition on public notice.

(6) Any interested person may file comments or oppositions to the petition within 30 days of the public notice of the petition. Within 20 days of the close of the comment period, the petitioner may reply to any comments or oppositions filed.

(7) Persons that file comments or oppositions to the petition must serve the petitioner with copies of those comments or oppositions and must include a certification that the petitioner was served with a copy. Parties filing replies to comments or oppositions must serve the commenting or opposing party with copies of such replies and shall include a certification that the party was served with a copy.

(8) Upon a showing of good cause, the Commission may lengthen or shorten any comment period and waive or establish other procedural requirements.

(9) Persons filing petitions and responsive pleadings must include a detailed, full showing, supported by affidavit, of any facts or considerations relied on.

(10) The Commission may deny or approve, in whole or in part, a petition for an undue burden exemption from the video description requirements.

(11) During the pendency of an undue burden determination, the Commission will consider the video programming subject to the request for exemption as exempt from the video description requirements.

(e) Complaint procedures.

(1) A complainant may file a complaint concerning an alleged violation of the video description requirements of this section by transmitting it to the Consumer Information Bureau at the Commission by any reasonable means, such as letter, facsimile transmission, telephone (voice/TRS/TTY), Internet e-mail, audio-cassette recording, and Braille, or some other method that would best accommodate the complainant's disability. Complaints should be addressed to: Consumer Information Bureau, 445 12th Street, SW, Washington, DC 20554. A complaint must include:

- (i) The name and address of the complainant;
- (ii) The name and address of the broadcast station against whom the complaint is alleged and its call letters and network affiliation, or the name and address of the MVPD against whom the complaint is alleged and the name of the network that provides the programming that is the subject of the complaint;
- (iii) A statement of facts sufficient to show that the video programming distributor has violated or is violating the Commission's rules, and, if applicable, the date and time of the alleged violation;
- (iv) the specific relief or satisfaction sought by the complainant;
- (v) the complainant's preferred format or method of response to the complaint (such as letter, facsimile transmission, telephone (voice/TRS/TTY), Internet e-mail, or some other method that would best accommodate the complainant's disability); and
- (vi) a certification that the complainant attempted in good faith to resolve the dispute with the broadcast station or MVPD against whom the complaint is alleged.

(2) The Commission will promptly forward complaints satisfying the above requirements to the video programming distributor involved. The video programming distributor must respond to the complaint within a specified time, generally within 30 days. The Commission may authorize Commission staff either to shorten or lengthen the time required for responding to complaints in particular cases. The answer to a complaint must include a certification that the

video programming distributor attempted in good faith to resolve the dispute with the complainant.

(3) The Commission will review all relevant information provided by the complainant and the video programming distributor and will request additional information from either or both parties when needed for a full resolution of the complaint.

(i) The Commission may rely on certifications from programming suppliers, including programming producers, programming owners, networks, syndicators and other distributors, to demonstrate compliance. The Commission will not hold the video programming distributor responsible for situations where a program source falsely certifies that programming that it delivered to the video programming distributor meets our video description requirements if the video programming distributor is unaware that the certification is false. Appropriate action may be taken with respect to deliberate falsifications.

(ii) If the Commission finds that a video programming distributor has violated the video description requirements of this section, it may impose penalties, including a requirement that the video programming distributor deliver video programming containing video description in excess of its requirements.

(f) Private rights of action are prohibited. Nothing in this section shall be construed to authorize any private right of action to enforce any requirement of this section. The Commission shall have exclusive jurisdiction with respect to any complaint under this section.

http://www1.fcc.gov/cgb/dro/captioning_regs.html#79.2

Emergency Preparedness Online Glossary

Administration for Children and Families – a division of the Department of Health and Human Services, ACF is responsible for federal programs that promote the economic and social wellbeing of families, children, individuals, and communities

(<http://www.acf.hhs.gov/>)

Administration on Aging (AoA) - Operating under the Department of Health and Human Services, the Administration on Aging provides home and community-based services to older persons through programs funded by the Older Americans Act.

(<http://www.aoa.gov>)

Administration on Developmental Disabilities (ADD) - the Federal agency responsible for implementation and administration of the Developmental Disabilities Assistance and Bill of Rights Act of 2000 (DD Act) and the disability provisions of the Help America Vote Act. Organizationally, the Administration on Developmental Disabilities is located within the U.S. Department of Health and Human Services.

(<http://www.acf.hhs.gov/programs/add>)

All Hazard Roundtable - roundtable discussion open to the public that explores how new and existing technologies can be used to provide more assurance that the warning of approaching storms or other catastrophes will be sent to those who need it most, through whatever means available.

American Academy of Pediatrics - an organization of 60,000 pediatricians committed to the attainment of optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults (<http://www.aap.org>)

American Association on Health and Disability – an organization whose main goals are to prevent additional health complications in people with disabilities, and to identify

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effective intervention strategies to reduce the incidence of secondary conditions and the health disparities between people with disabilities and the general population.

(<http://www.aahd.us>)

American Foundation for the Blind - a national nonprofit that expands possibilities for people with vision loss. AFB's priorities include broadening access to technology; elevating the quality of information and tools for the professionals who serve people with vision loss; and promoting independent and healthy living for people with vision loss by providing them and their families with relevant and timely resources (<http://www.afb.org>)

American Red Cross - a humanitarian organization that provides emergency assistance, disaster relief and education inside the United States, as part of the International Federation of the Red Cross (<http://www.redcross.org>)

Automated Program Controller (APC) – automatic dispatcher of emergency broadcasts; allows automated switching to emergency broadcasts, with a scalable response depending on emergency level, and without interrupting the normal data broadcast

BML - a server-side markup language designed for use in large websites in need of templates, like its most well-known example, LiveJournal. Because BML is a server-side language, it can generate dynamic (as opposed to static) web pages or content.

Blue292 - a leading provider of crisis information management software (CIMS), and environmental, health and safety (EHS) solutions (<http://www.blue292.com>)

Briceño, Sálvamo - Director of the Inter-Agency Secretariat of the International Strategy for Disaster Reduction (ISDR). Sálvamo Briceño was appointed the Director of the Secretariat of the International Strategy for Disaster Reduction (UN/ISDR) in June 2001 (<http://www.unisdr.org/eng/media-room/mr-bio-eng.htm>)

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California Office of Emergency Services (OES) – this branch of the Governor’s office designated to prepare and response to disasters such as war-caused emergencies, natural disasters and civil disturbances (<http://www.oes.ca.gov>)

Center for Development and Disability - the mission of the CDD is the full inclusion of people with disabilities and their families in their community by: engaging individuals in making life choices; partnering with communities to build resources; and improving systems of care (<http://www.cdd.unm.edu>)

Center for Disability Issues in the Health Profession – established in 1998, CDIHP sponsors educational activities and curriculum development for health professionals serving people with disabilities. The Center also conducts applied research to develop continuing education programs for current health care providers. These activities are designed to improve patient care delivery through advocating basic changes in social and policy issues affecting the health of people with disabilities (<http://cdihp.org>)

Capital Wireless Integrated Network (CapWIN) - a partnership between the States of Maryland and Virginia, and the District of Columbia to develop an interoperable first responder data communication and information sharing network (<http://www.capwin.org>)

Comlabs, Inc. - a respected leader in the satellite warning and communications arena for the past 15 years (<http://www.comlabs.com>)

Common Alerting Protocol - an open, non-proprietary standard data interchange format that can be used to collect all types of hazard warnings and reports locally, regionally and nationally, for input into a wide range of information-management and warning dissemination systems.

Community Emergency Preparedness Information Network (CEPIN) – in late 2004, the U.S. Department of Homeland Security (DHS) awarded Telecommunications for the Deaf, Inc. (TDI) nearly \$1.5 million for a two-year project, called Community Emergency Preparedness Information Network (or the CEPIN Project), which develops model community education programs for deaf and hard of hearing consumers. TDI coordinates efforts by specialists in four centers throughout America in promoting emergency preparedness (<http://www.cepintdi.org>)

Community Emergency Response Network (CERN) – a unique organization in Howard County, Maryland (just outside Washington, DC) that facilitates the development of a community-based disaster response plan for Howard County to ensure optimum preparedness in the advent of a terrorist attack on Washington. CERN supports the County government's disaster planning through the coordination of the emergency plans and resources (<http://www.cern.us>)

Data Broadcast Interruption/Push technology - technology offering flexible switching and simultaneous data broadcast by Automated Program Controller at broadcast stations

Department of Homeland Security (DHS) - a Cabinet department of the federal government of the United States that is concerned with protecting America's people from harm and its property from damage. This department was created primarily from a conglomeration of existing federal agencies in response to the terrorist attacks of September 11, 2001 (<http://www.dhs.gov>)

Digital Terrestrial Network – a network on which Emergency Warning Signals are sent to portable devices such as cell phones and portable TVs

Disability Funders Network – network of members whose mission is to increase the extent and effectiveness of grantmaking that benefits people with disabilities, and to promote

inclusion of people with disabilities in effective philanthropy
(<http://www.disabilityfunders.org>)

Disability Preparedness Center - focused on helping ensure that all individuals are included in the development of and inclusion in plans for protection from both natural and man-made emergencies (<http://www.disabilitypreparedness.org>)

Disability Resources - a nonprofit 501(c)(3) organization established to promote and improve awareness, availability and accessibility of information that can help people with disabilities live, learn, love, work and play independently. DR disseminates information about books, pamphlets, magazines, newsletters, videos, databases, government agencies, nonprofit organizations, telephone hotlines and on-line services that provide free, inexpensive or hard-to-find information to help people with disabilities live independently (<http://disabilityresources.org>)

Disability Rights Office – a resource office of the FCC which strives to provide those with disabilities such as hearing, visual or speech with the same telecommunications opportunities as everyone else (<http://www.fcc.gov/cgb/dro/>)

Disaster News Network – a news services that tells the story of disaster response and suggests appropriate ways the public can help survivors; it also facilitates information sharing among disaster responders (<http://www.disasternews.net>)

Disaster Preparedness and Emergency Response Association (DERA) - founded in 1962 to assist communities with disaster preparedness, hazard mitigation, emergency response-recovery, and to serve as a worldwide professional association linking professionals, volunteers, and organizations active in all phases of emergency management. (<http://www.disasters.org>)

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Dynamic Broadcast Bandwidth Controller – maximizes emergency data broadcast depending on the content of current programming; makes it possible for automated switching to emergency broadcast as requested by local and other agencies, with scalable response on emergency level, and without interrupting the normal data broadcast

Emergency Preparedness Online - An online resource directory, produced by Bridge Multimedia, which provides information regarding the Emergency Alert System and organizations involved in Emergency Preparedness, particularly as it relates to individuals with disabilities (<http://www.emergencypreonline.org>)

Easter Seals (Project Action) - Congress originally commissioned Easter Seals Project ACTION in 1988 as a research and demonstration project to improve access to public transportation for people with disabilities. With the passage of the ADA two years later, their goals expanded to help transportation operators implement the law's transportation provisions (<http://projectaction.easterseals.com>)

Emergency Alert System (EAS) - was established by the FCC in November of 1994 with the approval of Part 11 EAS rules. The EAS replaced the Emergency Broadcast System (EBS) as a tool the President and others may use to warn the public about emergency situations (<http://www.fcc.gov/eb/eas>)

Emergency Broadcast System - The EBS was designed to provide the president with a means to address the American people in the event of a national emergency. Through the EBS, the president had access to thousands of broadcast stations to send an emergency message to the public. In 1994, to overcome some of the limitations of the older EBS system, the Federal Communications Commission (FCC) replaced the EBS with the Emergency Alert System (EAS). The major difference between EBS and EAS is the method used to alert broadcast stations about an incoming message.

Emergency Medical Services (EMS) – responsible for providing prehospital care by paramedics, emergency medical technicians and medical first responders; EMS provides early treatment to those in need of urgent medical care, and rapid transportation to an emergency department

Emergency Response and Crisis Management Technical Assistance Center (ERCM)
- help school districts develop comprehensive plans for any emergency or crisis, including natural disasters, violent incidents, and terrorist acts (<http://www.ercm.org>)

Emergency Warning Signals (EWS) – signals sent via Digital Terrestrial Network, which are picked up by portable devices and decoded to create a real-time broadcast

E Team - designed by Emergency Managers to provide the functionality needed to effectively manage every phase of a crisis. Proven time and again in real-life situations such as the California and Arizona wildfires, 2002 Winter Olympics, and New York City's response to 9/11, E Team is available in Government and Corporate Editions (<http://www.eteam.com>)

Federal Alliance for Safe Home (FLASH) - a non-profit, 501(c)3 organization dedicated to promoting disaster safety and property loss mitigation. FLASH was founded in Florida in 1998 as the Florida Alliance for Safe Homes. Today it has grown into one of the most respected disaster preparedness organizations in the nation, with more than 75 partners from government, business, academia and not-for-profit organizations (<http://www.flash.org>)

Federal Communications Commission (FCC) - an independent United States government agency, directly responsible to Congress. The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite and cable. The FCC's jurisdiction covers the 50 states, the District of Columbia, and U.S. possessions (<http://www.fcc.gov>)

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Federal Emergency Management Agency (FEMA) - a government agency in the United States which is organized under the Department of Homeland Security (DHS) in the Emergency Preparedness and Response Directorate. The agency is charged with what it defines as four domains of emergency management: mitigation, preparedness, response and recovery (<http://www.fema.gov>)

Florida Disability Task Force – task force on emergency preparedness for people with disabilities; holds conferences on special needs shelters, health care perspectives and the impact of specific disasters on people with various types of disabilities

Fujitsu - a leading provider of customer-focused information technology and communications solutions for the global marketplace (<http://www.fujitsu.com>)

GeoDecisions, Inc. - an award-winning leader in the information technology industry that specializes in geospatial solutions (<http://www.geodecisions.com>)

Global Positioning System (GPS) - a satellite navigation system used for determining one's precise location and providing a highly accurate time reference almost anywhere on Earth or in Earth orbit.

Hormann America, Inc. - assists emergency response professionals with state-of-the-art alerting and notification systems/products and consulting and design services to ensure that the public in their jurisdiction are alerted to take shelter from the consequences of natural or man-made disasters (<http://www.hormannamerica.com>)

IEM, Inc. - one of the leading risk management companies in the US, providing services to private industry and government agencies, including the Federal Emergency Management Agency (FEMA) and the US Department of Defense (<http://www.ieminc.com>)

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Independent Living Research Utilization (ILRU) - a national center for information, training, research, and technical assistance in independent living. Its goal is to expand the body of knowledge in independent living and to improve utilization of results of research programs and demonstration projects in this field (<http://www.ilru.org>)

Infectious Diseases Information - represents physicians, scientists and other health care professionals who specialize in infectious diseases. IDSA's purpose is to improve the health of individuals, communities, and society by promoting excellence in patient care, education, research, public health, and prevention relating to infectious diseases (<http://www.idsociety.org>)

InterAgency Task Force on Disaster Reduction (IATF/DR) – Serves as the main forum within the United Nations for continued and concerted emphasis on natural disaster reduction, in particular for defining strategies for international cooperation at all levels in this field, while ensuring that the actions between agencies are complementary (<http://www.unisdr.org/eng/task%20force/tf-functions-responsibilities-eng.htm>)

Interagency Coordinating Council - facilitates successful outcomes for young children with disabilities and young children at risk for developing disabilities and their families (<http://www.fed-icc.org/>)

International Association of Emergency Managers - a non-profit educational organization dedicated to promoting the goals of saving lives and protecting property during emergencies and disasters (<http://www.iaem.com>)

International Strategy for Disaster Reduction (ISDR) - aims at building disaster-resilient communities by promoting increased awareness of the importance of disaster reduction as an integral component of sustainable development, with the goal of reducing

human, social, economic and environmental losses due to natural hazards and related technological and environmental disasters (<http://www.unisdr.org/>)

Katrina Disability Information – created by Susan Fitzmaurice, a lifelong disability advocate, this site is now a nationally recognized clearinghouse for information helping people with disabilities cope with the aftermath of hurricane Katrina; the site is dedicated to helping people with disabilities survive disasters (<http://katrinadisability.info/>)

KDDI - KDDI Engineering and Consulting, Inc. (KEC) was established in 1974, with the aim of contributing to the advancement of telecommunications, and to social, economic and cultural development (<http://www.kddi.com/english/>)

Louisiana Disability Information Resource - Information for people with disabilities and their families who have been affected by Hurricane Katrina (<http://www.katrina-la.net/>)

Media Security and Reliability Council (MSRC) – council whose mission is to prepare a comprehensive national strategy for securing and sustaining Broadcast and MVPD facilities throughout the United States during terrorist attacks, natural disasters and all other threats or attacks nationwide (<http://www.mediasecurity.org/>)

MITRE Corporation - a not-for-profit organization chartered to work in the public interest. As a national resource, they apply their expertise in systems engineering, information technology, operational concepts, and enterprise modernization to address sponsors' critical needs (<http://www.mitre.org/>)

Mobile Satellite Service (MSS) - a satellite system that uses portable terrestrial terminals. MSS terminals may be mounted on a ship, an airplane, or an automobile; MSS terminals may even be carried by individuals

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mobileFoundations – a company that develops and deploys enterprise-wide mission-critical wireless solutions (<http://www.mobilefoundations.com/>)

Multi-Hazard Emergency Planning for Schools - a short and easy-to-take web-based course that focuses on multi-hazard emergency planning for schools (<http://training.fema.gov/EMIWeb/IS/is362.asp>)

MyStateUSA - a Community/County/State integration solution that networks the Community to the County to the Regions of a State as well as networking each State on a National basis (<http://www.mystateusa.com>)

NDS Ltd. - the leading global supplier of open end-to-end digital pay TV solutions for the secure delivery of entertainment and information to television set-top boxes and IP devices (<http://www.nds.com>)

National Center for Accessible Media (NCAM) - research and development facility that works to make media accessible to disabled persons, minority-language users, and people with low literacy skill (<http://ncam.wgbh.org/>)

National Center for Learning Disabilities- works to ensure that the nation's 15 million children, adolescents and adults with learning disabilities have every opportunity to succeed in school, work and life. NCLD provides essential information to parents, professionals and individuals with learning disabilities, promotes research and programs to foster effective learning and advocates for policies to protect and strengthen educational rights and opportunities. (<http://www.nclld.org>)

National Council on Disabilities - an independent federal agency making recommendations to the President and Congress to enhance the quality of life for all Americans with disabilities and their families. NCD is composed of 15 members appointed by the President and confirmed by the U.S. Senate. NCD's overall purpose is to

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promote policies, programs, practices, and procedures that guarantee equal opportunity for all individuals with disabilities, regardless of the nature or severity of the disability; and to empower individuals with disabilities to achieve economic self-sufficiency, independent living, and inclusion and integration into all aspects of society.

(<http://www.ncd.gov>)

National Clearinghouse for Educational Facilities (NCEF) - a free public service that provides information on planning, designing, funding, building, improving, and maintaining schools (<http://www.edfacilities.org>)

National Disability Rights Network - nonprofit membership organization for the federally mandated Protection and Advocacy (P&A) Systems and Client Assistance Programs (CAP) for individuals with disabilities; collectively, the P&A/CAP network is the largest provider of legally based advocacy services to people with disabilities in the United States. (<http://www.napas.org>)

National Fire Protection Association - international nonprofit whose mission is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. NFPA membership totals more than 79,000 individuals from around the world and more than 80 national trade and professional organizations. (<http://www.nfpa.org>)

National Institute on Disability and Rehabilitation Research (NIDRR) - provides leadership and support for a comprehensive program of research related to the rehabilitation of individuals with disabilities. All of our programmatic efforts are aimed at improving the lives of individuals with disabilities from birth through adulthood (<http://www.ed.gov/about/offices/list/osers/nidrr/index.html>)

National Institute of Information and Communications Technology (NICT) - In April 2004, the Communications Research Laboratory, an incorporated administrative

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agency, and the Telecommunications Advancement Organization of Japan, a chartered corporation, were merged and re-launched as the National Institute of Information and Communications Technology (NICT), an incorporated administrative agency. NICT was established to carry out research and development in the field of information and communications technology, in an integrated manner from basic science to application, with the aim of supporting the approaching ubiquitous network society as well as to provide comprehensive assistance to public and private organizations working in this field (<http://www.nict.go.jp/overview/>)

National Oceanic and Atmospheric Administration (NOAA) - an agency of the US Department of Commerce; conducts environmental research (<http://www.noaa.gov/>)

National Oceanic and Atmospheric Administration Weather Radio (NWR) - is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. NWR broadcasts National Weather Service warnings, watches, forecasts and other hazard information 24 hours a day (<http://www.weather.gov/nwr/>)

National Science and Technology Council (NSTC) – a Cabinet-level Council that is the principal means for the President to coordinate science, space, and technology to coordinate the diverse parts of the Federal research and development enterprise. The President chairs the NSTC. Membership consists of the Vice President, Assistant to the President for Science and technology, Cabinet Secretaries and Agency Heads with significant science and technology responsibilities, and other White House officials. (http://www.ostp.gov/NSTC/html/NSTC_Home.html)

National Telecommunications and Information Administration (NTIA) – a division of the Department of Commerce, NTIA is the President's principal adviser on telecommunications and information policy issues, and in this role frequently works with

other Executive Branch agencies to develop and present the Administration's position on these issues (<http://www.ntia.doc.gov/>)

National Weather Service - official US weather, marine, fire and aviation forecasts, warnings, meteorological products, climate forecasts and information about meteorology (<http://www.nws.noaa.gov/>)

Network Reliability and Interoperability Council (NRIC) - provides disaster recovery and network reliability information, as well as guidelines for physical, network and cyber security best practices (<http://www.nric.org/>)

New Jersey Emergency Preparedness Association (NJEPA) - provides education and training by hosting an annual New Jersey Emergency Preparedness Conference for all persons and agencies involved in the emergency management field (<http://www.njepa.org>)

New Jersey Office of Emergency Management – established in 1980, the NJOEM coordinates and directs all emergency-related activities through the NJ State Police on behalf of the Governor (<http://state.nj.us/njoem/index.html>)

Nippon Hoso Kyokai (NHK) – Japan Broadcasting Corp. - Japan's sole public broadcaster, introduced a radio service in 1925 and a television service in 1953. NHK has 54 stations across Japan and correspondents in 34 locations around the world (<http://www.nhk.or.jp/english/>)

Nobody Left Behind – their primary research mission is to identify emerging or *Best Practices* models for counties to assist in disaster plans and emergency responses to meet the needs of persons with mobility impairments in hopes of preventing injuries, saving lives, and assuring *Nobody is Left Behind* (http://www.rtcil.org/nlb_home.htm)

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Notice of Proposed Rulemaking (NPRM) - An announcement published in the Federal Register of proposed new regulations or modifications to existing regulations; the first stage in the process of creating or modifying regulations.

Office of Disability Employment Policy - provides national leadership by developing and influencing disability-related employment policy and practice affecting the employment of people with disabilities (<http://www.dol.gov/odep/>)

Office of Emergency Management – under the Environmental Protection Agency, the new OEM consolidates OSWER's emergency prevention, preparedness, and response duties by joining together the Oil Program Center, Emergency Response & Removal Center and the Chemical Emergency Preparedness and Prevention Office. OEM's mission is to ensure that this Nation is better prepared for environmental emergencies, the Office of Emergency Management (OEM) works with other EPA partners, Federal agencies, state and local response agencies, and industry to prevent accidents as well as maintain superior response capabilities. OEM's overall mission is to provide national leadership to prevent, prepare for, and respond to health and environmental emergencies (<http://www.epa.gov/swercepp/>)

Office of Safe and Drug Free Schools (OSDFS) - The Office of Safe and Drug-Free Schools (OSDFS) administers, coordinates, and recommends policy for improving quality and excellence of programs and activities that are designed to provide assistance for drug and violence prevention activities, provide national leadership on correctional education, and help to develop a national research agenda for drug and violence prevention (<http://www.ed.gov/about/offices/list/osdfs/index.html?src=oc>)

Office of Special Education and Rehabilitative Services (OSERS) - The Office of Special Education and Rehabilitative Services (OSERS) is committed to improving results and outcomes for people with disabilities of all ages. In supporting President Bush's No Child Left Behind agenda and the New Freedom Initiative, OSERS provides a

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wide array of supports to parents and individuals, school districts and states in three main areas: special education, vocational rehabilitation and research

(<http://www.ed.gov/about/offices/list/osers/index.html>)

Oregon RAINS - non-profit, private/public partnership formed to accelerate the development and deployment of innovative technology for homeland security

(<http://www.rainsnet.org>)

Organization for the Advancement of Structured Information Standards (OASIS) –

a consortium that produces more Web services standards than any other organization along with standards for security, e-business, and standardization efforts in the public sector and for application-specific markets. Founded in 1993, OASIS has more than 5,000 participants representing over 600 organizations and individual members in 100 countries. (<http://www.oasis-open.org>)

Panasonic – Panasonic, a leading manufacturer of electronics, has Usability Centers throughout the world, which research and develop technology for users with special needs. Having helped lead the way in the development of DVD, SD Memory Cards, DTV and other important technology, the R&D centers of the Panasonic Group of Companies are working to make emerging technologies accessible, and to develop new technologies that aim to further enable and encourage employment, independence, and enhanced entertainment experiences for people with disabilities (<http://www.panasonic.com>)

Partnership for Public Warning (PPW) - a non-profit, public-private partnership established in 2002 to save the lives and property of people at risk from natural disasters, accidents and terrorism by improving the nation's alert and warning capabilities

(<http://www.partnershipforpublicwarning.org/ppw/>)

Project Safe EV-AC: Evacuation and Accommodation of People with Disabilities - three year development project, will improve evacuation from buildings, vehicles, and

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other settings during emergencies by providing training materials on the **EVacuation and ACcommodation** of people with disabilities (<http://evac.icdi.wvu.edu>)

Radio Band Data Services – EAS service that would provide text alerts to car radios that are equipped with a display

Radio Frequency (RF) - any frequency within the electromagnetic spectrum associated with radio wave propagation. When an RF current is supplied to an antenna, an electromagnetic field is created that then is able to propagate through space. Many wireless technologies are based on RF field propagation.

READYAmerica – a common sense framework designed to launch a process of learning about citizen preparedness. One of the primary mandates of the U.S. Department of Homeland Security is to educate the public, on a continuing basis, about how to be prepared in case of a national emergency - including a possible terrorist attack (<http://www.ready.gov/>)

Rehabilitation Engineering Research Center (RERC) - Rehabilitation Engineering Research Centers (RERCs) plan and conduct research leading to new scientific knowledge and new or improved methods, procedures and devices to benefit people with disabilities (<http://www.ncddr.org/rpp/techaf/techdfdw/rerc/>)

Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) – Plans and conducts research specific to telecommunications access for those with disabilities.

RE-SPEAK Captioning System – created by NHK to capture and create captions live by voice recognition. During live broadcasts, the captioning narrator rereads what is being spoken, and a computer then converts it to captioning data. This can help create error-free captions.

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Satellite Broadcasting and Communications Association (SBCA) - the national trade organization representing all segments of the satellite industry. It is committed to expanding the utilization of satellite technology for the broadcast delivery of video, audio, data, music, voice, interactive and broadband services. SBCA is composed of DBS, C-band, broadband, satellite radio, and other satellite service providers, content providers, equipment manufacturers, distributors, retailers, encryption vendors, and national and regional distribution companies that make up the satellite services industry (<http://www.sbca.com/index.asp>)

School's Out - lets parents immediately know if there is an emergency at their children's school. The School's Out system is tied directly to the school administration and is updated by their own authorized personnel; can send an average of over 1,000,000 email alerts per week. School's Out serves over 150 school districts and private schools using our system with over 250,000 email subscribers. (<http://www.schoolsout.com>)

Ship Analytics – a company providing emergency management and security solutions, simulation technology and maritime products to prevent and manage water disasters (<http://www.shipanalytics.com>)

Sirius Radio - satellite radio company offering over 120 channels of satellite radio: 65 devoted to commercial-free music, in almost every genre imaginable, plus over 55 channels of sports, news and talk (<http://www.sirius.com>)

Specific Area Message Encoder (SAME) codes - The Weather Radio "Specific Area Message Encoder" (WR-SAME), more currently called "SAME" is a digitally encoded signal transmitted by the local NOAA Weather Radio station's equipment. This digital code is transmitted just before and at the end of selected messages heard on the NOAA Weather Radio (NWR) station.

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Technology Opportunities Program (TOP) - a highly competitive, merit-based grant program that brings the benefits of digital network technologies to communities throughout the United States. TOP awards matching grants to public and non-profit organizations to demonstrate practical applications of telecommunications and information technologies (<http://www.ntia.doc.gov/top/>)

Telecommunications for the Deaf, Inc. (TDI) - national organization engaging in telecommunications advocacy for deaf and hard of hearing people (<http://www.tdi-online.org/>)

Third International Conference on Early Warning (EWC III) - Hosted by Germany under the auspices of the United Nations, the Third International Conference on Early Warning against natural hazards will take place in Bonn from 27 to 29 March 2006. The Indian Ocean tsunami disaster in December 2004 and the devastation caused by Hurricane Katrina in August 2005 demonstrated, once again, the pressing need for effective early warning against natural hazards of all kinds in all parts of the world (<http://www.ewc3.org/>)

United Nations Under-Secretary General for Humanitarian Affairs - a high level position in the United Nations that heads the Office for the Coordination of Humanitarian Affairs. The title Emergency Relief Coordinator was created by UN resolution on December 1991 to coordinate the efforts of the special representatives of the United Nations Secretary-General to complex, man-made emergencies and the tasks of the UN Disaster Relief Coordinator (UNDRO), who handles natural disasters. Shortly thereafter the Secretary-General gave the Emergency Relief Coordinator the status of Under-Secretary-General (USG) for Humanitarian Affairs and the corresponding administrative support (<http://www.unisdr.org/eng/media-room/mr-bio-eng.htm>)

United States Access Board - an independent Federal agency devoted to accessibility for people with disabilities. Created in 1973 to ensure access to federally funded facilities,

Bridge Multimedia: *Emergency Preparedness Online: Resource Directory*,
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the Board is now a leading source of information on accessible design. The Board develops and maintains design criteria for the built environment, transit vehicles, telecommunications equipment, and for electronic and information technology. It also provides technical assistance and training on these requirements and on accessible design and continues to enforce accessibility standards that cover federally funded facilities (<http://www.access-board.gov>)

United States Department of Transportation – established by an act of Congress on October 15, 1966, the Department’s first official day of operation was April 1, 1967. The mission of the Department is to serve the United States by ensuring a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future (<http://www.dot.gov/>)

United States Fire Administration - an entity of the Department of Homeland Security, the mission of the USFA is to reduce life and economic losses due to fire and related emergencies, through leadership, advocacy, coordination, and support (<http://www.usfa.fema.gov>)

United States Geological Survey - an unbiased, multi-disciplinary science organization focused on biology, geography, geology, geospatial information, and water; and the timely, relevant, and impartial study of the landscape, natural resources, and the natural hazards (<http://www.usgs.gov/>)

Virginia Department of Transportation (VDOT) - responsible for building, maintaining and operating the state's roads, bridges and tunnels; Virginia has the third-largest state-maintained highway system in the country (behind North Carolina and Texas) (<http://www.virginiadot.org>)

WGBH Educational Foundation – Works to deliver accessible television to people who are deaf, hard-of-hearing, blind, or visually impaired so as not to exclude them from choosing to participate in its educational, cultural, and entertaining elements. WGBH invented TV captioning and video descriptions and continues in its efforts to bring media access to all of television, as well as to the Web, movie theaters, and more (<http://www.wgbh.org/>)

Warning Systems, Inc. - provides tone alert radio systems used for indoor emergency notification during natural and man-made disasters (<http://www.warningsystems.com>)

World Conference on Disaster Reduction (WCDR) - a United Nations conference bringing together government officials, non-governmental experts and other specialists from around the world to discuss the growing trend of people affected by natural disasters (<http://www.unisdr.org/wcdr/>)

XM Radio - one of two FCC licensees to deliver satellite radio programming. XM delivers its coast-to-coast, digital-quality service with more than 150 channels of music, news, talk, radio, sports, comedy and children's programming (<http://www.xmradio.com/>)