CSEPP LEGACY

Chemical Stockpile Emergency Preparedness Program

A LEGACY OF INNOVATION

CSEPP ...THE WORK CONTINUES

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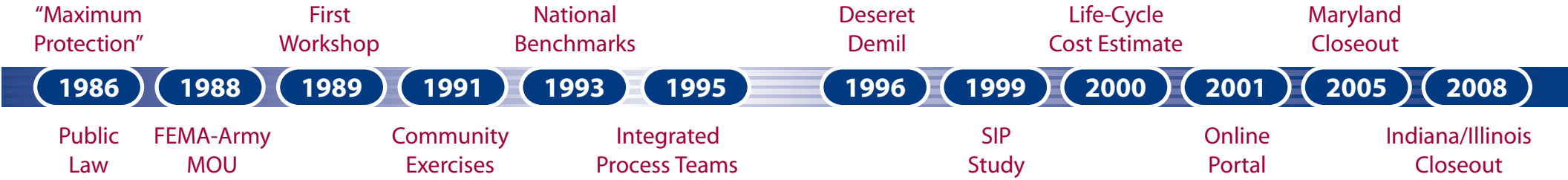
CSEPP LEGACY

FEMA

CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM



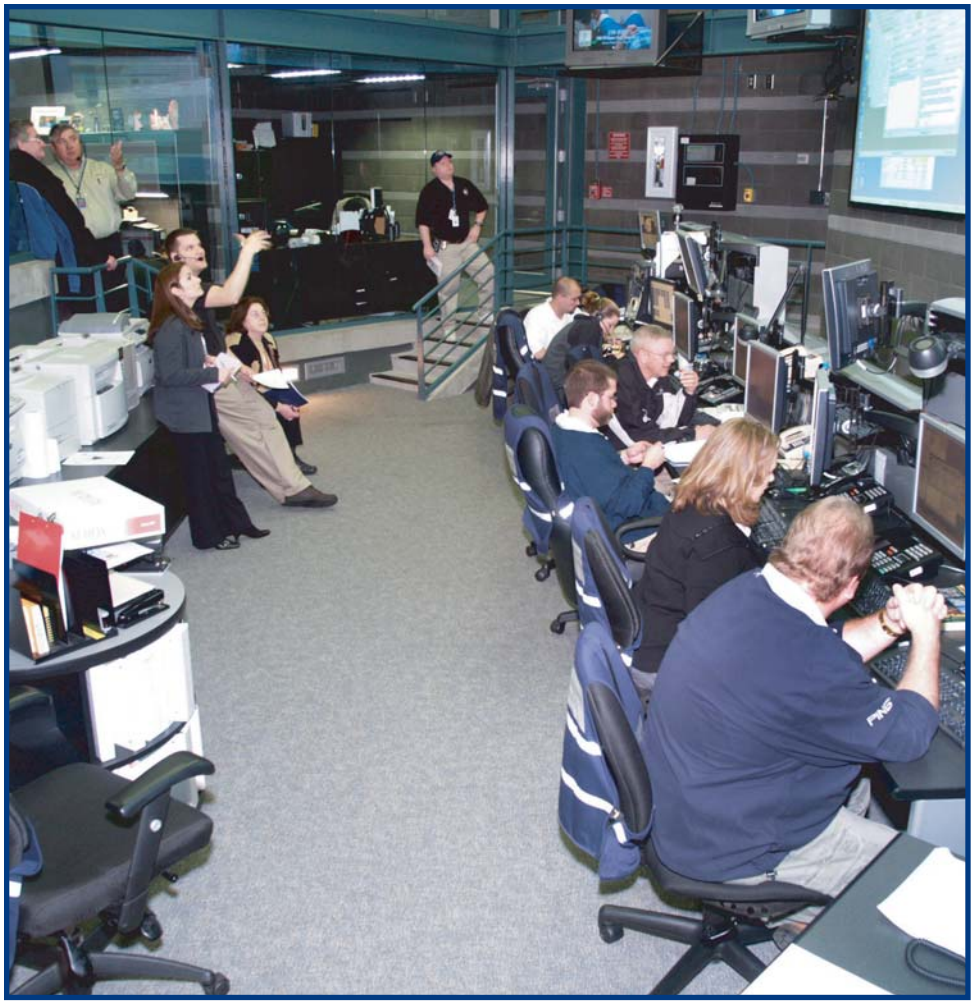
A HISTORY OF INNOVATION

The Chemical Stockpile Emergency Preparedness Program (CSEPP) has supported communities near U.S. Army depots that store our nation's stockpile of chemical warfare agents and munitions for more than 20 years. During that time, many emergency management innovations have been discovered, planned, and implemented in CSEPP communities. These best practices and lessons learned should be collected and shared with all the CSEPP sites, as well as with other emergency management agencies that may benefit from CSEPP's experience. This brochure highlights some of the important breakthroughs and lessons learned from this unique emergency management program.

When Congress mandated destruction of the U.S. chemical stockpile, it ordered that this be carried out with "maximum protection" for the public until the chemical agents are completely gone. Early studies of the communities near the stockpiles showed the need to improve existing emergency plans, training, equipment, and facilities. CSEPP was created to enhance the emergency response capabilities in these communities, recognizing that each site has its own particular needs for emergency preparedness. Program goals and metrics were established and tools were created to work more efficiently. These breakthroughs were the result of all the program stakeholders collaborating to identify program needs, solve problems, and advance program goals.

Since CSEPP began, state and local emergency management officials have teamed with the U.S. Army and the Federal Emergency Management Agency (FEMA) to protect the public in the unlikely event of a stockpile accident. This partnership among multiple Federal agencies, 10 states, 40 counties, one tribal nation, volunteer agencies, and the private sector presented challenges to the newly formed program. Today, however, the partnerships that have been created and the methods these disparate agencies use to advance program goals are among CSEPP's greatest legacies.

Innovations in protective action decision-making, training, exercises, medical preparedness, public outreach and education, and program measurement are summarized in the following pages.

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PARTNERSHIPS

Partnerships have been the key to CSEPP's accomplishments since it was established. To commemorate the program's 20th anniversary, nearly 50 current and former program personnel were interviewed and asked to reflect on CSEPP's history. Overwhelmingly, interviewees emphasized that having everyone at the same table is an absolute necessity for effective information sharing, problem solving, and overall program success.

Cultural differences between the U.S. Army and FEMA had to be resolved to develop effective working rationships and policies. Initially, the program was organized top-down. U.S. Army and FEMA personnel met to develop program policy that was handed down to the communities. The Federal government determined the size of the first funding grants and announced them to the communities. Across-the-board funding for CSEPP sites was inadequate because of disparities in the communities' emergency management capabilities.

At the community level, emergency management organizations ranged from non-existent to highly sophisticated. The concept of "functional equivalency" was used to help participating emergency management organizations reach a desired level of preparedness. Rather than providing the same resources to every community, CSEPP challenged jurisdictions to assess their own requirements. Cultural differences among first-responder organizations, emergency management, medical providers, and non-government organizations had to be addressed. Community Integrated Process Teams (IPT), a management tool adopted from the Department of Defense, have been instrumental in bringing together representatives from all levels of government (municipal, county, state, and Federal) to jointly set objectives, solve problems, and keep the program moving forward.

> **"The best thing that happened to the CSEPP program was the creation of the IPT**; getting all the stakeholders together in one room at the local levels, at the state levels, at the national levels, and understanding what everybody's role was and what everybody's expectations are."
>
> **Carmen Spencer**
> Deputy Assistant Secretary of the Army
> Elimination of Chemical Weapons

CSEPP programmatic IPTs that cover areas such as Automation, Finance, Public Affairs, Training and Exercises, Medical, and Closeout, consist of representatives from all levels of the program to solve problems, develop products, or make policy recommendations that benefit all CSEPP stakeholders.

IPT charters form the roadmap for membership and describe the overall mission of the IPT. Members receive formal IPT training, facilitators help guide the work process, and tools are developed to help the IPTs maintain annual work plans, measure success, and work efficiently.

CSEPP IPTs are great examples of how goals can be accomplished when the right people work together to develop personnel, processes, and products that keep residents safe in communities near chemical weapon stockpiles [See *Innovation in Action,* pg 14].

PROTECTING THE PUBLIC

Protecting the public is CSEPP's primary mission. The program has made many innovations in the protective action decision-making processes. One of the initial breakthroughs in CSEPP was the use of both evacuation and shelter-in-place as a dual protective action strategy. Emergency managers would choose the appropriate protective action depending on weather conditions, wind direction, and the amount and type of chemical agent involved in the incident.

The program developed a hazards assessment and decision support model that projects a conservative plume of the released agent. The model was developed specifically for the chemical warfare agents stored at the depots and is used by the U.S. Army and surrounding communities in the event of a chemical release. Emergency management officials would determine appropriate community protections after considering both the plume projection and recommended protective actions from the U.S. Army.

CSEPP has sponsored several studies on effective shelter-in-place practices. In one case, the program looked at the effectiveness of duct tape and plastic to seal a "safe room" in response to a chemical incident. In some communities, CSEPP provides residents shelter-in-place kits that contain pre-cut plastic sheets and duct tape that can be used quickly. CSEPP developed a detailed video demonstrating proper shelter-in-place techniques, and it is widely distributed both within and outside of the program.

> "What we found is that, in terms of protecting the general public, perhaps **the single most important thing to best protect them is to get them information early enough to warn that they may be at risk from chemical agents,** so they can start the process of protecting themselves."
>
> **Michael Myirski**
> U.S. Army Meteorologist

> "**One of the biggest lessons we learned with CSEPP that could be applied across the board** to any organization working with other agencies is don't make your plans in a vacuum and then hand it to the other parts of the group to make their plans. The plans all need to be worked together from the very beginning to make sure that they all mesh together."
>
> **Terry Arthur**
> U.S. Army, Newport Chemical Depot
> Public Affairs Officer

When to exit a shelter is an important consideration that CSEPP needed to address. Over time, outside air will infiltrate a building where people are sheltering in place. Eventually, the air inside the building will be less healthy than the air outside, and residents should end sheltering-in-place and begin to ventilate their homes. CSEPP has developed guidance to help emergency managers make these critical protective action decisions. Then outreach programs help the public understand the guidance.

CSEPP emergency plans are developed to capture the most effective protective action strategies and procedures. National Incident Management System-compliant plans are generated using an automated planning template developed for CSEPP (http://www.csepptemplate.com). The template guides communities in developing local plans. Templates may form the framework for a plan, but CSEPP ensures that all the community stakeholders are involved in the planning process. Across all sites, the U.S. Army and the off-post communities must work closely to develop coordinated plans.

MEDICAL INTEGRATION

> **"...the standardized medical training curriculum that members of the MIPT developed is first rate** and has so many important lessons, so many important facets that can be used continually in hospitals and in communities to train and educate people related to health and medical issues."
>
> **Christina Hughes**
> Emergency Preparedness Coordinator
> Franklin Square Hospital Center

The CSEPP medical program is fully integrated into the emergency management function because understanding the medical effects of the chemical agents is paramount in planning how to handle exposure in the event of an accident.

Hospitals, emergency medical services (EMS) providers, and public health officials contribute to the response planning efforts, and medical capabilities are a key component of community exercises. During exercises, medical professionals evaluate emergency operations center (EOC) operations and the Joint Information System (JIS) to assess how medical issues and patient tracking are addressed.

CSEPP has produced high quality self-study training videos such as "Don't be a Victim" and "Exposure and Contamination." These products help ensure first responders are fully prepared for chemical stockpile events. These products have also proven to be applicable to medical responses outside of CSEPP.

CSEPP established the Medical IPT (MIPT), which is a national team with multi-disciplinary medical representation from each of the CSEPP local communities, as well as Federal partners from the Centers for Disease Control and Prevention, Department of Homeland Security, and the U.S. Army. This group, which includes pre-hospital and hospital care providers and public health officials, reviews medical programmatic policy/guidance and develops recommendations for effective and appropriate operational procedures.

The CSEPP Medical Resources Guide provides pre-hospital organizations and hospitals with all-hazards applications to emergency preparedness and contains an emphasis on chemical recognition, decontamination, and treatment. The MIPT has developed Medical Evaluation Guidelines (MEGs): all-hazards, comprehensive guides that outline the critical elements of a medical response plan [See *Innovation in Action,* pg 14]. The IPT also established and maintains the CSEPP Multi-Hazard Medical Curriculum.

Integration of public and private healthcare providers into community emergency management has raised the standard of care in CSEPP communities. In addition to enhancing healthcare providers' ability to directly respond to mass-casualty incidents involving chemicals, CSEPP has also fostered cooperation and collaboration among the healthcare community, emergency managers, and other response agencies across jurisdictional boundaries.

CSEPP Medical Integration includes planning for both pre-hospital and hospital care.

AN INFORMED PUBLIC

By 1989, the chemical agent stockpile had been in storage for generations. Surrounding communities were vaguely aware of its presence, and many in the community were employed at the U.S. Army installations. However, specific knowledge about the stockpile, such as storage hazards and emergency response to an accident or incident, was necessary to increase the public's understanding and support of CSEPP.

This situation demanded an ambitious public education effort. From the early days of the program, Federal, State, and local public affairs officers (PAO) and public information officers (PIO) cooperated to fashion materials and tactics that increase public awareness of CSEPP and the stockpile. For many, this level of interaction with outreach personnel from other agencies and jurisdictions was a new way of doing business. Each organization had different procedures, reporting channels, capabilities, and even terminology. Cooperation solved most problems, however, the need for CSEPP public awareness grew through the 1990s.

In 1999, a public awareness survey indicated knowledge of protective actions needed to be increased in CSEPP communities. To close this information gap, and bring greater organization and coordination to outreach efforts, the Public Affairs Integrated Process Team (IPT) was formed in 2000.

Under the leadership of the IPT, the public affairs community increased efforts to inform the public of what to do to prepare for a chemical release and how to respond in the unlikely event of a chemical accident with potential off-post chemical migration.

IPT members, representing all levels of the program, took a critical look at how the program had been handling public outreach and worked together to identify and correct weaknesses. Baseline surveys were conducted in stockpile communities to help target outreach efforts. Follow-up surveys evaluate outreach campaigns, and adjustments were made accordingly.

Paid media spots were developed and aimed at specific weaknesses in public awareness. In addition, outreach products were developed, including a coloring/activity book to educate school children and, through them, their families.

In addition to maintaining public outreach campaigns, CSEPP personnel were trained to provide emergency public information. Early in the program, CSEPP adopted the Joint Information System (JIS) and Joint Information Center (JIC) concepts. The virtual JIC concept (communities supported remotely by other CSEPP PIOs) was adopted and proved its value to rapid information flow, both in exercises and non-CSEPP emergencies. A Web-based Hotline was developed and, among its many benefits, has improved exercise realism by providing near real-time coverage by print and electronic mock media.

IPT members serve as mentors to other sites seeking to learn from their experiences. The IPT continues to harness the knowledge and experience of all CSEPP PAOs and PIOs and make them available to each CSEPP site.

> "...the biggest hurdle that we had to jump over initially was to mount some sort of a public education program because **there was no way that we could protect the public without their cooperation and participation.**"
>
> **George Yantosik**
> Emergency Systems Analyst
> Argonne National Laboratory

INNOVATION *IN ACTION*

PARTNERSHIPS

The first CSEPP Integrated Process Team (IPT) was the Financial IPT. Established in 1995, it consisted of representatives from FEMA, the U.S. Army, and State officials. The Financial IPT formalized the CSEPP-specific grant application and management process and developed the original electronic system that implemented this process for subgrantees, grantees, and FEMA.

The Maryland CSEPP Community originally involved four counties. In 1997, the Maryland IPT was established to reassess the risk to the community following the U.S. Army hazard mitigation activities. With the support of technical experts, the IPT recommended new protective action zones, eliminating one of the participating counties. The report was then adopted by program management.

MEDICAL INTEGRATION

The Medical IPT has developed two Medical Evaluation Guides (MEGs), one for use by hospitals and other healthcare facilities and one for emergency medical service organizations. Prior to the development of the MEGs, such emergency preparedness indicators were in their infancy in the United States. These self-evaluation tools help organizations assess overall preparedness to meet community needs in the event of any mass casualty situation and support compliance with national hospital standards for preparedness and patient care.

MEGs can be used in an exercise and in the preparation and review of disaster plans. They are designed to provoke thought and discussion within an organization, as well as to identify areas where attention is required or that may need to be addressed periodically.

EXERCISES

Every CSEPP Community Exercise is evaluated by a CSEPP-trained team consisting of U.S. Army, FEMA, State, and local representatives from other CSEPP communities. Local first responders and medical professionals, including police officers, fire fighters, nurses, and doctors, provide the bulk of the evaluators for field response activities, such as mass decontamination, traffic management, and hospital care. This peer evaluation has greatly improved the depth and usefulness of exercise observations and findings to the players and accelerated the sharing of lessons learned and best practices across communities.

To support the selection of evaluators, CSEPP maintains a database of evaluator training and experience.

PERFORMANCE TOOLS

WebPuff is an automated decision support system used by CSEPP to protect the population surrounding the chemical weapons storage installations. The system models a chemical release using geographic information system (GIS) technology, assesses the community risk, and delivers protective action recommendations to responders within 5 to 10 minutes.

Plume projections of the chemical release and a zone-specific emergency protective action recommendation are then sent electronically to the neighboring counties. Recommendations include evacuation or shelter-in-place. When to exit shelter is also communicated to the county officials, who evaluate the WebPuff analysis and recommendations and then make protective action decisions for their communities.

TRAINING

Developing and providing training has been a priority since CSEPP's inception. Realizing that travel from the eight sites to FEMA's training facilities in Maryland would be expensive and inconvenient for local personnel, CSEPP staff developed training programs that can be delivered on-site, as well as training materials that can be downloaded from the Internet.

To ensure that training met the needs of the Program, CSEPP employed several approaches. Training personnel were integrated within the Exercise IPT to allow them immediate access to lessons learned from annual CSEPP exercises. If training deficiencies are discovered during an exercise, the training manager can recommend a corrective action and assist in scheduling the necessary training. Also, when knowledge gaps are discovered, new training programs are developed.

CSEPP training is widely distributed outside the Program. Dozens of emergency response organizations, both within and outside of the United States, have requested CSEPP training materials.

> "From a training perspective, I think CSEPP is going to leave a wonderful legacy. **We have developed a number of courses that have been extremely well received outside the CSEPP community.** The CSEPP training Web site, for example, has had a couple of million downloads, and the majority of that is from outside the [CSEPP] community."
>
> **Robert Norville**
> FEMA CSEPP Training Manager

CSEPP has produced many award-winning video training programs that are accessible to the public. The "Operations Refresher" video training programs, as well as the "Animals in Emergencies" video for pet owners and emergency planners, have won international awards for excellence. These are examples of CSEPP programs that benefit emergency responders, State and local officials, and the general public. Other training programs that have garnered wide interest include:

- Exposure and Contamination
- Don't Be a Victim
- Residential Shelter-in-Place
- Business Shelter-in-Place
- Evacuation Planning

Training materials produced for CSEPP are available at: http://emc.ornl.gov/CSEPPweb

CSEPP training includes multiple emergency management disciplines, including personal protective equipment and response procedures.

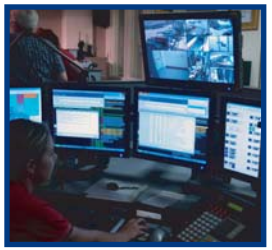
EXERCISES

Exercising response capabilities is a critical element of CSEPP's preparedness mission. Annual exercises demonstrate each CSEPP community's ability to respond to an accident or incident by testing local, installation, and State emergency operations plans. The exercises bring together on-post and off-post resources, as well as the private sector, to respond to an incident. Each jurisdiction negotiates an extent of play agreement that details the involvement of its exercise players. The process, from planning and design to execution, is especially valuable because of the constructive feedback and recommendations generated, especially from local first responders and emergency operations centers.

Evaluation is an integral part of the exercise process. Over the years, CSEPP exercises have evolved into results-oriented evaluations of community preparedness. Since 2003, CSEPP has used the Integrated Performance Evaluation (IPE) method of observing, analyzing and reporting CSEPP exercises. [See *Innovation in Action,* pg 15]

CSEPP works closely with other components of FEMA's National Preparedness Directorate to integrate the Homeland Security Exercise and Evaluation Program (HSEEP) and the National Incident Management System-Incident Command System (NIMS-ICS) into the exercise program and share lessons learned. HSEEP was derived from the IPE methodology, although it has undergone significant modifications in its development into a national program. In addition, CSEPP exercises have adopted NIMS-ICS structures such as the establishment of multi-agency coordinating groups, designation of the exercise co-director as the incident commander, and the use of a safety officer.

> "...those exercises were valuable first in developing the plans and then conducting an exercise where you brought together Army resources, local and state resources to respond to an incident. **Those were all valuable.** And any time we did, that we got great feedback and recommendations, particularly from the local first responders and emergency management centers on how to do it better or improve upon the plan."
>
> **Col. Raymond Van Pelt**
> U.S. Army, former commander
> Deseret Chemical Depot



Personnel from all the CSEPP communities participate as CSEPP exercise evaluators. The use of trained program personnel facilitates information sharing among the CSEPP sites.

PERFORMANCE TOOLS

A diverse program with many disparate stakeholders needs tools that provide a consistent method for sharing information. Early in CSEPP, two separate automation systems for managing response information were developed and used. The inconsistencies between the two systems led to problems throughout the program, especially with training and developing programmatic policy. Development of a single system provided the necessary consistency.

Another important breakthrough was the designation of the U.S. Army as the lead agency to provide information systems for the entire program. A single agency with access to both the on-post and off-post communities (working in close coordination with FEMA and state and local stakeholders) streamlined systems development and implementation. Since the program was using only one information system, all stakeholders were consistently trained. An automation IPT comprised of stakeholders from throughout the program and the information system developers provided a forum for identifying system requirements, training procedures and operating procedures.

CSEPP developed WebPuff, which is used by the U.S. Army and community emergency management personnel for hazard assessment and decision support.

> "One of things I kept hearing when we were trying to get a single system going is, 'That's not the way we do things here.' Information systems by their very nature change your business processes. **There is absolutely no way to effectively implement an information system without adapting your business process to it.** The two go in hand and hand."
>
> **Darius Kwiedorowicz**
> U.S. Army Chemical Materials Agency

WebPuff [See *Innovation in Action*, pg 15] is the hazards assessment and decision support software that is used both on-post and in the off-post emergency management agencies. CSEPPWebCA is an automated grants management software that streamlines the budgeting and approval process and provides visibility on budget line-items to FEMA across the program.

The CSEPP Portal is a user-driven Web-based system that provides a repository for program documents, planning templates, calendars, stakeholder lists, meeting logistics, and other important information. The Portal also provides Web-based workspaces for program personnel from different states to collaborate on projects, share and edit documents, electronically "chat" about issues, and maintain files of important documents. The online editing tools eliminate the need to e-mail large documents for collaboration, review, and editing. Versions of documents can be controlled online with the CSEPP Portal. Face-to-face meetings can be reduced by the use of Web-based tools, such as WebEx, that facilitate real-time briefing materials to all who are participating in the meetings.

PROGRAM MEASUREMENT

CSEPP Benchmarks

- Administration
- Alert & Notification
- Automated Data Processing
- Communications
- Coordinated Plans
- Emergency Operation Centers
- Exercise
- Medical
- Personnel
- Protective Actions
- Public Outreach/Education
- Training

Measuring progress is important in determining if program goals are being accomplished. To that end, CSEPP developed program benchmarks that identify 12 critical elements of a successful emergency management program. FEMA and the U.S. Army maintain a joint strategic plan that provides a mission and vision that are demonstrated through the benchmarks. At the local level, individual jurisdictions perform regular self-assessments to determine if they have achieved proficiency in each of the benchmarks. This process is integrated into the community's annual budget, allowing program managers to prioritize program requirements so funds are directed to areas most needed.

CSEPP also implemented public outreach measurement tools that enable program managers to measure the success of public education programs. Telephone surveys were developed to assess a baseline of residents' emergency protective actions knowledge. After a period of public outreach, follow-up surveys were conducted to measure the public education campaign's success, identify knowledge gaps and, when necessary, revise outreach messages to ensure residents received and understood the messages.

An example of the success of the measurement program was demonstrated when surveys indicated that residents did not adequately know to shut off heating and air conditioners (HVAC) during shelter-in-place. The survey data indicated that residents knew several of the shelter-in-place steps but overwhelmingly did not respond that they would turn off their HVAC systems. Messages were adjusted and new campaigns were launched to correct this knowledge gap. Follow-up surveys indicated residents had a better understanding of the HVAC step.

Local and national preparedness results are documented in an Annual Report to Congress.

Program successes are measured using 12 CSEPP benchmarks, including Public Outreach and Education, Emergency Operation Centers, and Exercises.

THE WORK CONTINUES

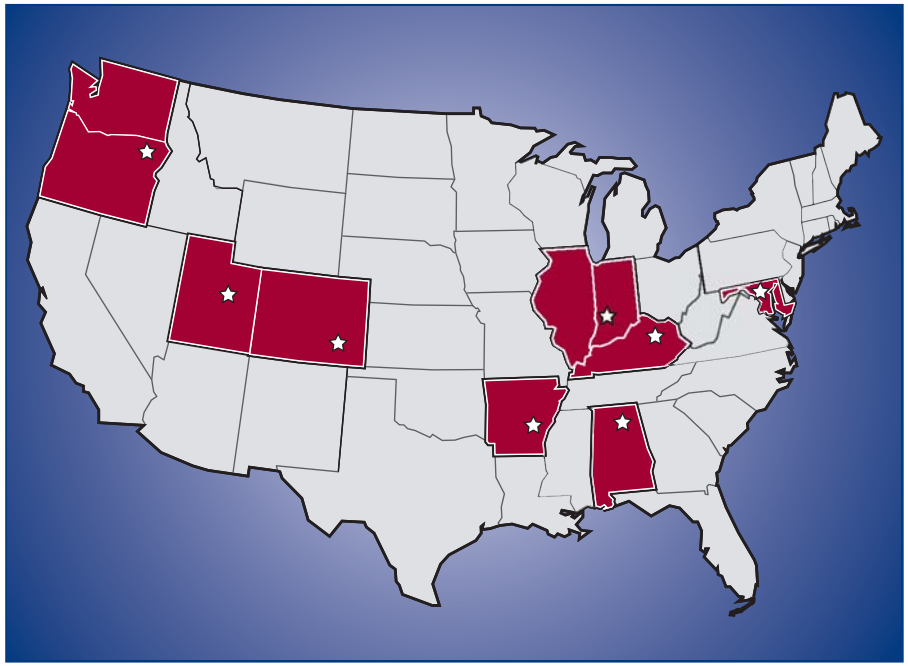
As the U.S. Army eliminates chemical weapon stockpiles and CSEPP communities close out the program, the legacy of CSEPP best practices and lessons learned is being transferred to all-hazards emergency preparedness.

This is a natural progression. The increased capability and experience of local officials and responders to protect the public, as a result of CSEPP, will remain a legacy long after the stockpile is destroyed. In addition, throughout the program's history, CSEPP personnel, resources and methods have been employed in non-CSEPP events. For example, in 2006 when a train carrying sodium cyanide derailed in Lincoln, Ala., the Talledega County Emergency Management Agency noted that "this community was more prepared for a hazardous materials event… due to training and equipment provided by CSEPP."

Another benefit is that CSEPP communities have a more thorough assessment of their emergency management needs and capabilities than many other jurisdictions, giving them a step up in all-hazards planning and response. The Federal, State, and local partnerships established to provide maximum protection for citizens have laid the foundation for collaboration among jurisdictional emergency management stakeholders and created a blueprint for effective all-hazards emergency planning and response.

CSEPP remains an evolving program able to respond to new challenges and integrate new technologies. The program will continue to document and share best practices and lessons learned as communities close out the program, enabling the remaining sites, as well as non-CSEPP jurisdictions, to benefit from this unique emergency management program.

CSEPP will pass into history when the last of the nation's chemical agent stockpile is destroyed. The program's legacy, however, will continue to benefit communities for many years to come.



The original 11 CSEPP grantees were the states of Alabama, Arkansas, Colorado, Illinois, Indiana, Kentucky, Maryland, Oregon, Utah, and Washington, and the Confederated Tribes of the Umatilla Indian Reservation in Oregon.

Contact Information

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FEMA