

The Chemical Stockpile Emergency Preparedness Program

Mr. Joe Herring

Chemical Preparedness Section

Emergency Preparedness and Response Directorate

Department of Homeland Security



FEMA

Chemical Stockpile Emergency Preparedness Program

- Based upon storage and disposal of chemical warfare materials located at eight CONUS US Army installations
- 10 States, 1 Tribal Nation and 40 Counties
- Established 1989
- Driven by Congressional mandate for “maximum protection of the public, workers and the environment”
- Annual budget of \$ 88-130 M



Essential Elements of a Response Program

- Knowledge of the Hazard
- Education
 - Decision Makers
 - 1st Responders
- Risk Communication
- Emergency Public Information
- Protection Strategies
 - Public
 - Emergency responders
- Realistic Expectations



Knowledge of the Hazard



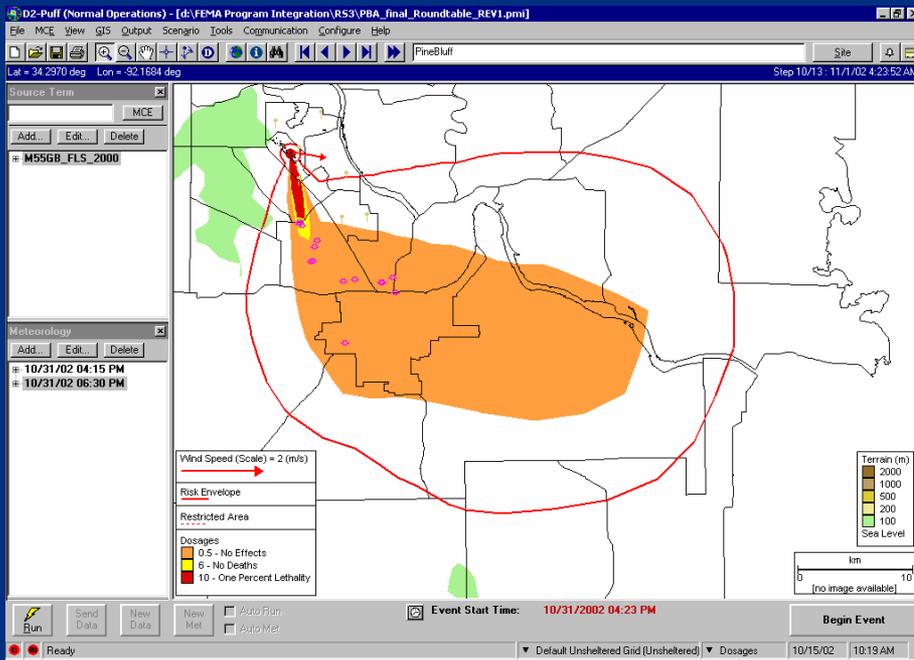
- Stockpiled chemical agents, storage configuration and characteristics are well known
- Quantitative Risk Assessment provides planning basis
- Local terrain and meteorology affect decision making



Hazard Assessment

CSEPP uses automated tools to include:

- A dispersion model (D2-Puff) that:
 - inputs met data from on- and off-site towers
 - includes effects of forecast met changes
 - includes terrain effects
 - calculates dosage, concentration and AEGLs;
 - can estimate in-shelter exposure

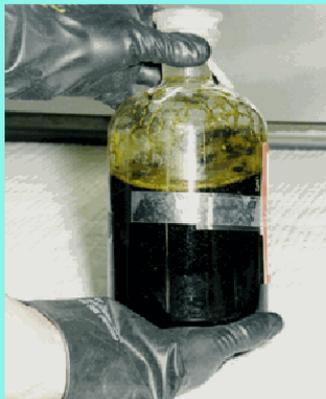


Education

- CSEPP-developed training materials have been applied throughout the United States and the world for training first responders and medical personnel on responding to chemical agent emergencies.

SULFUR MUSTARD PHYSICAL PROPERTIES

- Mustard-garlic-like smell
- Liquid or solid form in normal state
- Becomes volatile and generates vapors if heated
 - burns well once ignited
- Pale amber brown color in liquid form
- Colorless gas when vaporized



Laboratory bottle of sulfur mustard

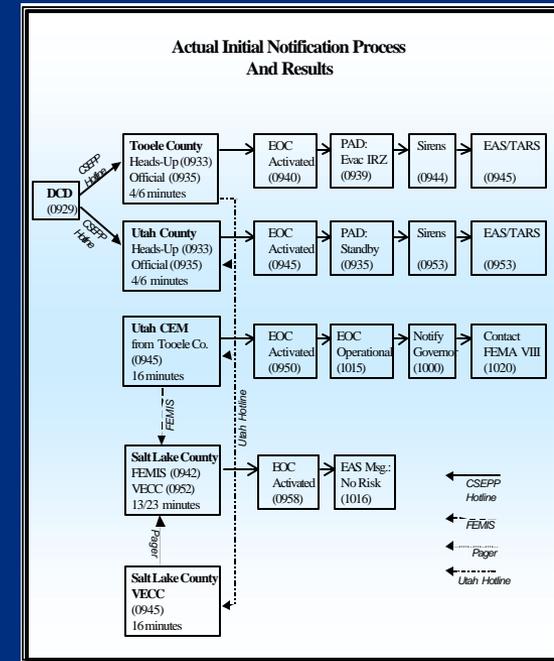
- Over 360,000 training course downloads have been registered on the CSEPP training web site.



FEMA

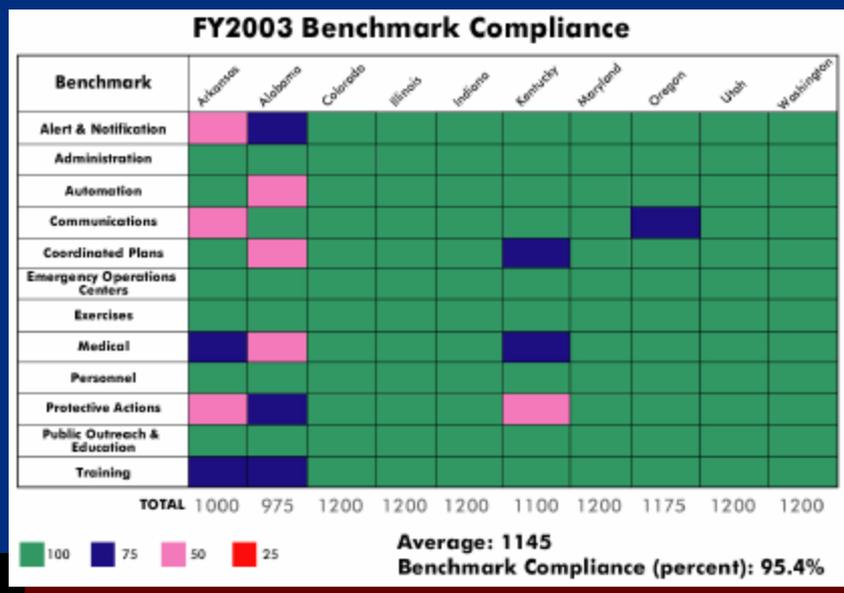
Exercises

- CSEPP has established an Integrated Performance Exercise (IPE) methodology that provides quantitative performance information.
- The IPE focuses on outcomes, not processes. The emphasis is on whether the public was actually protected.
- Joint on-post/off-post full scale exercises are held annually at all CEPPP sites.



Performance Measurement

- CSEPP has established a standardized system of 12 National Benchmarks that cover all aspects of a preparedness program.
- These Benchmarks are supplemented by a system of Quantitative Performance Indicators that specifically measure the completeness of plans, performance in warning the public, operability of critical communications systems, and effectiveness of public education programs



Risk Communication

- Based on the concept that public understanding is critical to self-protection.
- CSEPP has successfully demonstrated a public education strategy consisting of traditional outreach techniques supplemented by a paid media campaign where appropriate.

Residential Shelter-In-Place

S-I-P
Shelter-In-Place

This video describes Shelter-In-Place techniques for residential structures in CSEPP communities. It explains how officials will notify residents to Shelter-In-Place, why and how sheltering protects people from a chemical vapor, and the measures residents can take to protect themselves in their homes from a chemical agent.

www.eastoregonian.com LOCAL Thursday, June 28, 2001 Page 3A

Survey finds increase in chemical-crisis knowledge

■ CSEPP plans to continue efforts to train individuals living near chemical depot

By TERI MEEUWSEN
of the East Oregonian

a recent survey. Bob Moore of Moore Information said a survey showed that 81 percent of people closest to the depot would know what to do in case of a chemical accident. That number is up from 73 percent in a survey a year ago, he told.

veyed. 22 percent didn't know what to do or would do the wrong thing if they heard a siren alert, and 25 percent didn't know they can listen to commercial radio stations for instructions. Over the course of the year, about

last year on television and radio commercials, newspaper ads and community outreach to improve the knowledge of the public. "If (the public) doesn't have the info, they don't have the basic tools, they don't have a plan to help them

planned. However, nearly a third, or 31 percent, said they would go to school to pick up their children. More households have shelter-in-place kits and know what to do with them. However, 19 percent still don't have kits, according to Moore's report.



FEMA

Emergency Public Information

- CSEPP-funded PIOs are located in the risk communities
- Critical task is to inform the public of protective action decisions
- Use Joint Information Center concept to manage public information



FEMA

Information Sharing

- The CSEPP Portal website is an important tool for communing and sharing information and best practices among the CSEPP community.



CSEPP Portal

Home | Upload | My Account | Log Off

Search Go

CSEPP Web

General CSEPP | My CSEPP | What's New | CSEPP News | Communication Tools | Application Downloads | Contacts

General CSEPP Information

- **CSEPP Documents**
Working Papers, Policy Papers, CSEPP Guidance, GAO Reports, and CSEPP Glossary.
- **Emergency Management Planning Resources**
Agencies and Organizations, Information Sources, CSEPP Planning Programs, Web Sites, Online Documents, Books, and other Miscellaneous topics.
- **Meetings / Conferences**
CSEPP conference information for the current Calendar Year 2003, including conference information through 1998.
- **Other CSEPP Web Sites**
State CSEPP web sites and other CSEPP web sites.
- **CSEPP Update** [New](#)
Newsletters designed to enhance communications between Washington, DC, and the states.

Planning
Medical
Budget CA
Public Affairs
Training & Exercise
Integration Planning
Automation IPT
Hazard Analysis

CSEPP Portal
Tutorial

Calendar / Upcoming Events
6/6/2004
United Community Exercises
6/18/2004
Puerto Community Exercises

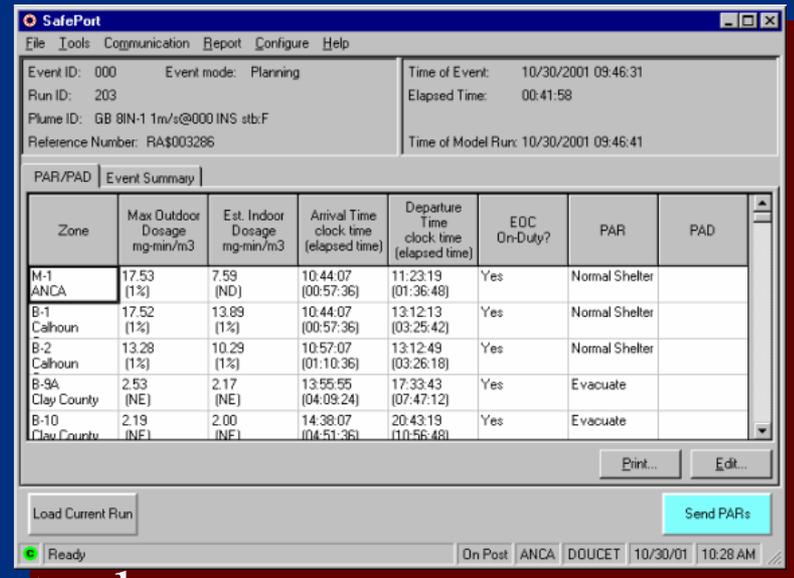
Recent News
01/15/2004

- The portal is specifically targeted to state and local emergency managers and responders.
- The functionality of the Portal has direct applicability to many other agency programs.



Protection Strategies: Decision Tools

- Protection Strategies based on risk
- Shelter-In-Place:
 - Normal
 - Expedient
 - Enhanced
 - Over pressurized
- Evacuation:
 - OREMS_{tm} evacuation modeling tool
- Safeport_{tm} automated tool allows for optimized protective action decisions in real-time



The screenshot shows the SafePort software interface. At the top, there are menu options: File, Tools, Communication, Report, Configure, Help. Below the menu is a header section with event details:

- Event ID: 000 Event mode: Planning Time of Event: 10/30/2001 09:46:31
- Run ID: 203 Elapsed Time: 00:41:58
- Plume ID: GB 8IN-1 1m/s@000 INS stb:F Time of Model Run: 10/30/2001 09:46:41
- Reference Number: RA#003286

Below the header is a tabbed interface with 'PAR/PAD' and 'Event Summary' tabs. The 'Event Summary' tab is active, displaying a table with the following columns: Zone, Max Outdoor Dosage (mg-min/m³), Est. Indoor Dosage (mg-min/m³), Arrival Time (clock time, elapsed time), Departure Time (clock time, elapsed time), EOC On-Duty?, PAR, and PAD.

Zone	Max Outdoor Dosage mg-min/m ³	Est. Indoor Dosage mg-min/m ³	Arrival Time clock time (elapsed time)	Departure Time clock time (elapsed time)	EOC On-Duty?	PAR	PAD
M-1 ANCA	17.53 (1%)	7.59 (ND)	10:44:07 (00:57:36)	11:23:19 (01:36:48)	Yes	Normal Shelter	
B-1 Calhoun	17.52 (1%)	13.89 (1%)	10:44:07 (00:57:36)	13:12:13 (03:25:42)	Yes	Normal Shelter	
B-2 Calhoun	13.28 (1%)	10.29 (1%)	10:57:07 (01:10:36)	13:12:49 (03:26:18)	Yes	Normal Shelter	
B-9A Clay County	2.53 (NE)	2.17 (NE)	13:55:55 (04:09:24)	17:33:43 (07:47:12)	Yes	Evacuate	
B-10 Clay County	2.19 (NE)	2.00 (NE)	14:38:07 (04:51:36)	20:43:19 (10:56:48)	Yes	Evacuate	

At the bottom of the window, there are buttons for 'Load Current Run', 'Send PARs', 'Print...', and 'Edit...'. The status bar at the very bottom shows 'Ready', 'On Post', 'ANCA', 'DOUCET', '10/30/01', and '10:28 AM'.



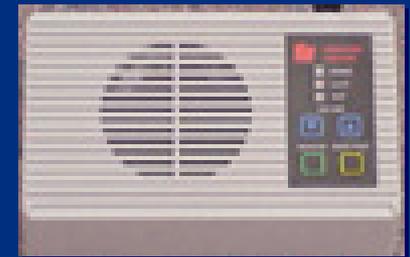
Protection Strategies: Alert and Notification

Emergency plans are based on the assumption that people will take action to protect themselves. For that to happen, they must be warned.



CSEPP uses multiple warning systems:

- Sirens
- Tone Alert Radios (TARs)
- Emergency Alert System (EAS)
- Roadside message boards

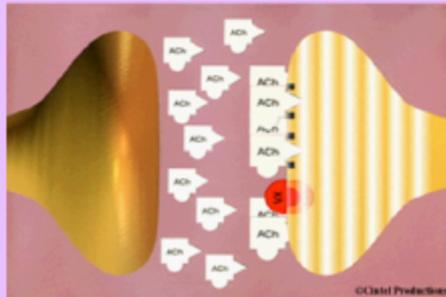


Protection Strategies: Medical Preparedness

- Medical Evaluation Guides for prehospital and hospital response
- Medical Quality Improvement Teams
- National CSEPP Medical Curriculum:
 - Agent Characteristics and First Aid
 - Decontamination
 - Triage
 - Antidotes

HOW NERVE AGENTS WORK

- Nerve agents block acetylcholinesterase so it cannot destroy acetylcholine
 - acetylcholine accumulates and continue to stimulate target nerve
 - muscles twitch uncontrollably and repetitively
 - excess secretions of glands



Nerve agent interferes with normal synapse activity

© 1999 Lockheed Martin Energy Research Corporation

CA133



FEMA

Protection Strategies: For Emergency Responders

- CSEPP established specific PPE criteria and work rules for off-post first responders
- CSEPP has also provided:
 - Decontamination resources
 - Chemical agent monitors
 - Communications systems



Opportunities

Continued integration of our CSEPP achievements within DHS - FEMA to support the President's Homeland Security Mission





FEMIA