Chemical Stockpile Emergency Preparedness Program

Program Guidebook
March 2019

Preface

The *Chemical Stockpile Emergency Preparedness Program (CSEPP) Program Guidebook* provides guidance and best practices for implementing the program as described in the *CSEPP Strategic Plan*. The guidebook's intent is to serve as a how-to document and is deliberately descriptive rather than prescriptive. The content focuses on and is organized by the 12 CSEPP National Benchmarks but contains new graphics to illustrate concepts and increase readability. This edition also includes several appendices designed to supplement information in the base document or serve as reference tools. This *CSEPP Program Guidebook* supersedes guidance provided in the *CSEPP Program Guidance* (2012).

This guidebook is designed to serve as the basis for federal, state, tribal, territorial, and local program managers to execute CSEPP and aligns with the Department of the Army/Federal Emergency Management Agency (FEMA) *CSEPP Strategic Plan*. This guidebook references several function-specific guidance documents that serve as technical companion documents, including the following:

- *CSEPP Cooperative Agreement Budget Development Guidance*

- *CSEPP Exercise Implementation Guidance*

- *CSEPP Medical Resource Guide*

- *CSEPP Public Affairs Program Guidance Compendium Workbook*

The *CSEPP Program Guidebook* is organized in three main sections: an introduction that describes the history, background, and overarching programmatic information; description, intent, critical components, and suggested execution of the 12 benchmarks; and appendices that supplement information in the base document.

The guidebook reflects national doctrine, including the FEMA *National Preparedness System* and *National Preparedness Goal*. The benchmarks ensure a unified approach across the five mission areas and 32 core capabilities outlined in the *National Preparedness Goal* and all components of the *National Preparedness System*. Alignment to national doctrine is described in the base document and illustrated in *Appendix M: Program Alignment to the National Preparedness System*.

In addition, the guidebook also includes references to important planning initiatives, such as assessment tools; community profiles; the threat and hazard identification and risk assessment process; and planning, organizing, equipping, training, and exercising. The CSEPP whole community recognizes that assessment is a critical part of the *National Preparedness System* and acknowledges the importance of regular assessment and validation of capabilities. The planning initiatives are woven into the base document and further described and illustrated in Appendix F: Assessments.

Ultimately, the purpose of this edition is not only to provide the basis for jurisdictional funding and resource requirements but also to build prepared and resilient CSEPP communities.

Federal Emergency Management Agency

Department of the Army

Chemical Stockpile Emergency Preparedness Program

In this significant year that celebrates 30 years of partnership between FEMA and the Department of the Army, we are proud to present the 2019 CSEPP Program Guidebook. This document reflects a coordinated, joint effort between the two organizations that underscore the ongoing commitment to create a culture of preparedness, ready to respond to incidents involving the chemical stockpile.

This document updates the 2012 CSEPP Program Guidance and emphasizes the relationship of program elements to the *National Preparedness Goal*'s 32 Core Capabilities and the six components of the *National Preparedness System* Preparedness Cycle. It includes additional and updated graphics and a reorganization of material. The Department of the U.S. Army Chemical Materials Activity and the FEMA Technological Hazards Division have reviewed and agreed upon the concepts, guidance, and policies promulgated in this document.

We encourage the CSEPP Community to continue to improve the Program Guidebook by recommending changes. Changes to CSEPP guidance will be added through change sheets and/or future updates.

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Introduction

Chemical Stockpile Emergency Preparedness Program

U.S. Code Title 50, Section 1521 provides the legal basis for the destruction of the chemical stockpile. It also prescribes how the stockpile destruction is funded, managed, and reported. Section 1521 also describes the degree to which communities should be protected during the stockpile elimination process: "[The] Secretary of Defense shall provide for maximum protection for the environment, the general public, and the personnel who are involved in the destruction of the lethal chemical agents and munitions … including but not limited to the use of technologies and procedures that will minimize risk to the public at each site; and adequate and safe facilities designed solely for the destruction of lethal chemical agents and munitions."[1]

This guidebook reflects a coordinated, joint effort between the Department of the Army (Army) and the U.S. Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) to implement the Chemical Stockpile Emergency Preparedness Program (CSEPP). It aligns with the *CSEPP Strategic Plan*, which describes the overall structure, required actions, and performance indicators for the program. This guidebook also provides the CSEPP mission and vision, a description of program objectives, information and resources available to meet those objectives (including the 12 CSEPP National Benchmarks, the *National Preparedness System*, and the *National Preparedness Goal*), and a basis for jurisdictional funding and resource requirements. Organizations should reference this guidebook as they implement the provisions of the *CSEPP Strategic Plan*.

Mission and Vision

CSEPP's mission is **to enhance existing local, territorial, tribal, state, installation, and federal capabilities to protect the health and safety of the public, work force, and environment from the effects of a chemical accident or incident (CAI) involving an Army chemical stockpile.**

CSEPP's vision is **a fully prepared team of local, state, installation, and federal professionals developing and executing an effective emergency preparedness and response program.** CSEPP realizes this vision through full development and seamless integration of federal, state, tribal, territorial, and local emergency response assets.

The CSEPP mission aligns with Army and FEMA missions to protect CSEPP communities from any potential CAI while the Army executes its objective of eliminating aging chemical munitions and chemical warfare materials. This mission also aligns with national and international policies.

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[1] 50 USC §1521 "Destruction of existing stockpile of lethal chemical agents and munitions." Accessed online February 25, 2019. h*ttps://codes.findlaw.com/us/title-50-war-and-national-defense/50-usc-sect-1521.html*

The program measures progress toward realizing its vision through an assessment of 12 benchmarks. These benchmarks ensure a unified approach across the five mission areas and 32 core capabilities outlined in the *National Preparedness Goal* (shown in Figure 1) and all components of the *National Preparedness System* (shown in Figure 2). *Appendix M: Program Alignment to the National Preparedness System* further describes and illustrates alignment of the benchmarks to the *National Preparedness System* components and *National Preparedness Goal* core capabilities.

BENCHMARK 01
Administrative Support
• Planning

BENCHMARK 02
Alert and Notification
• Public Information and Warning

BENCHMARK 03
Automation
• Operational Communications
• Planning
• Situational Assessment

BENCHMARK 04
Communication Systems
• Operational Communications

BENCHMARK 05
Coordinated Plans
• Planning
• Situational Awareness

BENCHMARK 06
Emergency Operations Centers
• Logistics and Supply Chain Management
• Operational Coordination
• Situational Assessment

BENCHMARK 07
CSEPP Exercises
• Operational Communications
• Operational Coordination

BENCHMARK 08
Medical Preparedness
• Critical Transportation
• Environmental Response/Health and Safety
• Fatality Management Services
• Health and Social Services
• Mass Care Services
• Public Health, Healthcare, and Emergency Medical Services

BENCHMARK 09
Qualified Personnel
• Operational Coordination

BENCHMARK 10
Protective Action Strategies
• Environmental Response/Health and Safety
• Mass Care Services
• Operational Coordination

BENCHMARK 11
Public Outreach/Education
• Community Resilience
• Public Information and Warning

BENCHMARK 12
Training Programs
• Operational Coordination

Figure 1: Alignment of 12 CSEPP National Benchmarks to U.S. Department of Homeland Security *National Preparedness Goal* Core Capabilities

Figure 2: Components of the U.S. Department of Homeland Security *National Preparedness System*

Program Evolution

Since its inception in 1988 through its 30-year partnership between the Army and FEMA, CSEPP continues to build resilient communities prepared to protect the population around chemical stockpile installations. Program evolution occurred in four distinct phases: initial development, program development, program maturation, and sustainment and closeout (as shown in Figure 3). *Appendix A: Program History* describes the history of the program in greater detail.
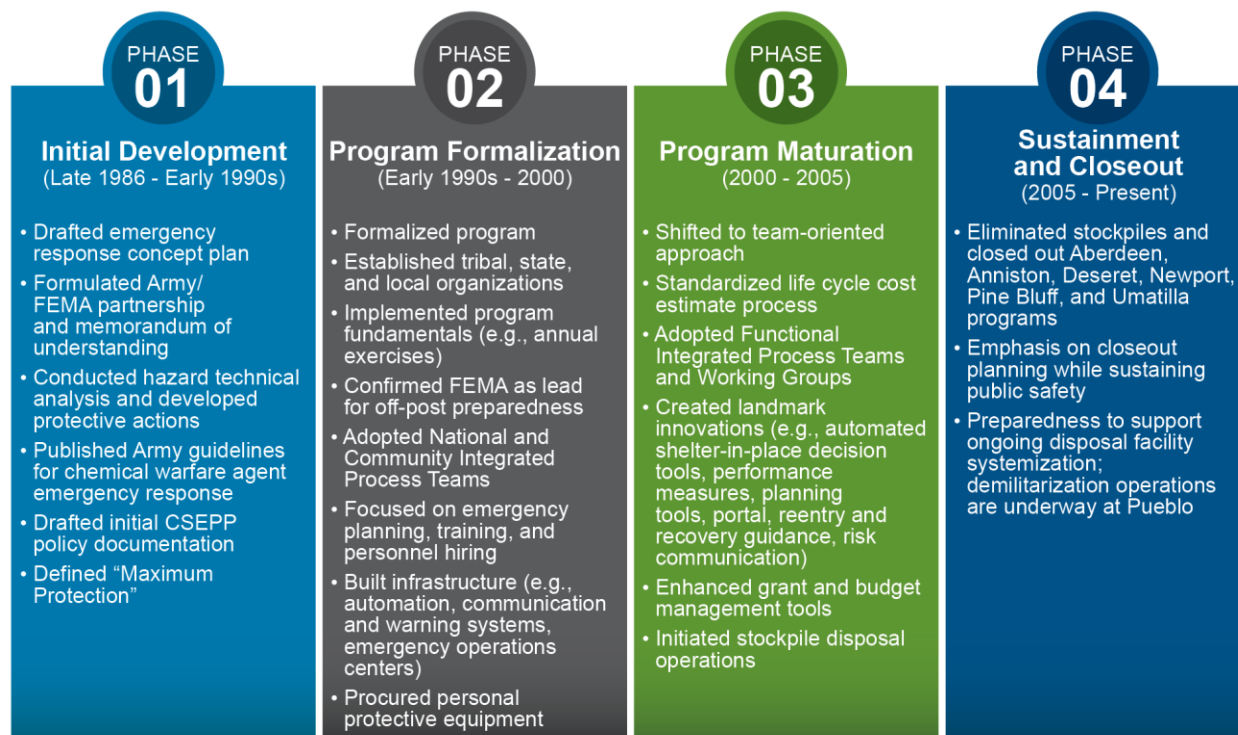
PHASE 01	PHASE 02	PHASE 03	PHASE 04
Initial Development (Late 1986 - Early 1990s)	**Program Formalization** (Early 1990s - 2000)	**Program Maturation** (2000 - 2005)	**Sustainment and Closeout** (2005 - Present)
• Drafted emergency response concept plan • Formulated Army/FEMA partnership and memorandum of understanding • Conducted hazard technical analysis and developed protective actions • Published Army guidelines for chemical warfare agent emergency response • Drafted initial CSEPP policy documentation • Defined "Maximum Protection"	• Formalized program • Established tribal, state, and local organizations • Implemented program fundamentals (e.g., annual exercises) • Confirmed FEMA as lead for off-post preparedness • Adopted National and Community Integrated Process Teams • Focused on emergency planning, training, and personnel hiring • Built infrastructure (e.g., automation, communication and warning systems, emergency operations centers) • Procured personal protective equipment	• Shifted to team-oriented approach • Standardized life cycle cost estimate process • Adopted Functional Integrated Process Teams and Working Groups • Created landmark innovations (e.g., automated shelter-in-place decision tools, performance measures, planning tools, portal, reentry and recovery guidance, risk communication) • Enhanced grant and budget management tools • Initiated stockpile disposal operations	• Eliminated stockpiles and closed out Aberdeen, Anniston, Deseret, Newport, Pine Bluff, and Umatilla programs • Emphasis on closeout planning while sustaining public safety • Preparedness to support ongoing disposal facility systemization; demilitarization operations are underway at Pueblo

Figure 3: Evolution of the CSEPP Program by Phase

As of 2017, the systemization phase is underway at Blue Grass, and agent destruction has begun at Pueblo. The Army and FEMA are focused on sustaining and adjusting the federal management structure to maintain efficiency while ensuring that the maximum protection mandate remains fulfilled.

CSEPP funding continues until the Army has completed destruction of each installation's stockpile of lethal chemical agents and munitions. Until expiration of the statutory limit, the Army and FEMA continue to request and expend appropriated funds to assist emergency preparedness and response to a CAI. The most important objective for these funds remains to develop and maintain the capabilities required to avoid injuries and fatalities should a release of chemical agent occur.

Program Roles and Organizational Structure

The Army and FEMA define their respective program roles through an interagency memorandum of understanding (MOU) (first signed in 1988 and updated in 1993, 1997, and 2004) that describes agency roles and areas of cooperation to which both agencies are committed (shown in Figure 4). The MOU is the basis of the *CSEPP Strategic Plan*, and together these documents provide the parameters in which to implement the *CSEPP Program Guidebook*.

01 Jointly developing a readiness posture at the stockpile storage installations and in the surrounding communities on the basis of assessments, validated requirements, and available resources at the earliest practicable date.

02 Assuring the continuance and success of a collaborative approach to decision making and problem solving by supporting Integrated Product and Process Teams, in accordance with the provisions of Public Law: 104-201.

03 Assuring the integration and compatibility of on-post and off-post emergency preparedness and response procedures, to include information and communication systems.

04 Assessing and improving the effectiveness of Federal, State, and local response systems and procedures through the design, conduct, and evaluation of exercises.

05 Keeping the public involved and informed through public information and education programs, including JICs/systems activities and an active community relations program.

06 Providing reciprocal technical support for joint initiatives, as well as initiatives requested by installations and State and local governments.

07 Collaborating in the preparation of Army and FEMA CSEPP budgets to be presented and defended before the Congress each year. This effort facilitates maintenance of a joint LCCE for CSEPP, which includes on-post and off-post emergency preparedness program funding requirements, as well as technical support funding requirements.

08 Using site-specific risk analyses in conjunction with defining readiness and funding requirements for site-specific chemical material emergency preparedness programs.

Figure 4: Army and FEMA CSEPP Program Roles and Areas of Cooperation

While CSEPP is a whole community partnership, the principal organizations with defined formal relationships are the Army, FEMA, and state and local governments (shown in Figure 5).
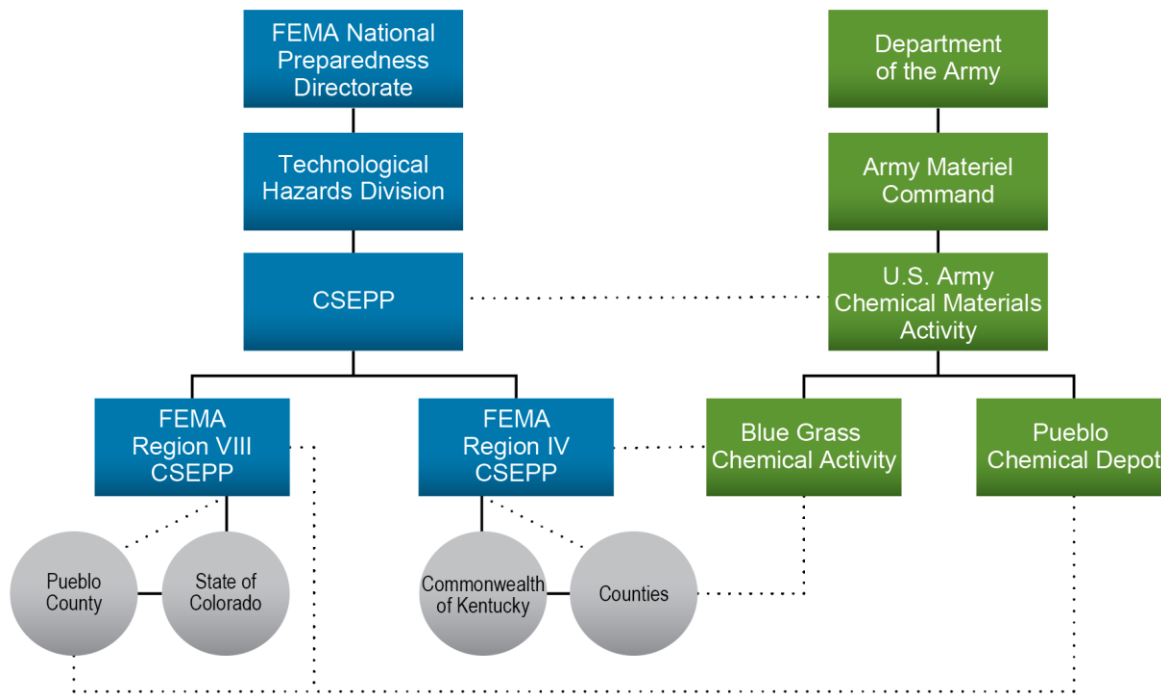
Figure 5: CSEPP Program Organizational Structure

The roles of each entity are described below.

Department of the Army

Within the Department of the Army, the Assistant Secretary of the Army for Acquisition, Logistics and Technology has the primary responsibility for all matters relating to CSEPP and Commanding General. Army Materiel Command oversees, plans, budgets, and executes the on-installation portion of CSEPP and performs coordination and assistance (when requested) for the off-installation portion. Within U.S. Army Chemical Materials Activity (CMA), the Office for Chemical Stockpile Emergency Preparedness provides day-to-day management, including the following:

- Enhancing chemical emergency preparedness at chemical installations by providing direct technical support from CMA CSEPP staff; contractor support; and funding for CSEPP–specific personnel, equipment, and operating expenses

- Overseeing Army CSEPP training and exercises, including training Army personnel, co-directing CSEPP exercises, and evaluating Army performance at CSEPP exercises

- Coordinating with FEMA on all aspects of the program, including funding requests and provision of funds for community preparedness, program policy, exercise programs, and meetings and workshops

Blue Grass Chemical Activity and Pueblo Chemical Depot

The Army maintains emergency response resources on its installations to provide damage assessment, rescue, firefighting, and containment of hazardous materials; a trained and

equipped cadre of personnel; and an emergency operations center (EOC). In addition, it maintains meteorological equipment and computer systems to model dispersion of any chemical release and provide protective action recommendations. Activity and Depot Commanders are designated as federal on-scene coordinators for installation release response (40 CFR 300.120). Both Blue Grass Chemical Activity and Pueblo Chemical Depot fully participate in CSEPP exercises, agreements, automation systems, and Integrated Process Teams (IPTs). Actions these facilities perform routinely to inform and protect the off-post community include the following:

- Distribution of a daily work plan and protective action recommendation based on current activities

- Daily use of WebPuff^{TM} hazard modeling software

- Development of annual budgets

- Development of mutual aid memorandums of agreement (MOAs)

- Coordination of plans and procedures

- Public outreach efforts

Federal Emergency Management Agency

Within the National Preparedness Directorate, Technological Hazards Division, FEMA takes the lead in assisting, promoting, and evaluating preparedness in off-post CSEPP communities. FEMA executes its role through national and two Regional offices where the installations are located. The Blue Grass Chemical Activity is in Region IV (Atlanta, GA) and the Pueblo Chemical Depot is in FEMA Region VIII (Denver, CO). FEMA's day-to-day management of CSEPP includes the following:

- Supporting and overseeing chemical emergency preparedness on the part of state and local governments in CSEPP communities through direct technical support provided by FEMA staff, contractor support, and funding for CSEPP–specific personnel, equipment, and operating expenses

- Administering grant funding to states for CSEPP:

  - The Army transfers funds to FEMA for pass-through to off-post CSEPP communities, and FEMA manages the process by which off-post communities apply for and receive funding and monitors progress of funded activities.

- Developing and implementing appropriate training for off-post responders

- Co-directing and evaluating CSEPP exercises on the off-post side

- Coordinating with the Army on all aspects of the program, including budgeting and funding, program policy, execution of the exercise program, and meetings and workshops

State and Local Governments

While CSEPP is a partnership among the Army, FEMA, and state and local governments (shown in Figure 6), CSEPP is built on the fundamental principle that state and local governments are in the best position to understand their communities and to provide first

response to natural and human-caused emergencies. In a CAI, local authorities have the primary responsibility for taking immediate measures to protect the nearby off-post population, including public warning, protective action instructions, blocking entry to the potential hazard area, managing evacuation, and providing initial reception and shelter for evacuees. The state's role includes the following:

- Developing an annual budget and updating the life-cycle cost estimate (LCCE)

- Monitoring the installation daily work plan and providing protective action recommendations based on current activities

- Developing mutual aid MOAs between jurisdictions and installation organizations

- Assisting with personnel, equipment, and resources to support local functions

- Engaging community partners, including nongovernmental and volunteer organizations, public- and private-sector health and medical services, etc.

- Coordinating plans and procedures with installation and community partners

- Hosting program community-engagement meetings

- Providing emergency powers and authorities through an emergency declaration

- Providing other state resources to help manage long-term protective actions and recovery processes, as needed
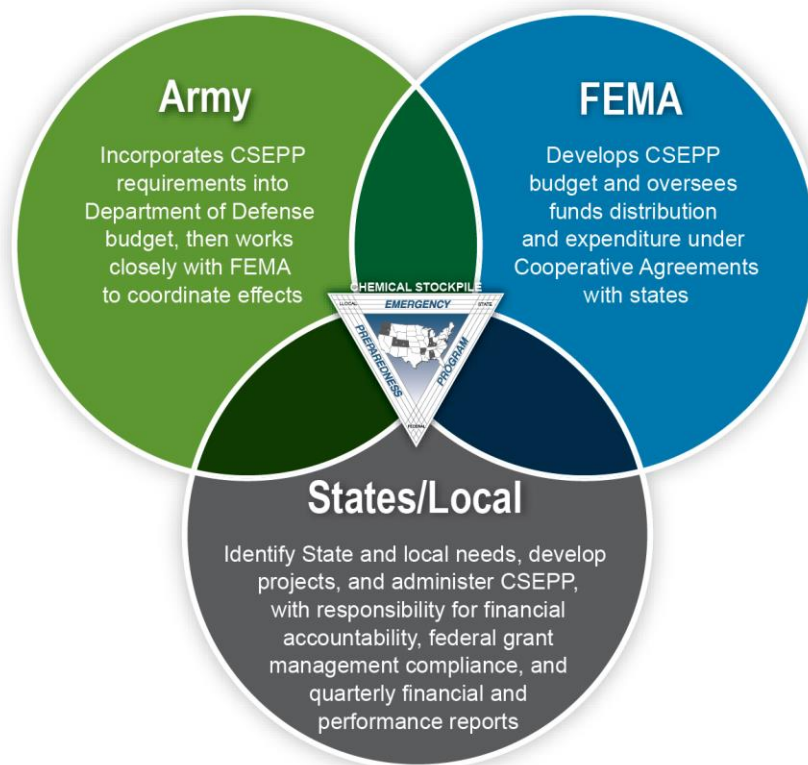
Figure 6: Partnership among the Army, FEMA, and State and Local Governments in Support of CSEPP

Strategic Plan and Benchmarks

FEMA CSEPP operates within a strategic planning structure established by the President, DHS, and FEMA. Presidential Policy Directive (PPD) 8, *National Preparedness*, is dedicated to strengthening the security and resilience of the United States through systematic preparation for the threats that pose the greatest risk to the security of the nation. It also aims to facilitate an integrated "all-of-nation" approach to preparedness. Under PPD-8, DHS developed the *National Preparedness Goal*, which encompasses a set of national preparedness frameworks that provide for coordinating structures to align key roles and responsibilities to deliver the necessary capabilities in an emergency.

To fulfill the program's mission and vision, CSEPP defined a core set of community preparedness capabilities—referred to as the CSEPP National Benchmarks—that are aligned with PPD-8, the *National Preparedness System*, and the *National Preparedness Goal*. The benchmarks are key tools in CSEPP planning, programming, budgeting, and performance assessment. While the benchmarks are achieved in different ways at Blue Grass and Pueblo, they aid in sustaining a high standard of readiness at the installations and within the off-post communities.

The CSEPP Strategic Plan defines the 12 CSEPP National Benchmarks (shown in Figure 7):

Administrative Support
Administrative support for each CSEPP installation, state, and county necessary to support their CSEPP preparedness activities.

CSEPP Exercises
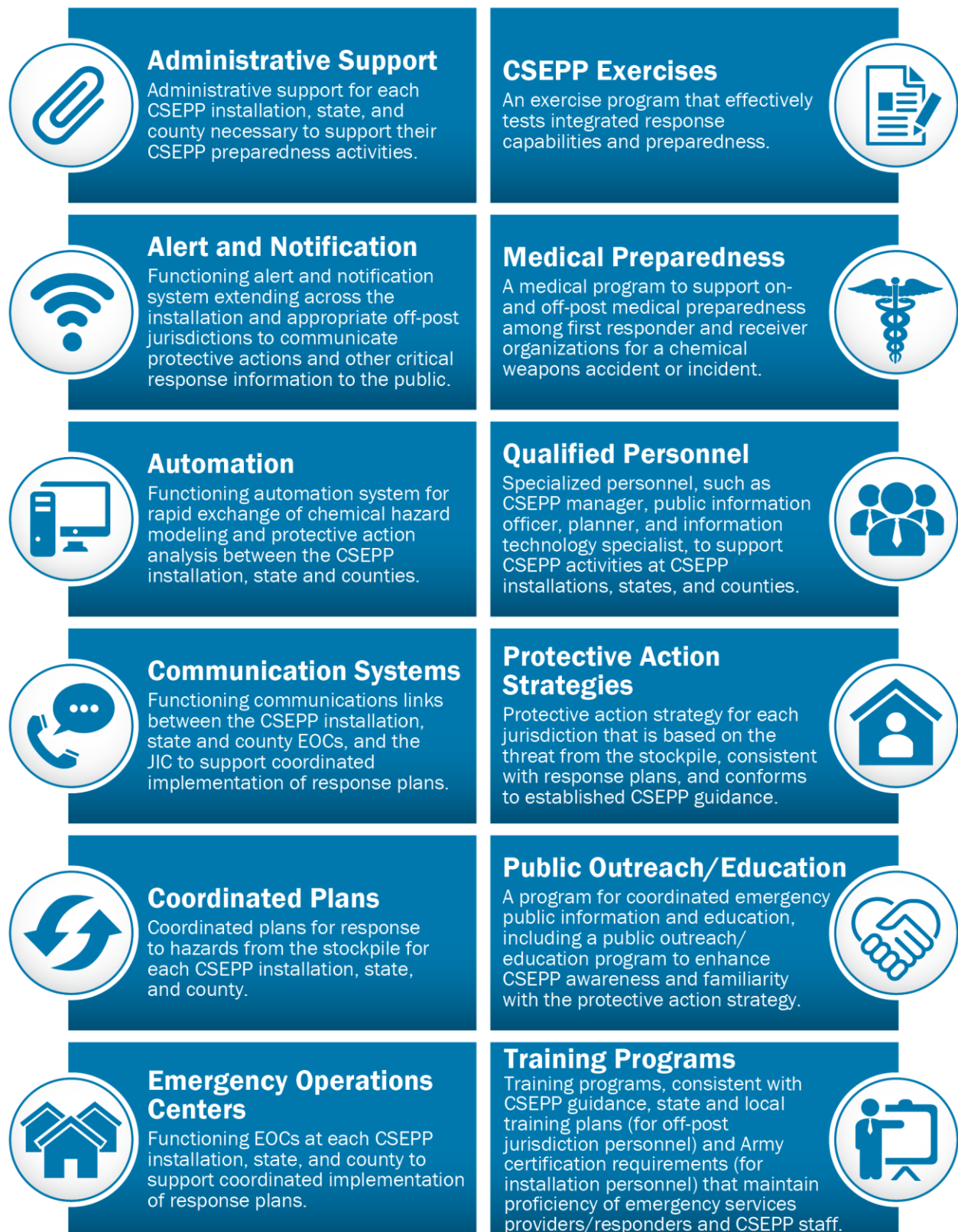An exercise program that effectively tests integrated response capabilities and preparedness.

Alert and Notification
Functioning alert and notification system extending across the installation and appropriate off-post jurisdictions to communicate protective actions and other critical response information to the public.

Medical Preparedness
A medical program to support on- and off-post medical preparedness among first responder and receiver organizations for a chemical weapons accident or incident.

Automation
Functioning automation system for rapid exchange of chemical hazard modeling and protective action analysis between the CSEPP installation, state and counties.

Qualified Personnel
Specialized personnel, such as CSEPP manager, public information officer, planner, and information technology specialist, to support CSEPP activities at CSEPP installations, states, and counties.

Communication Systems
Functioning communications links between the CSEPP installation, state and county EOCs, and the JIC to support coordinated implementation of response plans.

Protective Action Strategies
Protective action strategy for each jurisdiction that is based on the threat from the stockpile, consistent with response plans, and conforms to established CSEPP guidance.

Coordinated Plans
Coordinated plans for response to hazards from the stockpile for each CSEPP installation, state, and county.

Public Outreach/Education
A program for coordinated emergency public information and education, including a public outreach/ education program to enhance CSEPP awareness and familiarity with the protective action strategy.

Emergency Operations Centers
Functioning EOCs at each CSEPP installation, state, and county to support coordinated implementation of response plans.

Training Programs
Training programs, consistent with CSEPP guidance, state and local training plans (for off-post jurisdiction personnel) and Army certification requirements (for installation personnel) that maintain proficiency of emergency services providers/responders and CSEPP staff.

Figure 7: The 12 CSEPP National Benchmarks

Collaboration and Coordination

The Army and FEMA work together to develop a readiness posture at the stockpile installations and within off-post communities based on assessments, validated requirements, and available resources. The two agencies use site-specific risk analyses (Threat and Hazard Identification and Risk Assessment used by FEMA and the Quantitative Risk Assessment and Maximum Credible List used by the Army) to provide the basis for defining readiness and funding requirements for site-specific emergency preparedness programs. Army and FEMA management have established three basic structures for coordinating activities across the program:

- Blue Grass and Pueblo Community IPTs

- Functional IPTs and Work Groups, as necessary

- A Program Management Team (PMT)

Integrated Process Teams

To help carry out its mission, CSEPP uses IPTs, mandated under Public Law: 104-201 (National Defense Authorization Act for Fiscal Year [FY] 1997) and implemented under an Army/FEMA Joint Memorandum for the Record Use of Integrated Process Teams (May 1998). IPTs allow federal, state, tribal, territorial, and local CSEPP personnel to collaboratively address integration and compatibility of on-post and off-post emergency preparedness and response procedures. The teams serve as management tools for programmatic planning and issue discussion and enable stakeholders to share knowledge across the program. IPTs bring together stakeholders, staff, and other experts to design and implement new processes and create new products to improve program operations.

The Blue Grass and Pueblo Community IPTs are the heart of the program and reflect the bottom-up philosophy of CSEPP. They consist of representatives from the state; immediate response zone, protective action zone, and host counties; installation; FEMA Headquarters and Regional Office; the Army; and other organizations within the whole community. Each Community IPT has the authority to establish its own sub-IPTs and Work Groups to address specific concerns.

Functional IPTs and Work Groups exist at the discretion of national program managers to address cross-cutting issues for the functional areas of the program. The program currently supports functional IPTs for automation and public affairs and Work Groups for exercises and medical preparedness. Each IPT develops its own charter and annual work plan (subject to the approval of the PMT) that establishes its mission, membership, voting, and other factors, including an exit strategy. CSEPP may convene informal coordinating Work Groups on an as-needed basis.

Program Management Team

Army and FEMA leadership established the PMT in 2011 as part of the transition to a two-state program. It supersedes the former State Directors/Program Managers group and includes additional membership to enable better coordination within the reduced scope of the program. The PMT meets twice a year and consists of representatives from federal, state, tribal, territorial, and local government organizations (shown in Figure 8).
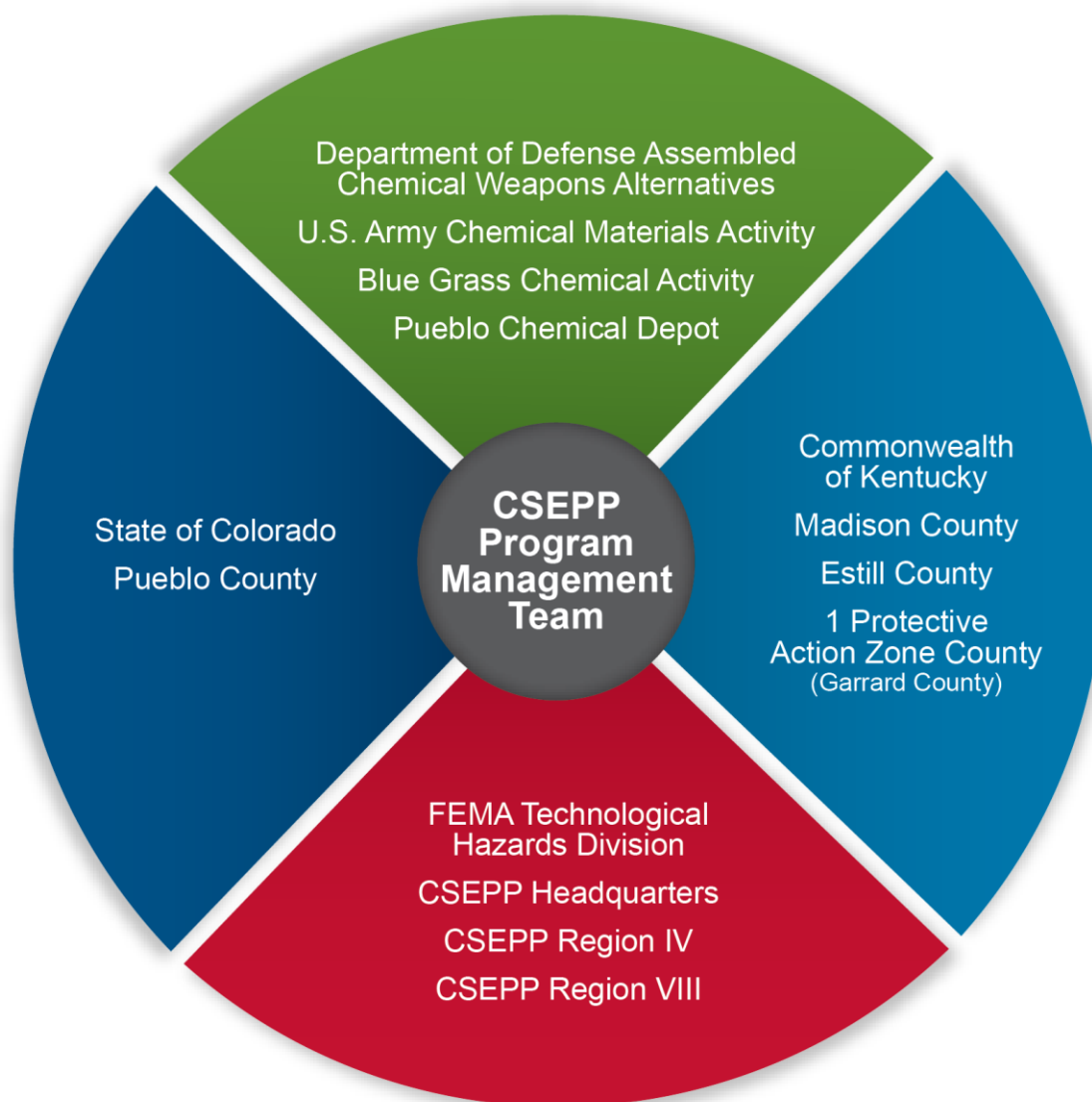
Figure 8: Program Management Team

In addition to daily and weekly activities at the respective sites, CSEPP partners conduct regular coordination meetings throughout the year, including meetings and conference calls for the Community IPTs, Functional IPTs and Work Groups, and the Program Management Team. The CSEPP Portal maintains a comprehensive schedule of events and activities.

Requests for Federal Technical Support

The Army and FEMA have processes for providing technical support requests from off-post CSEPP communities (e.g., technical hazard analysis, specific/unique training, subject matter expertise, etc.). Technical support is grouped into three types of requests:

- Requests that require a simple response to a technical question

- Initiation of technical support that has been previously approved and can be accomplished within the ability of existing CSEPP funds

- Initiation of technical support that has not been previously approved and/or falls outside of the current CSEPP budget

Requests for technical support should be coordinated through the state and FEMA Region and Headquarters to determine the appropriate avenue to provide support such as federal technical expertise (Army or FEMA) or contracted technical support through one of the Army or FEMA contract vehicles.

Program Guidebook Organization

The chapters that follow this introduction describe the 12 CSEPP National Benchmarks and contain the following elements:

- **Intent**: This section describes why the Army and FEMA established this benchmark. Each benchmark contributes to the overall goal of providing maximum protection.

- **Actions Required**: This section identifies what specific, minimum activities are necessary to achieve compliance with the benchmark for the Blue Grass and Pueblo jurisdictions. The Army and FEMA provide the resources and support to enable these activities.

- *National Preparedness System* **Graphic***: This graphic illustrates* the connection between each benchmark and the *National Preparedness System* and the organized process the whole community uses to prepare and achieve the *National Preparedness Goal*.

This CSEPP Program Guidebook also includes the following appendices:

- **Appendix A: Program History** provides a detailed history of CSEPP.

- **Appendix B: Technical Background** describes the physical and chemical aspects of the stockpile chemical agents as well as safety guidelines for workers.

- **Appendix C: Blue Grass Risk Snapshot** describes specific hazards associated with the Blue Grass Chemical Activity and surrounding area.

- **Appendix D: Pueblo Risk Snapshot** describes specific hazards associated with the Pueblo Chemical Depot and surrounding area.

- **Appendix E: Planning, Programming, Budgeting, and Execution** provides detail on the process used for managing CSEPP.

- **Appendix F: Assessments** describes several tools to complete a capability assessment.

- **Appendix G: Communication Systems and Equipment** includes a list of the various CSEPP communication systems and equipment.

- **Appendix H: Program Closeout Planning** provides an overview of site closeout planning and implementation with excerpts from the *CSEPP Closeout Guidebook (August 2010)*.

- **Appendix I: Program Policy Papers** includes a reference list of CSEPP policy papers that guide the program.

- **Appendix J: Program Training Resources** includes a list of training courses and links that build capability across the 12 benchmarks.

- **Appendix K: Program Guidance and References** includes a list of Army, FEMA, and other policy references.

- **Appendix L: Acronyms** includes a comprehensive list of acronyms used in this document.

- **Appendix M: Program Alignment to the *National Preparedness System*** provides an overview of CSEPP's alignment to the *National Preparedness System*.

Benchmark 1: Administrative Support

Administrative support for each Chemical Stockpile Emergency Preparedness Program (CSEPP) installation, state, and county necessary to support their CSEPP preparedness activities. Figure 9 illustrates the alignment of Benchmark 1 to applicable *National Preparedness System* components and associated core capability.
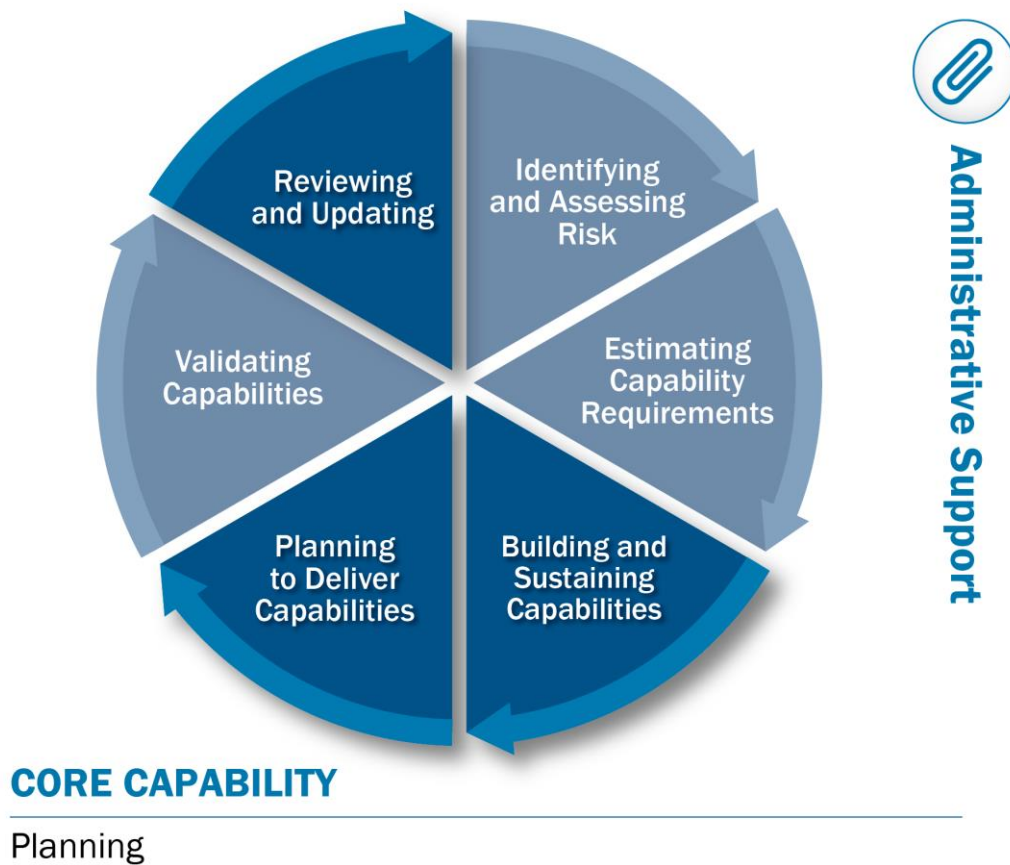

Figure 9: Applicable *National Preparedness System* Components and Core Capability Alignment for Benchmark 1

Intent

Successful execution of CSEPP relies on day-to-day performance of a strong core of professionals managing the program at the federal, installation, state, tribal, territorial, and county levels. Program Managers evaluate requirements needed to sustain a maximum protection capability. The states' requirements are examined against life-cycle cost estimates (LCCEs), validated by the Federal Emergency Management Agency (FEMA), and funded by the Department of the Army. The installations must similarly evaluate their needs and submit budgets through CMA, which are then funded by the Department of Defense. The process of planning, programming, and budgeting CSEPP

funds must be accomplished promptly and efficiently while ensuring that the funds are executed against validated requirements.

Actions Required

- Support CSEPP by developing staff work plans, purchasing supplies, maintaining equipment inventory, administering contracts, and monitoring projects.

- Create and discuss a budget within FEMA regions for the next fiscal year (FY) by creating and executing a budget package using CSEPPWebCA software in accordance with the annual CSEPP cooperative agreement (CA) guidance.

- Implement the current FY budget award by maintaining current readiness and initiate new projects as specified within the current budget award.

- Monitor program progress; request budget amendments and extensions, as required; and create and submit timely quarterly reports on financial and program progress.

- Submit closeout documentation for prior-year CAs.

Introduction

The Administrative Support Benchmark identifies the requirements to sustain CSEPP across the program. It encompasses identifying requirements and developing work plans, resources and budgets to meet requirements and project emerging and life-cycle needs.

Program Funding

The U.S. Department of Defense (DoD) Chemical Agents and Munitions Destruction appropriation is the source of the funding for CSEPP. Approval and distribution of CSEPP funding involves several federal organizations including DoD, the Army, the Office of Management and Budget (OMB), the U.S. Department of Homeland Security (DHS), and FEMA. An understanding of financial processes used by these organizations to request and distribute funding is necessary to comply with legal and regulatory requirements for obtaining CSEPP funding. These financial processes include the following:

- DoD's Planning, Programming, Budgeting, and Execution (PPBE) process of resource allocation (which affects all CSEPP organizations)

- OMB's 2 CFR Part 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (which affects FEMA and non-federal entities, especially recipients and sub-recipients of CSEPP funds)

  - Grants awarded before December 26, 2014, remain subject to FEMA's 44 CFR Part 13.

Most federal, state, tribal, and territorial, and local government organizations prepare budgets on an annual basis to obtain and allocate required resources. However, since 1962, DoD has used a multi-year programming process to obtain and distribute resources within DoD. As described in the following paragraphs, four phases in the PPBE process all apply to the CSEPP funding process.

- **Planning.** Consists of CSEPP plans developed by state and local governments to meet and sustain full compliance. It also consists of Army guidance developed for responding to chemical accidents and incidents (CAIs) involving the chemical weapons stockpile.

- **Programming.** Involves translating plans into requirements for future years. For CSEPP, this means LCCEs are developed and maintained for organizations surrounding a chemical weapons stockpile until all the chemical weapons at that site are destroyed.

- **Budgeting.** Takes the first year of the programming phase and translates it into a budget document. This document, together with all of the other Chemical Demilitarization requirements, is submitted to Congress for that FY's appropriation.

- **Execution.** Is accomplishing the CSEPP mission through execution of plans and budget using appropriated funding for the current FY. For CSEPP states, it also involves quarterly performance and expenditure reporting.

Figure 10 illustrates the current DoD PPBE process that translates an annual state and local budget request into a budget award.
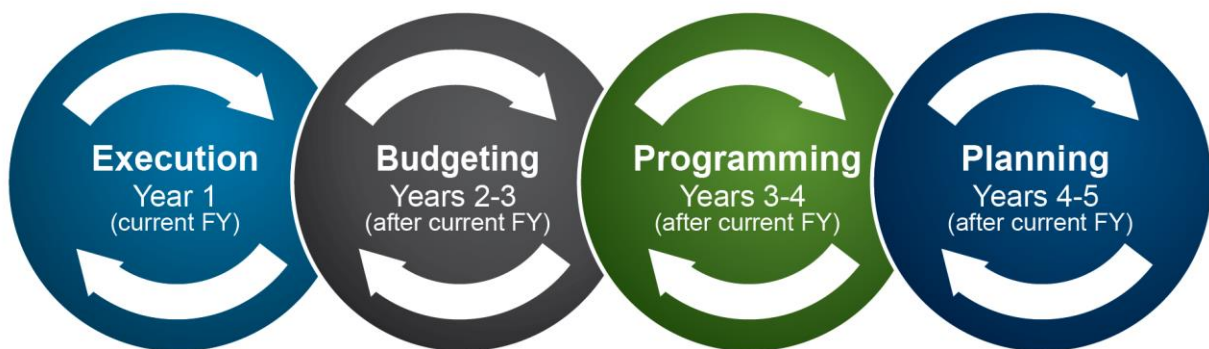

Figure 10: Continuous Cycle of the U.S. Department of Defense's Planning, Programming, Budgeting, and Execution Process

The following are a few points of interest from this process from the perspective of FY18:

- In FY18, the PPBE process developed and updated plans and LCCEs for 5 years (FY18–FY23)

- The PPBE process for this request began 5 years earlier when the original cost estimate was developed. In subsequent years, CSEPP organizations revise their cost estimates until they become part of the DoD Chemical Agents and Munitions Destruction Budget Estimate Submission.

- The budget for FY18 was submitted to Congress in February 2017 and again by the new administration in May 2017. It was reviewed and revised by Congress during 2017 as they developed the FY18 Defense Appropriation Bill.

Once the CSEPP budget for a FY is submitted to the Army and incorporated into the DoD Chemical Agents and Munitions Destruction Budget Estimate Submission, it is locked against any additional budget requests. Flexibility exists during the execution year to allow financing for unfunded requirements and to meet unforeseen needs or changes in operating conditions, but there are severe restrictions on spending for purposes other than those originally justified and approved. The earlier a requirement for funding is identified in the PPBE process, the greater probability that funding will be available for the budgeting and execution phases. The following sections provide a more detailed description of all four phases of the PPBE process as they relate to the CSEPP funding process.

When Congress and the President fail to agree on and pass one or more Appropriations Bills (as was the case for FY17), a continuing resolution (CR) can be passed instead. A CR continues pre-existing appropriations at the same level (or with minor modifications) as the previous FY. Funding extends until a specific date or regular Appropriations Bills are passed, whichever comes first.

Making an award under a CR is extremely difficult and adds significant and continuing administrative burdens for FEMA, recipients, and sub-recipients. Informed by discussions with the recipients and sub-recipients through the CR period, FEMA will determine whether a CR award with available partial funding is appropriate or whether a full appropriation is likely to be available for award in a timeframe that will not unduly burden recipients and/or sub-recipients. This means that the full funding for CSEPP requirements may not be immediately available, and rapid execution of budget expenditures may be required toward the latter half of the FY.

Figure 11 illustrates the cycle of the entire CSEPP funding process from beginning to end. This process will continue until the Army completes destruction of the U.S. stockpile of chemical weapons.
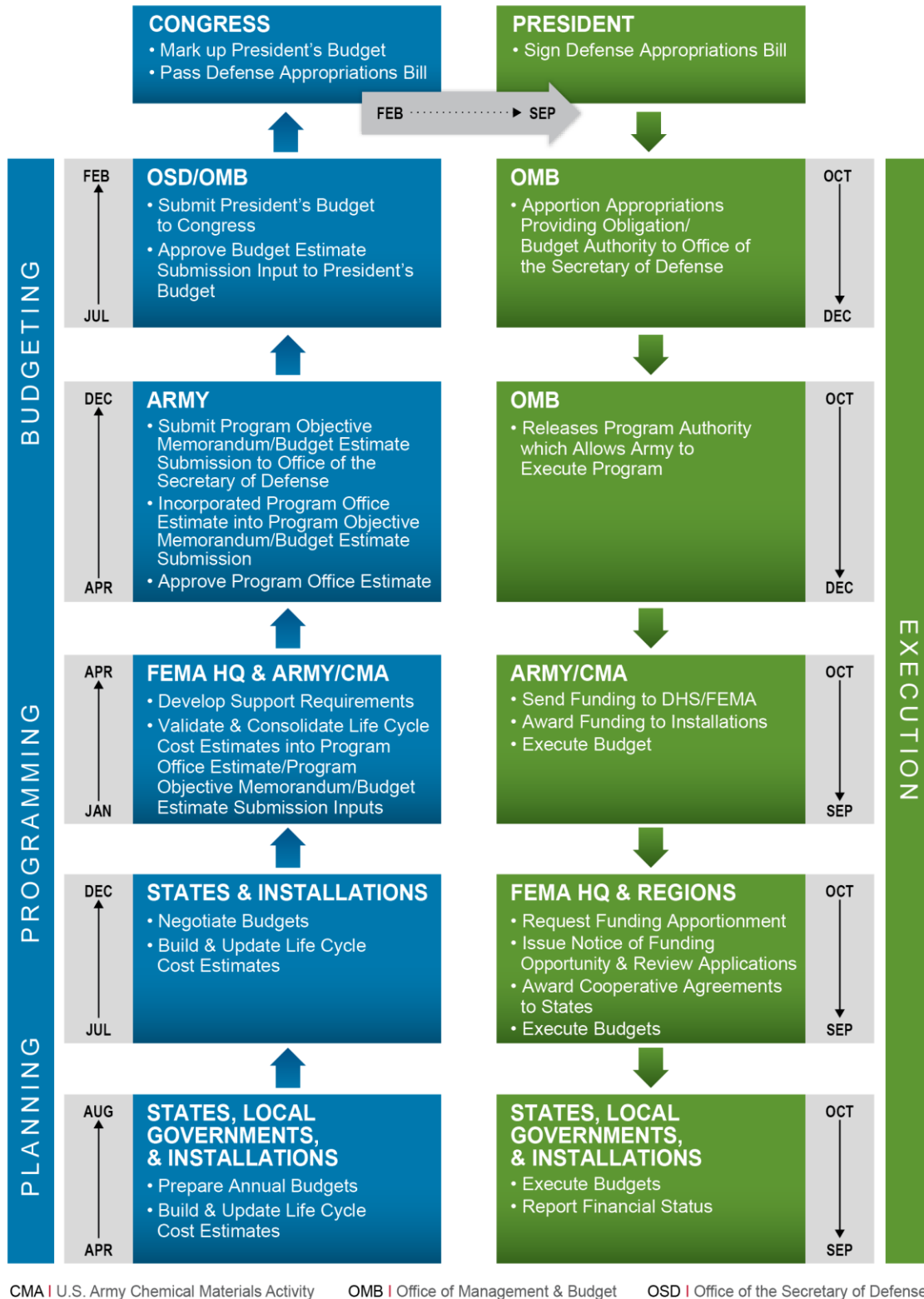
CONGRESS
- Mark up President's Budget
- Pass Defense Appropriations Bill

PRESIDENT
- Sign Defense Appropriations Bill

FEB ··········▶ SEP

BUDGETING

FEB / JUL

OSD/OMB
- Submit President's Budget to Congress
- Approve Budget Estimate Submission Input to President's Budget

OCT / DEC

OMB
- Apportion Appropriations Providing Obligation/ Budget Authority to Office of the Secretary of Defense

DEC / APR

ARMY
- Submit Program Objective Memorandum/Budget Estimate Submission to Office of the Secretary of Defense
- Incorporated Program Office Estimate into Program Objective Memorandum/Budget Estimate Submission
- Approve Program Office Estimate

OCT / DEC

OMB
- Releases Program Authority which Allows Army to Execute Program

PROGRAMMING

APR / JAN

FEMA HQ & ARMY/CMA
- Develop Support Requirements
- Validate & Consolidate Life Cycle Cost Estimates into Program Office Estimate/Program Objective Memorandum/Budget Estimate Submission Inputs

OCT / SEP

ARMY/CMA
- Send Funding to DHS/FEMA
- Award Funding to Installations
- Execute Budget

DEC / JUL

STATES & INSTALLATIONS
- Negotiate Budgets
- Build & Update Life Cycle Cost Estimates

OCT / SEP

FEMA HQ & REGIONS
- Request Funding Apportionment
- Issue Notice of Funding Opportunity & Review Applications
- Award Cooperative Agreements to States
- Execute Budgets

PLANNING

AUG / APR

STATES, LOCAL GOVERNMENTS, & INSTALLATIONS
- Prepare Annual Budgets
- Build & Update Life Cycle Cost Estimates

OCT / SEP

STATES, LOCAL GOVERNMENTS, & INSTALLATIONS
- Execute Budgets
- Report Financial Status

EXECUTION

CMA I U.S. Army Chemical Materials Activity   OMB I Office of Management & Budget   OSD I Office of the Secretary of Defense

Figure 11: CSEPP Annual Funding Process Cycle

Program Closeout

At the end of the performance period for each CSEPP CA, the grant goes through a closeout process. In addition, as the conclusion of the final CA approaches, there is an overall closeout process for the program at the site. The primary objectives of this overall program closeout are as follows:

- Maintain "maximum protection" for at-risk citizens in the surrounding communities until the chemical weapons stockpile at each site is completely destroyed.

- Complete administrative closeout of all CSEPP CAs.

- Provide assistance to state and local governments to support these activities in accordance with terms of FY17 Department of Defense Authorization Act.

CSEPP has developed a Closeout Guidebook to assist communities by compiling these requirements, as well as approaches, questions to consider, tools, and lessons learned appropriate to these activities. The national Program Closeout IPT prepared this guidebook to support all phases of the closeout process. The IPT has expanded the guidebook to reflect new concerns, provide additional tools, and support transition of state and local governments to a sustainable post-CSEPP emergency management program.

Program Adjustment

In the course of disposal operations, as chemical agents and munitions are destroyed, the overall risk to the community is reduced. The intent of adjustments is to maintain maximum protection throughout demilitarization operations while reducing CSEPP requirements in line with the quantified reduction of risk to the public. As risk is reduced, opportunities arise to reduce the role of individual jurisdictions and the resources provided to them. This is not intended to be a continuous process. At the end of nerve-agent disposal campaigns, where a major drop in risk is anticipated, the Army will update the Quantitative Risk Assessments (QRAs) to reevaluate level of risk and identify the most credible event scenario for future planning purposes (shown in Figure 12). For example, upon completion of nerve agent stockpile destruction, the requirement for procuring and maintaining nerve agent antidote kits no longer exists, and budgets should be adjusted accordingly.
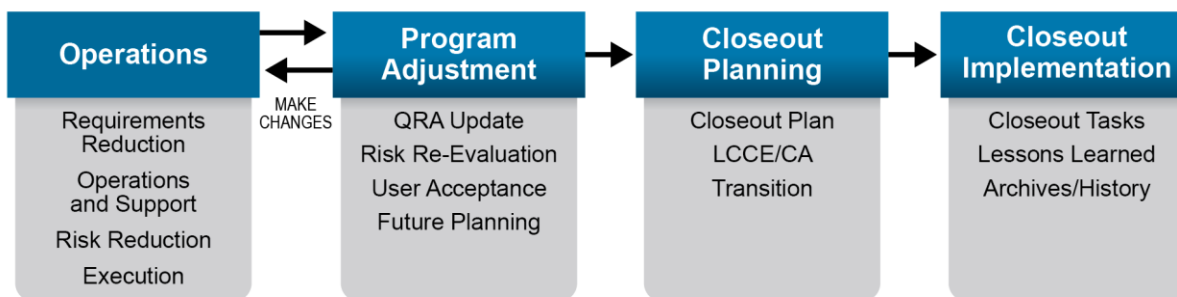

Figure 12: Oversight and Review Process

Based on the QRA, the site IPT analyzes and coordinates discussion on any proposed risk reduction-related efforts, with the goal of joint acceptance of the results. The group may wish to consider redefining its risk-based planning zones development of emergency action risk criteria for the protection of its citizens or developing a "Glide Path to Closeout" documenting its agreement to future changes in the roles of the counties (based on the ongoing destruction of the stockpile) without a formal redefinition of planning zones.

The Army and FEMA Headquarters work with the site IPTs throughout the process of reassessing the program requirements. FEMA Headquarters works with the FEMA Regional Office and CSEPP jurisdictions to assess the potential impact of a CAI based on the updated QRA and validating how these changes affect required CSEPP capabilities. This includes identification of appropriate planning bases and adjustment of the community concept of operations and required response resources based on remaining components of the original stockpile. As part of this process, the site LCCE is updated to reflect the timeline for executing any reduction of capabilities and associated revisions to local and state plans and procedures. The percentage of reductions in overall funding or personnel is not expected to correlate to the percentage of risk reduction from the stockpile.

The value of reducing CSEPP efforts at the two remaining sites prior to the end of disposal operations has several potential benefits:

- **Reduction of overall risk.** Completion of nerve-agent destruction reduces overall risk. If disposal operations occur prior to mustard-agent destruction and multiple years remain, this reduced risk may reduce the program footprint and thus reduce the number of host or protective action zone counties.

- **Dismantling of unnecessary equipment.** This many include collective protection systems and communications devices for a county or counties no longer at risk from a CAI. Proactive dismantling will ultimately ease the burden of completing closeout efforts when disposal operations are complete.

- **Fiscal responsibility.** Reducing CSEPP efforts demonstrates that the Army, FEMA, and respective states are acting as good stewards of public funding. Of course, the Army, FEMA, and state and local partners will plan, coordinate, and validate any adjustments or actions thoroughly.

Transition to Closeout

Closeout planning that occurs well before completion of destruction operations has proven essential to sustaining prepared and resilient CSEPP communities. Given that the program is currently in the sustainment and closeout phase, closeout discussions should be a regular part of IPT, Work Group, budget and LCCE, and other program-related meetings. CSEPP jurisdictions should plan for a smooth and controlled shutdown of the program as a result of successful accomplishment of chemical demilitarization. Jurisdictions should formally discuss and develop a coordinated closeout strategy addressing the future of existing CSEPP infrastructure, personnel, and capabilities looking forward to sustainment of an all-hazard emergency management program.

Communities should begin formal closeout planning prior to the start of demilitarization operations. Communities can achieve large-scale planning and inter-jurisdictional coordination through the Community IPT or a designated Work Group. The involvement of representatives from on-post CSEPP, the demilitarization facility, and associated Army external affairs personnel will be critical to an effective closeout process. Involvement from FEMA and state grants management personnel is critical.

At the jurisdictional level, wider participation will likely be necessary to enable the involvement of other organizations affected by closeout (e.g., hospitals) where additional time may be required. Although the closeout strategy may undergo refinement over time, an interim plan is critical to address any associated funding requirements in the LCCE process.

Closeout Considerations

Closeout planning focuses on two major areas: personnel and property. Prior to closeout, an assessment of staffing levels and work plans for the preparedness and closeout periods can help identify and ensure funding for critical positions. In addition, jurisdictions should consider how they can transition their CSEPP–funded personnel and experience to other applicable emergency preparedness and response programs or what severance and termination procedures are applicable. Some additional areas to consider when planning for closeout and post-CSEPP operations include the following:

- Sustainment, transfer, or termination of personnel in CSEPP positions
- Budgeting and funding changes
- Long-term sustainment and/or use of CSEPP–funded capabilities, including facilities, equipment, and systems
- Transfer, retention, disposition, or return of federally owned and grant-purchased property
- Contract sustainment, periods of performance, and scope
- Revision to plans, processes, and procedures
- Transition and closeout communication with officials and the public

As early as possible during the acquisition process, jurisdictions should consider the long-term usefulness of CSEPP–funded facilities, equipment, and systems (e.g., sirens and collective protection systems) and alternative funding sources to support their maintenance. An inventory of equipment and systems (2 CFR Section 200.13) must be maintained and updated every 2 years; this will be a valuable tool to assist requests for final disposition of property and transfer of property from a county to an individual department or office during closeout. Technical support is available to assist jurisdictions to develop and determine costs for maintenance approaches for retained equipment. Special attention may be needed for facilities or any equipment attached to real property (i.e., land). Jurisdictional requests to retain specific property can be submitted after completion of the final replacement cycle for that equipment. Whether any redistribution

is envisioned, federal, state, tribal, territorial, and local equipment inventory and disposition requirements will need to be reviewed.

Management and timing of contracts, leases, and licenses supporting all phases of operations will also need to be addressed. Plans, procedures, training, and exercises will need to be modified to reflect post-CSEPP risks and response capabilities. Timely communication of anticipated changes in emergency services to elected officials and the public will be especially important; documenting the community closeout strategy will provide a firm foundation for this communication. CSEPP should support completion of transitional activities intended to maintain specific community response capabilities after CSEPP to the extent possible. These issues are addressed in extensive detail in Chapters 2 through 4 of the Closeout Guidebook. A closeout public affairs plan template is included in Annex A of the Closeout Guidebook, and checklists of typical closeout tasks for CSEPP recipients and sub-recipients during closeout planning and implementation are provided in Annex C.

Post-operations Closeout

Regulatory requirements governing CAs (2 CFR 200.343) describe activities necessary to close out the CSEPP CA. Each CSEPP community must work with FEMA to complete all required reports, dispose of or return all federally owned assets, and adjust any monetary awards that are not obligated or spent under the CA (shown in Figure 13). For example, all financial, performance, and other reports required as a condition of the CSEPP CA must be submitted within 90 days of the end of the performance period (although this is an extendable timeframe). Within 90 days of receipt of the CSEPP grantee's final report, FEMA should make any upward or downward adjustments to allowable costs. The CSEPP grantee must then refund any balance of un-obligated cash advanced.
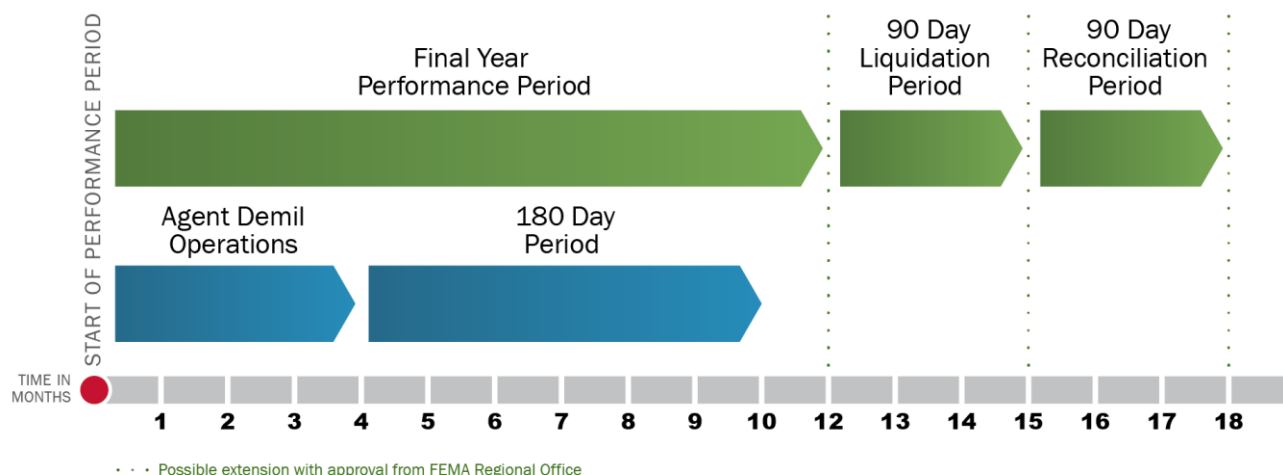
Figure 13: Post-Operations Implementation Process

As the Army establishes its demilitarization schedule, CSEPP jurisdictions should document specific activities (with associated timeframes and funding requirements) that

need to be implemented in conjunction with the completion of disposal operations. These activities may include dismantling of collective protection systems and sirens, transition of communication systems, and disposition of excess equipment. As necessary, any resources required to support these activities should be identified by each jurisdiction in the LCCE, keeping in mind that the last effective revision of the LCCE may occur several years prior to closeout. The funding for those activities intended to begin in advance of the closeout year should be requested in the appropriate year. All activities that will be initiated following the completion of demilitarization (even if they may extend into the next federal FY) should be budgeted in the closeout year. More details on closeout and the LCCE are provided in Chapter 2 of the Closeout Guidebook.

Grantees should prepare and submit a CA application for their final CSEPP program year, the year in which disposal operations are to be completed. Associated budget and staff work plans can incorporate up to a full year of preparedness costs to address potential small-scale slippage in the disposal schedule. The package should also include any expenses associated with closeout, which may necessitate discussion about an extension of the associated period of performance. Grantees must complete all closeout projects within the performance period, after which no new CSEPP–reimbursed expenses (except un-liquidated obligations such as bills for previously contracted services) can be incurred.

If circumstances arise during the final year that significantly delay completion of disposal operations, grantees may need to prepare and submit another CA application to cover continuing preparedness costs. To address expenses associated with closeout, FEMA should work with the community (based on the revised demilitarization schedule) to determine whether an extension of the previous performance period or funding of new line items is appropriate.

Funding Implications

All closeout-related activities must be performed in accordance with applicable legal requirements. Under the public law that authorizes CSEPP, as amended in the FY08 Department of Defense Authorization Act, the following restriction has been placed on the availability of CSEPP assistance to state and local governments (50 USC §1521(e)(2)(B)):

▪ "Assistance may be provided under this paragraph for capabilities to respond to emergencies involving an installation or facility as described in subparagraph (A) until the earlier of the following:

- (i) The date of the completion of all grants and CAs with respect to the installation or facility for purposes of this paragraph between FEMA and the state and local governments concerned.

- (ii) "The date that is 180 days after the date of the completion of the destruction of the lethal chemical agents…"

The term "lethal chemical agent and munition" is defined as a chemical agent or munition that is designed to cause death through its chemical properties to human beings in field

concentrations. Destruction of these agents and munitions is defined as demolishing, dismantling, or other disposal so as to make them useless for military purposes and harmless to human beings under normal circumstances.

This definition does not include storage facilities, disposal facilities, or secondary waste products that are created as a result of disposal operations. Destruction of these facilities and waste products is a process of the chemical demilitarization program but is not expected to create a risk to the general population as chemical agents and munitions do.

Because of these issues, the community must understand what is meant by the "destruction of the stockpile"—the conditions at the site under which the stockpile will be considered destroyed (e.g., the status of agents, munitions, containers, waste products, and facilities and equipment) and the associated risk. The start of the 180-day period is based on a letter from CMA or the Depot Commander to U.S. Army Headquarters announcing the end of surety operations. Funds are available for obligation until the end of the performance period for the associated CA.

Each CSEPP community and each jurisdiction within these communities has established and maintains an LCCE to identify anticipated funding requirements on an annual basis until the end of the program. Until the Army has completed destruction of each installation's stockpile of lethal chemical agents and munitions, the Army and FEMA should continue to request and expend appropriated funds to provide assistance to each state that hosts an active chemical destruction effort for the purposes of emergency preparedness and response to a CAI. The most important objective of these funds is to develop and maintain those capabilities required to avoid fatalities to the maximum extent practicable should an accidental release of chemical agent occur. The Army and FEMA will fund efforts to complete the closeout of CSEPP in conjunction with and following the end of disposal operations in accordance with public law and CA guidance as discussed in the previous section.

Benchmark 2: Alert and Notification

Functioning alert and notification system extending across the installation and appropriate off-post jurisdictions to communicate protective actions and other critical response information to the public. Figure 14 illustrates the alignment of Benchmark 2 to applicable *National Preparedness System* components and associated core capability.
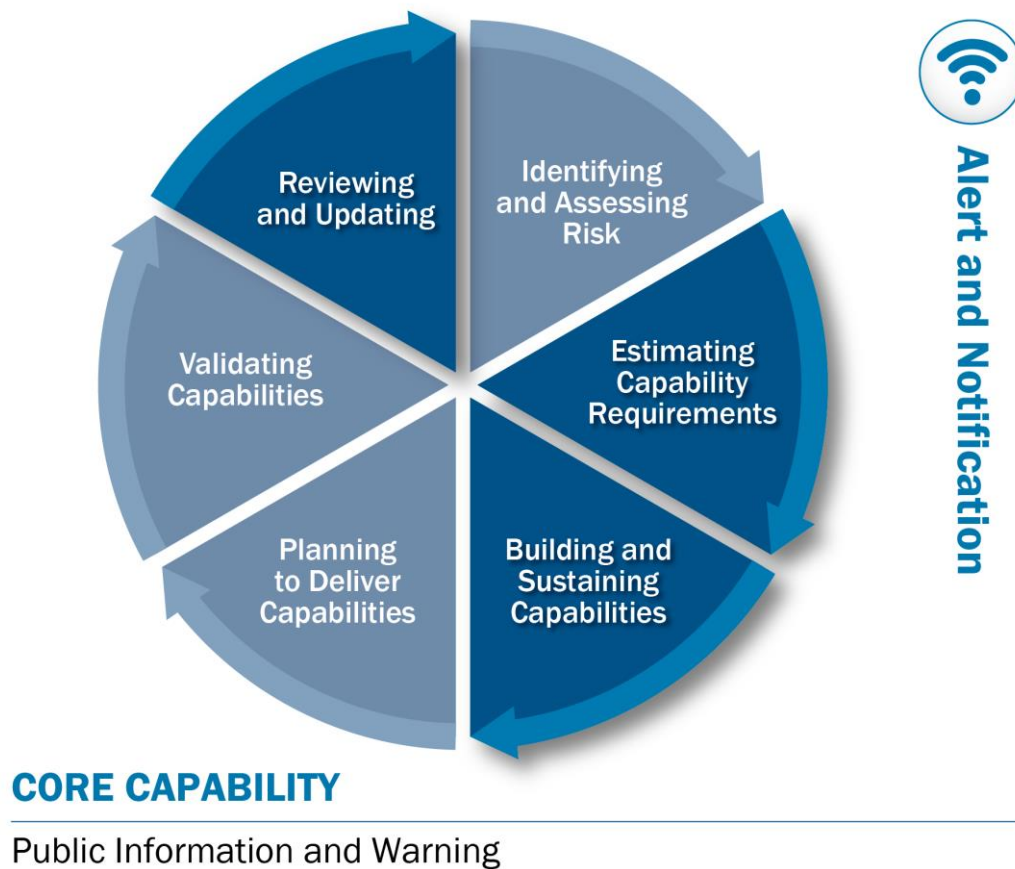

Figure 14: Applicable *National Preparedness System* Components and Core Capability Alignment for Benchmark 2

Intent

A well-designed and maintained alert and notification system enables officials to provide timely, appropriate warnings in the event of a chemical incident or accident (CAI). The program provides an automated, networked, 24-hour operational capability to warn the public of a chemical event, to confirm that an incident or accident has occurred, and to inform the public when it is safe to return to their homes. This capability, integrated appropriately with state and federal systems, includes use of sirens, public alert radios, highway message reader boards, and other community methods in a layered approach aimed at reaching the greatest percentage of the population. In addition, Chemical Stockpile Emergency Preparedness Program (CSEPP) managers must test and evaluate

this capability to ensure its adequacy to warn all threatened populations on the installations and throughout the off-post hazard zones.

Actions Required

- Develop and maintain alert and notification procedures addressing specific roles and responsibilities, including initial activation of warning systems, selection of warning messages, confirmation of activation, repetition of warnings, and issuance of all-clear messages.

- Ensure CSEPP personnel coordinate chemical event notifications and other relevant information between installation and community emergency operations centers (EOCs) in compliance with Army procedures and local memorandums of understanding (MOUs).

- Develop and maintain scripted, system-specific warning messages based on the site's chemical event emergency classification system and a predetermined protective action strategy.

- Maintain the ability to control alert and notification from two systems.

- Maintain a 24-hour operational capability for both initial and ongoing alert and notification activities.

- Maintain a current program of regular preventive maintenance for all elements of the primary and alternate alert and notification systems.

- Ensure alert and notification systems function as designed through periodic testing.

- Evaluate the effectiveness of the alert and notification system periodically to ensure that alert signals and notification messages in each area of the immediate response zone (IRZ) are of sufficient volume to be heard above ambient noise levels.

Introduction

Alert and notification addresses the notice and information-dissemination process implemented when a real or possible CAI takes place. When activated, the process pushes information to on- and off-post populations believed to be at risk. It addresses time-critical actions that are the public's primary concern in the event of a CAI.

This benchmark also discusses key components of the alert and notification concept of operations, including procedures for alert and notification of the public, warning point communication and protocols, format and content of notification messages, measures for populations with access and functional needs, restrictions on release of information in suspected terrorism or criminal events, other notifications, and notification systems and testing.

Concept of Operations

A real or possible CAI will first be detected on the Army installation where it takes place. Installation personnel have the responsibility for notifying other on-post personnel and off-post authorities. If protective action is needed, alert and notification to the on- and

off-post public becomes a vital and time-critical process to minimize potential health impact. Execution of warning and instructions following a CAI requires a well-planned system that is regularly tested and exercised; standards and procedures regarding alert and notification are outlined below.

Public alert and notification take priority over other urgent notifications. These other notifications (addressed below) occur as time permits among local, territorial, tribal, state, and federal agencies, including higher authorities within the Army.

Chemical Event Notification Levels

A standard system for classifying chemical events is used to simplify and clarify emergency communications from the Army installation to the off-post community. Four chemical event notification levels (CENLs) are used in notifications. CENLs are defined according to expected hazard (shown in Figure 15); "chemical effects," a term used in the figure, may refer to acute exposure guideline levels (see *Appendix B: Technical Background*), depending on local agreement.
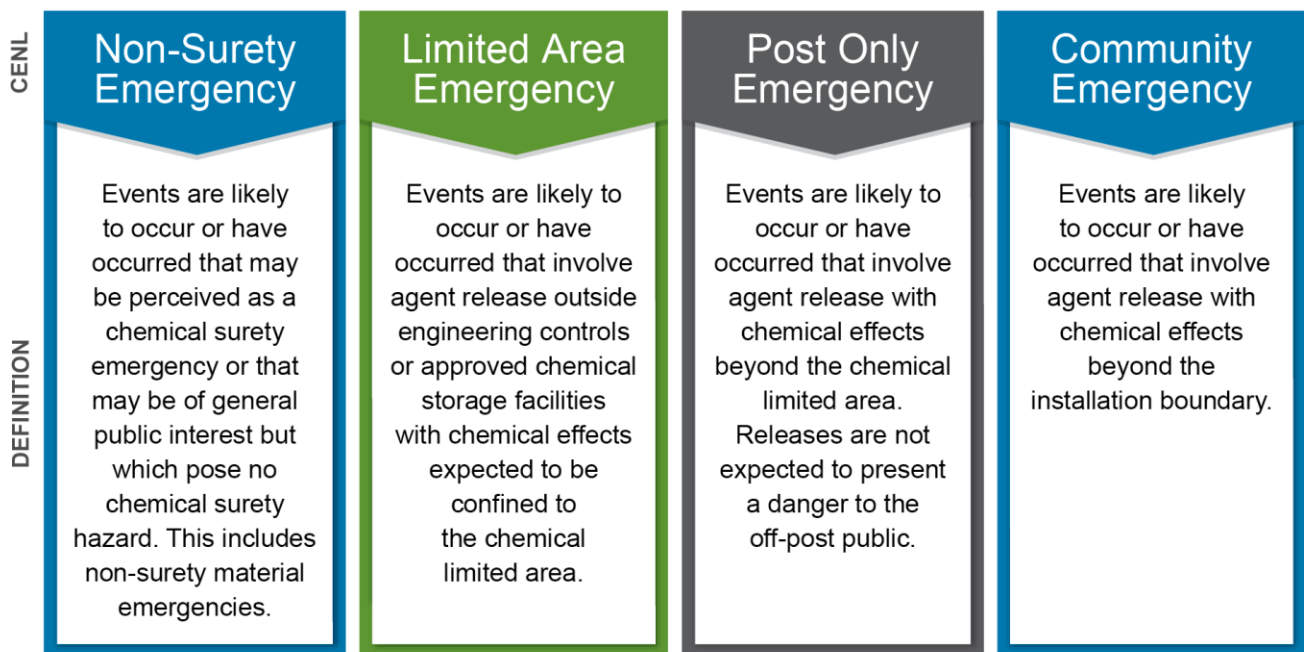
CENL	Non-Surety Emergency	Limited Area Emergency	Post Only Emergency	Community Emergency
DEFINITION	Events are likely to occur or have occurred that may be perceived as a chemical surety emergency or that may be of general public interest but which pose no chemical surety hazard. This includes non-surety material emergencies.	Events are likely to occur or have occurred that involve agent release outside engineering controls or approved chemical storage facilities with chemical effects expected to be confined to the chemical limited area.	Events are likely to occur or have occurred that involve agent release with chemical effects beyond the chemical limited area. Releases are not expected to present a danger to the off-post public.	Events are likely to occur or have occurred that involve agent release with chemical effects beyond the installation boundary.

Figure 15: Chemical Event Notification Levels Definitions

Standards and Procedures for Community Emergency

Perhaps the single most important function of CSEPP is to ensure that procedures and systems are in place to provide timely alert and notification to the population at risk of a CAI, both on- and off-post. This function should be carefully planned and practiced; the following standards and guidelines should be used in establishing alert and notification systems and procedures.

These apply to any event known or expected to constitute a community emergency. (Local authorities should also be notified of other CENLs, particularly if on-post sirens are sounded or personnel are evacuated from the site. The timing and manner of such notifications should be as negotiated between the Army and local authorities, consistent with Army guidelines.) Each CSEPP site should have the ability to activate and control alert and notification systems from two locations.

Alert and Notification

Alert and notification are two separate steps: first, attracting the attention of the public (alerting), and secondly, providing specific, appropriate protective action instructions (notifying). Public education programs should stress this two-step process so that, when alerted, people will listen for protective action instructions from designated notification systems.

Transmission of Warning to Off-Post Warning Point

The Army installation accident-reporting system should provide a warning and protective action recommendation (PAR) to the off-post community warning points for the affected IRZ:

- Within 5 minutes at Blue Grass
- Within 10 minutes at Pueblo

The 5- or 10-minute period begins when any individual who is responsible for identifying and reporting a CAI to the proper installation authority becomes aware of an event that might constitute a community emergency and when that individual has the means to safely report it to the proper installation authority. The 5- or 10-minute period ends when the Army installation has provided the following information to the appropriate off-post warning points:

- CENL
- The identity of the agent and the predominant wind direction
- The zone(s) where the population is at risk
- An appropriate initial PAR (evacuate, shelter in place [SIP], or no action) for each affected zone in the IRZ

Alert Signal and Protective Action Instructions

Systems and procedures should be in place to make a protective action decision (PAD) and provide an alert signal and appropriate protective action instruction to the population in the affected zones of the IRZ within 8 minutes of receipt of the warning and PAR from the installation. This 8-minute period begins when the installation's 5- or 10-minute period ends.

Alert and Notification of the Protective Action Zone

Alert and notification in the protective action zone (PAZ) is equally important but slightly less time-critical. In the event of a community emergency, the Army installation should provide PARs for affected zones in the PAZ to the appropriate off-post warning

points within 10 minutes after a responsible individual becomes aware of the CAI. Procedures for generating and providing PARs for the PAZ may be combined with those for the IRZ. Off-post officials should activate available systems and initiate planned measures to alert and notify the PAZ public within 8 minutes of receipt of PARs for the PAZ from the installation.

Installation Activation of Off-post Systems

For certain contingencies or situations, it may be prudent to have plans for activation of off-post alert and notification systems by the Army installation. A 1994 Army Departmental Memorandum sets out conditions for Army direct notification and instruction to the public. Army direct notification and instruction may be requested by off-post authorities and should be documented in a memorandum of agreement that is included or incorporated by reference in both on- and off-post plans.

Subsequent Notifications and Coordination

Once initiated, procedures to alert and notify the public (for example, sirens, alert radios, and Emergency Alert System [EAS]) should be repeated and updated if required at regular intervals in each affected zone or area at least every 12 minutes for the first hour and every 20 minutes thereafter until the danger to the public is determined to be past in that zone or area. ("Area" refers to the possibility that areas smaller than an entire zone may be targeted in subsequent messages to the public.)

Guidance for plans and procedures to make timely initial alert and notification discussed above also apply to critical updates as conditions and circumstances change. For example, during the response to the chemical event, information may be obtained that changes the initial estimate of the amount of chemical agent released. That in turn may lead to changes in the recommended protective actions for certain zones and areas. Similarly, during response to a chemical event, another event may occur that places additional zones at risk. In such cases, time standards for warning, PAR, and alert and notification apply to the new PARs and new instructions to the public.

Furthermore, alert and notification concerning when and how to end SIP in all zones where a population was instructed to take any initial protective action (evacuate or SIP) needs to be done in sufficient time to enable the population to end SIP and minimize exposures.

Notification to Installation of Off-Post Protective Actions

Off-post jurisdictions should notify the Army installation when a PAD is made and implemented by off-post authorities, regardless of whether the PAD followed the installation's PAR. Knowledge of actual off-post protective actions is essential for on-post situational awareness and response decisions.

Sample Alert and Notification Timeline

This example text description and timeline (shown in Figure 16) assumes that the installation has 5 minutes to complete alert and notification of the appropriate off-post warning points (rather than 10 minutes).
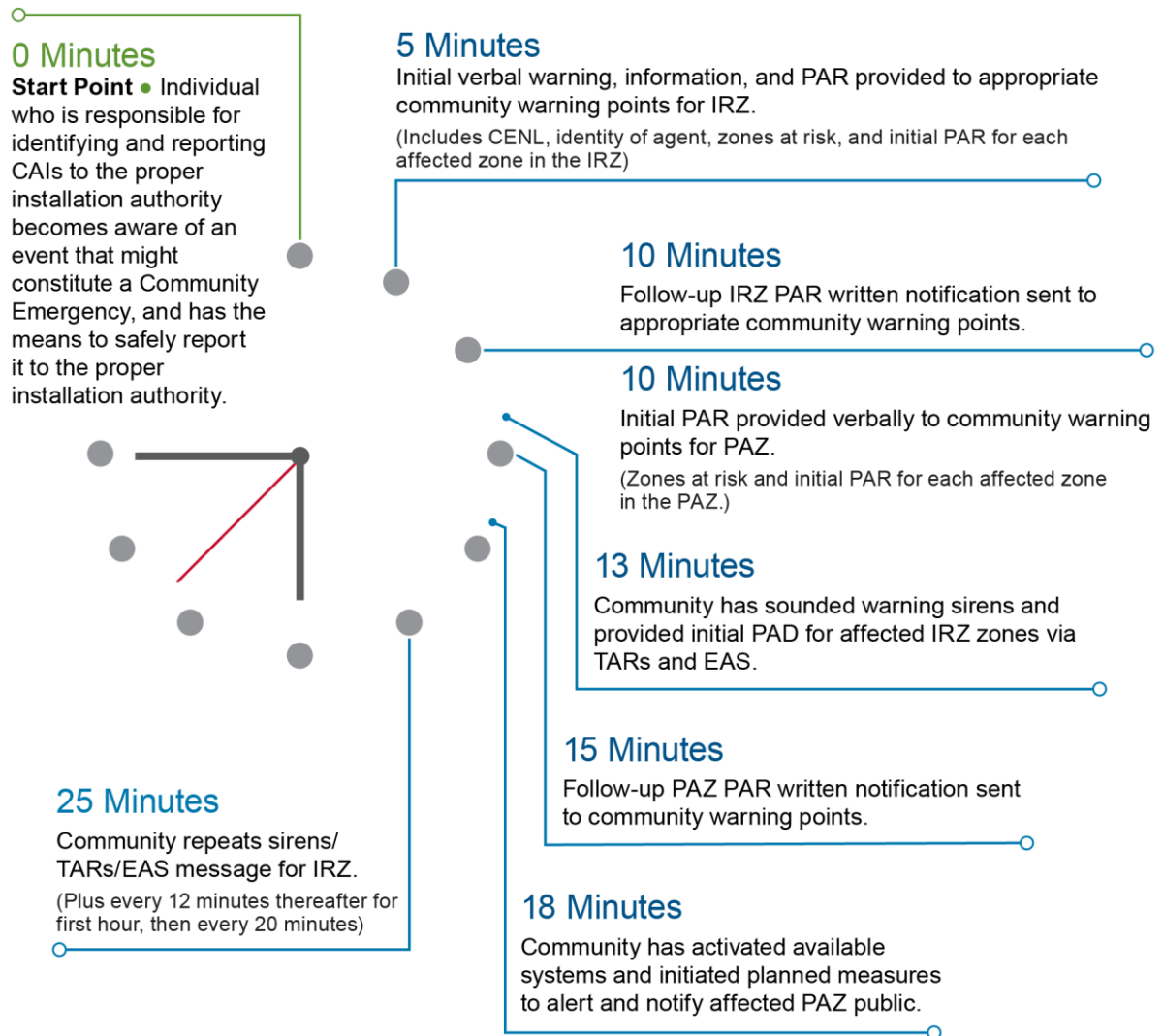
0 Minutes

Start Point ● Individual who is responsible for identifying and reporting CAIs to the proper installation authority becomes aware of an event that might constitute a Community Emergency, and has the means to safely report it to the proper installation authority.

5 Minutes

Initial verbal warning, information, and PAR provided to appropriate community warning points for IRZ.

(Includes CENL, identity of agent, zones at risk, and initial PAR for each affected zone in the IRZ)

10 Minutes

Follow-up IRZ PAR written notification sent to appropriate community warning points.

10 Minutes

Initial PAR provided verbally to community warning points for PAZ.

(Zones at risk and initial PAR for each affected zone in the PAZ.)

13 Minutes

Community has sounded warning sirens and provided initial PAD for affected IRZ zones via TARs and EAS.

15 Minutes

Follow-up PAZ PAR written notification sent to community warning points.

18 Minutes

Community has activated available systems and initiated planned measures to alert and notify affected PAZ public.

25 Minutes

Community repeats sirens/ TARs/EAS message for IRZ.

(Plus every 12 minutes thereafter for first hour, then every 20 minutes)

Figure 16: Sample Alert and Notification Timeline

Warning Point Communications and Protocol

The plan should describe procedures and equipment used for notifying off-post warning points, including the following:

- Separate, dedicated primary and secondary communication links between the Army installation EOC and off-post warning points

- Daily testing of all dedicated links

- A verbal report of the event and associated information (e.g., CENL, agent, wind direction, and PARs for each affected zone) to off-post warning points as the primary notification, which is then confirmed by transmission of a hard copy of the information via email or fax. The plan should provide for the hard copy to be sent to the warning points within 5 minutes of the verbal notification. Automated electronic systems may also be used as the primary means of reporting the event and associated

information to off-post warning points, provided that the systems are always on and are monitored continuously by trained operators at all off-post warning points and that verbal confirmation of the report is accomplished immediately after electronic notification.

Warning Point

The term "off-post warning point" or "warning point," as used in this section, refers to an off-post location where warnings and PARs from the Army installation would be received. A 24-hour warning point, such as a 911 communications center, allows for person-to-person contact from the Army installation. Warning point staff must be able to either directly activate public alert and notification systems, or quickly contact those who can. There may be multiple warning points for multiple jurisdictions.

Format and Content of Notifications to the Public

Because of the importance of correct and timely protective actions and the limited warning time that may be available, instructional messages should be pre-recorded or pre-scripted (i.e., written out ahead of time) to cover all plausible conditions and circumstances. Instructions should include a brief statement of the authority for the message, the nature of the threat, specific protective actions to be taken by the public, and the areas to which the instructions apply. Areas should be described in terms of familiar landmarks and boundaries. Instructional messages should refer to public education materials that have been distributed to the community, and the protective action instructions in the messages should be consistent with the content of the public education materials. However, instructional messages should not rely on the public's ability to find and read the previously distributed public education materials in an emergency.

EAS equipment may place a practical limit on message length. Federal Communications Commission (FCC) regulations for EAS equipment require a capability to record and store messages of at least 2 minutes in length (47 CFR 11.33(a)(3)(i)). The equipment in use generally fulfills this requirement but does not exceed it. Similarly, other technologies such as SMS text place character limitations on messages. Pre-scripted instructional messages should stay within the length that can be accommodated by the various EAS and other messaging technology.

Measures for Populations with Access and Functional Needs

The alert and notification system should include the means to alert and notify individuals with limited English proficiency (LEP), persons with disabilities, and other with access and functional needs. Potential measures to consider include the following:

- Provision of public notification for persons with disabilities and others with access and functional needs

- Placement of emergency-activated communication devices (e.g., tone alert radios, weather alert radios) in facilities that host such populations (e.g., schools, preschools and daycare centers, nursing homes, and hospitals)

- Provision of public notifications for persons with LEP (emergency instructions should be translated if the state determines through survey or other means that one percent or more of the population at risk speaks a language other than English)

Restrictions on Release of Information

Suspected criminal or terrorist activity or loss of chemical agent or munitions should not be reported to the public without approval by the Assistant Secretary of Defense Public Affairs. This restriction is not intended to prevent alert and notification of the public when there is a danger to the community but only to delay transmission of information regarding the criminal or terrorist origins of the incident. In other words, if a CAI poses a danger to the public and is the result of criminal or terrorist action, the public should still be immediately notified and given protective action instructions, but information regarding the cause of the CAI should not be distributed until the appropriate approval is obtained.

Material once cleared for public release may be used in subsequent releases if specific conditions have been met, including: confirmation by a competent authority that the information remains in conformance with current DoD policy, preservation of the original context of the information, and assurance that no new material has been added. Additional information can be found in Army Regulation 360-1.

Other Army Notifications

A CAI triggers numerous notification requirements under federal law and Army regulations. Planners should be aware of these requirements and the Army's responsibilities under them. In particular, Army procedures require notification to the following:

- The Local Emergency Planning Committee/State Emergency Response Commission

- The National Response Center

- Army Headquarters and state and federal officeholders per Army regulations and installation emergency planning

- Colorado or Kentucky environmental authorities

Infrastructure and Applications

The plan should include a description of methods and systems used to alert and notify the public in the event of a CAI. The primary alert and notification system for the IRZ (including the Army installation) should consist of a network of outdoor warning devices covering all populated areas of the zone, along with indoor devices in each regularly occupied building. The outdoor warning devices should be 360-degree electronic sirens designed to provide an alert signal of at least 10 decibels above ambient noise levels. Outdoor warning devices should cover all frequently occupied areas, including residential, commercial, industrial, and recreational areas.

Indoor devices should have the capability to provide an alert signal and voice instructions when activated by local authorities. They must be able to respond to a CAI but may also

include all-hazard alert warning capabilities. (Such devices may be referred to as tone alert radios, adviser alert radios, or weather radios.)

Both indoor and outdoor devices should be supplemented with other mechanisms as appropriate, such as EAS broadcast messages, email, commercial mobile telephone alert system, the Federal Emergency Management Agency's Integrated Public Alert and Warning System (IPAWS), crawl messages, text-display highway signs, and other systems, to ensure the fullest possible coverage. IPAWS procedures include which radio and television broadcast stations and cable operators will disseminate local emergency notifications and how and by whom (i.e., which position) IPAWS is activated. The benefits of IPAWS are described in Figure 17.

IPAWS is intended to give public safety officials an integrated approach to alert and notify the public using the **EAS**, **Commercial Mobile Alert System**, **National Oceanic and Atmospheric Administration weather radio**, and **other public alerting systems from a single interface**. Using **IPAWS** may allow local officials to simplify the CSEPP alert and notification process while ensuring maximum coverage and consistency of messaging across all media platforms. Federal, Tribal, state and local authorities responsible for alert and notification may choose to use **IPAWS**, and may also integrate local systems that use common alerting protocol standards within the **IPAWS** infrastructure.

Figure 17: Description of the Integrated Public Alert and Warning System and its Benefits

Alert and notification systems for the PAZ should include EAS, IPAWS, and other means as needed to ensure that persons in the PAZ can receive alert and notification in a timely fashion to implement protective actions. Methods such as route alerting that would likely take too long to implement in the IRZ might be reasonable to use in the PAZ where distance from the source means more time is available to complete notification.

In all, the variety of alert and notification options has increased due to the rapid advancement of communications technology. In addition to adjusting to the impact of national systems such as IPAWS, affected agencies can choose from a growing list of alert and notification systems developed to communicate with the public in a variety of environments and situations. *Appendix G: Communication Systems and Equipment* identifies many options available to response agencies and briefly describes when each may be an appropriate option.

For all implemented alert and notification systems, plans and procedures should provide for periodic maintenance, testing, and evaluation to support a continued alert and notification capability. All systems used for public alert and notification should receive preventive maintenance on a regular schedule and should be tested at least monthly. Siren systems should be periodically evaluated to ensure they are of sufficient volume to be heard above ambient noise levels.

Benchmark 3: Automation

Functioning automation system for rapid exchange of chemical hazard modeling and protective action analysis between the Chemical Stockpile Emergency Preparedness Program (CSEPP) installation, state, and counties. Figure 18 illustrates the alignment of Benchmark 3 to applicable *National Preparedness System* components and associated core capabilities.
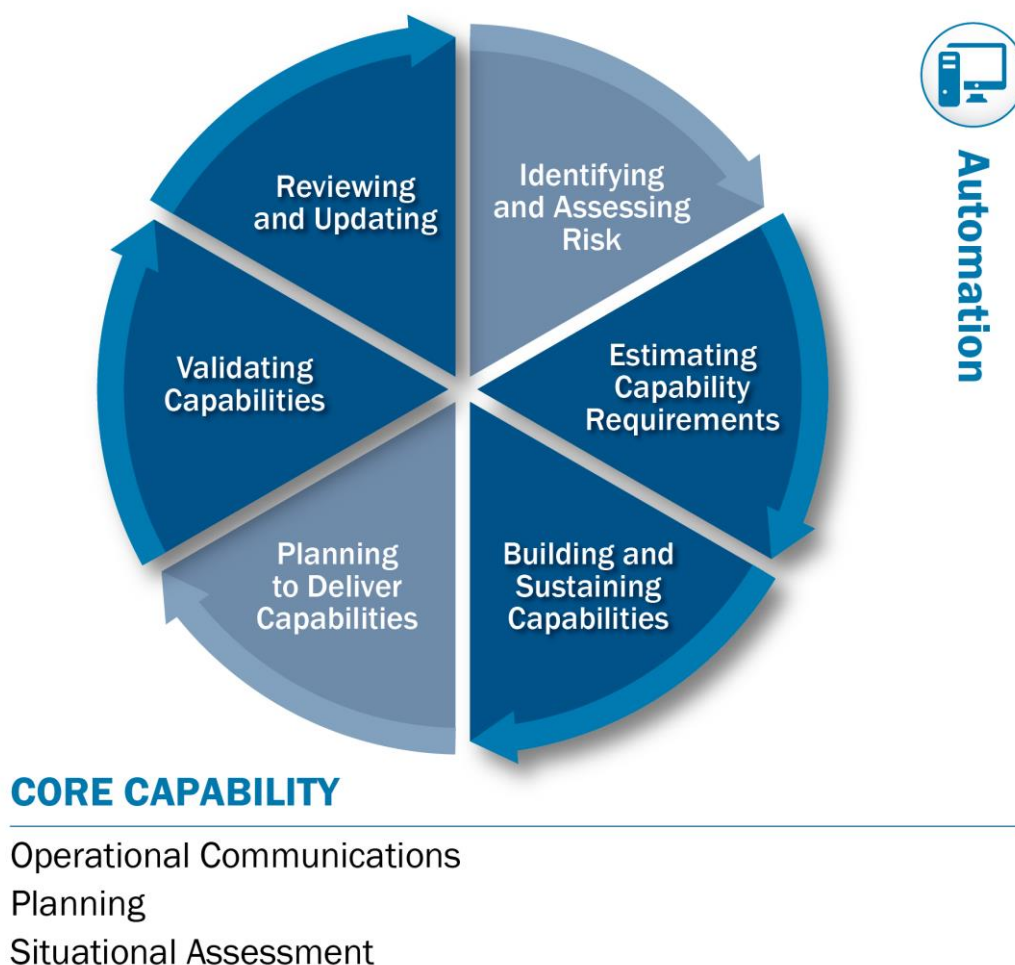
Figure 18: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 3

Intent

Promptly and accurately detailing a common operating picture for all community responders based on hazard prediction for a chemical accident or incident is a daunting task. It requires a validated and verified automation tool that can be employed at the installation and county level without excessive training requirements. The automation software must be able to accurately predict the projected path and timing of a chemical

agent plume over the local terrain in all weather conditions and take into account protective action strategies, daily work plans, and event alert and notification procedures. These decision-support tools provide installation and county emergency managers with valuable data formatted for rapid assessment and decisions, which can then be communicated over the alert and notification system to protective zones and emergency operations centers (EOCs). Finally, the system must be supported by a network of meteorological towers, interconnected servers and other hardware, and personal computing devices to enable personnel to provide, access, and analyze critical information.

Actions Required

- Adopt an integrated automation system that supports the accredited CSEPP hazard-modeling software, the installation and community protective action recommendation (PAR), protective action determination and alert and notification protocols, and event notification and management to meet specific community needs.

- Ensure that automation systems are compatible with jurisdictional emergency management software for hazard prediction, hazard communication, and protective action recommendations.

- Ensure that automation systems meet U.S. Army, state, and local information technology standards and requirements for hardware and software and incorporate appropriate security features.

- Maintain the automation network and associated instrumentation, providing the maximum practical reliability when used among the installation EOC, the state, and all off-post local jurisdictions.

Introduction

Information management systems collect, store, organize, and archive data to provide decision makers with selective data and reports to assist in managing and controlling projects, resources, activities, and results. Automated Information Systems (AISs) can provide important assistance in performing many of the planning and response functions in the event of a chemical accident or incident (CAI). The speed with which a CAI could affect Army and civilian populations necessitates use of automated tools to help perform complex analyses during the deployment of personnel and resources for response efforts. AISs can assist in the development of plans and procedures by organizing information pertaining to response personnel and resources so that it can be rapidly recalled and acted upon during response.

Automation Requirements

The installations, CMA Headquarters, and state and local EOCs require functional, automated data processing systems that can rapidly produce a hazard prediction of a CAI and communicate this information rapidly among EOCs and joint information centers (JICs). This requires a validated, verified, and accredited automation tool that is reliable and can be employed with minimal training requirements.

Department of Army Pamphlet 385-61 requires a specific methodology for the chemical plume model; CMA verifies and validates the model and the Army Safety Office provides accreditation. The success of using such software depends on its ability to predict chemical agent plume travel using local, real-time meteorological conditions for the determination of all affected zones while accounting for local protective action strategies, daily work plans, event alert and notification procedures, and documenting EOC actions in status boards and logs. These decision-support tools provide decision makers and emergency responders with valuable data formatted for rapid assessment, which can then be communicated over the alert and notification system to the affected zones and other EOCs.

To ensure this capability is sustained, all EOCs must adopt an integrated automated data-processing system that supports an accredited Army chemical hazard modeling software system, determination of PARs and alert and notification protocols, and event notification and management to meet specific community needs. Such systems should incorporate emergency management software and hazard-prediction software, featuring browser-based interfaces and appropriate security features. They also should meet state and local information technology standards and requirements for hardware and software systems. Emergency management automation systems developed for CSEPP should meet the following criteria:

- The system should be robust, reliable, and able to function when needed.

- The automation system should be capable of projecting the chemical plume path and timing, identifying affected zones, and developing a PAR for each impacted zone. If the PAR for any zone is shelter in place, the system should produce an exit-shelter time for that zone.

- The automation system should continuously transmit local, real-time meteorological data for use in chemical plume projection and display and archive the data.

- There should be a continuous exchange of information between the Army depot and affected civilian jurisdictions to coordinate planning, exercise, response, and recovery actions. During an event notification, there should be an immediate exchange of information followed by positive confirmation.

- The automation system should be used for both daily operations and emergencies, documenting actions in work plans, status boards, and logs.

- In addition to the automation system, there should be an alternate means of communication between the on-post EOC and a local point of contact that can be used to alert the local off-post EOC of an imminent notification.

- The automation system should have redundant capabilities and communications paths to prevent the loss of connectivity from a single component or system failure. Such redundancy may include back up power, alternate routing of information, and plans for sharing required information by alternate methods.

- Future automation system capabilities are endorsed by the Automation Integrated Process Team (IPT) and approved and prioritized through the WebPuff™ Configuration Control Board.

Coordination

The Automation IPT establishes automation priorities and functionality requirements for CSEPP. It recommends system procurement and improvements for approval by the Program Management Team. The Automation IPT also coordinates automation-related topics across the other IPTs and Work Groups. The Automation IPT page on the CSEPP Portal provides a repository of historical and current documents related to automation issues.

Infrastructure and Applications

A variety of enterprise software programs and applications are available and specifically designed for CSEPP communities. These tools help local and state partners perform complex plume modeling, develop the most effective protective action and response strategies, and efficiently collaborate and share information. State and local jurisdictions are strongly encouraged to make maximum use of automation tools that have been developed for CSEPP.

WebPuff™

Computerized tools are especially valuable in performing complex plume modeling to assist planners and decision makers in developing the most effective protective action and response strategies. Atmospheric dispersion models, although imperfect, are the best tools for the estimation of the hazard in the event of a CAI. Emergency response procedures can be input into an automated system where their adequacy and comprehensiveness can be tested, and they can be organized for rapid activation during an emergency. In addition, routine operations such as collection of meteorological data, chemical agent monitoring logs, and status boards can be automated to ensure that significant changes in conditions are recognized quickly and acted upon appropriately.

WebPuff™ is an automated information system jointly used by the U.S. Army (on-post) and civilian (off-post) jurisdictions. The purpose of WebPuff™ is to make a sufficiently detailed and reliable prediction of the effects of a chemical agent release so that informed decisions can be made as to whether the surrounding population should seek shelter, evacuate, or do nothing in response to a CAI.

WebPuff™ is an Internet protocol network-based system that consists of server applications and associated data and workstations running on a web browser such as Microsoft Internet Explorer or Mozilla Firefox. Using a browser, users have fully functional capabilities to create and publish scenarios, protective action recommendations and decisions, daily work plans, logs, and status boards. Each CSEPP installation has an EOC with a WebPuff™ server (shown in Figure 19). The on-post EOC coordinates with off-post state and local EOCs. All off-post EOCs also have WebPuff™ servers and workstations. The depot server communicates with off-post servers. Within WebPuff™, D2-Puff is the software algorithm (method or formula) used to make predictions concerning the dispersion pattern, timing, and concentration levels of a release of a chemical agent into the atmosphere. D2-Puff is the Army-approved hazard dispersion modeling program for CSEPP. More information on WebPuff™ is available on the Automation page on the CSEPP Portal.
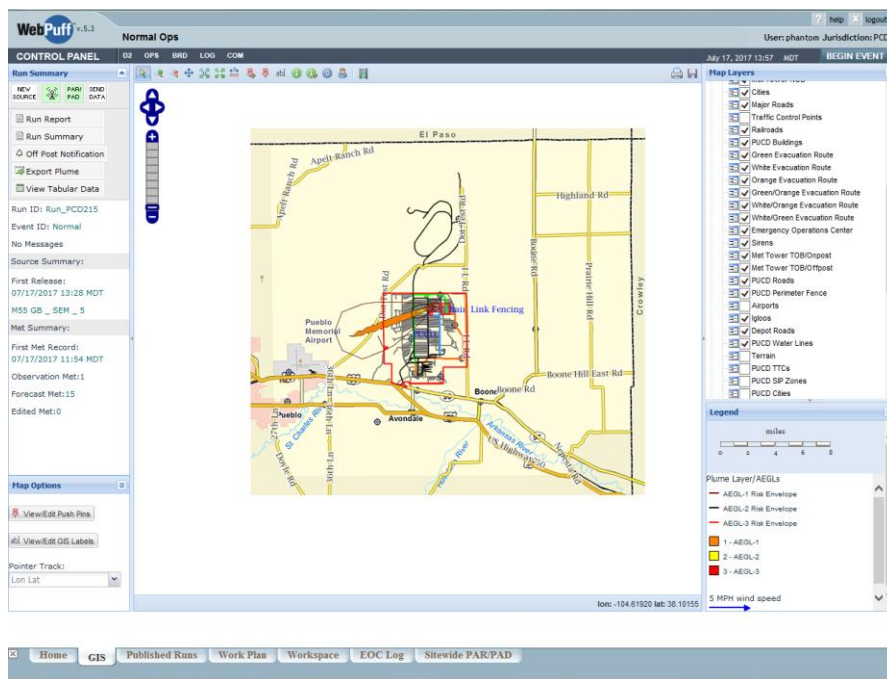
Figure 19: Print Screen of WebPuff™ in Normal Operations

Meteorological Towers

CSEPP maintains a meteorological network on the Army depots and in the bordering county to support chemical plume modeling and protective action strategies of the local communities. The network consists of towers, instruments, data-control platforms, radio-transmission equipment, and servers used to assemble, display, and archive data. Local real-time meteorological data provides critical information for plume models on the potential path and severity of a chemical plume. The data is used within the atmospheric dispersion model to predict location, timing, and concentration of the chemical plume. Meteorological data is provided continuously and automatically through the automation system to the D2-Puff model for real-time, continuous projection of potential plumes. With the addition of county data, the model provides reliable plume projections for all potential impacted areas from a chemical accident or incident. To ensure the data is real-time, the data is updated every 15 minutes.

- The functional specifications for automation systems only require off-post authorities to have access to data from Army meteorological towers. Essential meteorological information is to be obtained from both on-post and off-post meteorology systems via the automation system. Off-post authorities have access to both sets of meteorological records though the MetViewer tab of WebPuff™.

- Initial hazard projections are the responsibility of the on-post authorities using weather data from the site of the incident.

- WebPuff™ provides off-post authorities with access to data from existing on-post meteorological towers. Data from both on- and off-post meteorological towers are available through the MetViewer tab of WebPuff™.

- National Weather Service forecast data is also available to WebPuff[TM].

- Each state participating in CSEPP may be provided with limited wind-monitoring capability.

- Providing this apparatus should not entail funding of additional staff for the affected jurisdiction(s).

- Off-post wind-monitoring should include up to four anemometer units, one at each monitoring site. Each off-post monitoring station should include the capability to transmit meteorological data to the EOC for the IRZ jurisdiction. Additional meteorological instruments to monitor temperature, humidity, and/or pressure are not required but may be included under this policy.

- Support for off-post meteorological monitoring stations should include automated data checks and manual data inspection. Maintenance and calibration of monitoring stations should occur twice a year, approximately once every 6 months.

- WebPuff[TM] includes functionality to allow individual instruments and/or entire monitoring stations to be disabled. This is important when problems are discovered with measurements from a particular monitoring station. This prevents bad and/or suspect data from being used in the hazard prediction.

Network Security: Department of Defense

Automated data is exchanged between Army and civilian jurisdictions through a dedicated network called the Chemical Stockpile Wide Area Network (CSWAN). The primary purpose of the CSWAN is to provide enhanced connectivity between each local Army storage facility and the surrounding state and county EOCs. The CSWAN also provides connectivity between the chemical depots and CMA Headquarters, as well as connectivity to the Non-Classified Internet Protocol Router Network.

The CSWAN must meet all U.S. Department of Defense (DoD) information technology information assurance (IA) requirements, specifically the National Institute of Standards and Technology Risk Management Framework (RMF). DoD has transitioned from the DoD Information Assurance Certification and Accreditation Process (DIACAP) to RMF; RMF is used for identifying, implementing, validating, certifying, and managing IA capabilities and services, expressed as IA controls, and authorizing operation of DoD information systems. Both the software application (WebPuff[TM]) and the network (CSWAN) meet RMF requirements and both maintain a separate DoD Authority to Operate; both systems are currently undergoing RMF accreditation. Figure 20 illustrates the ongoing RMF life-cycle by phase.
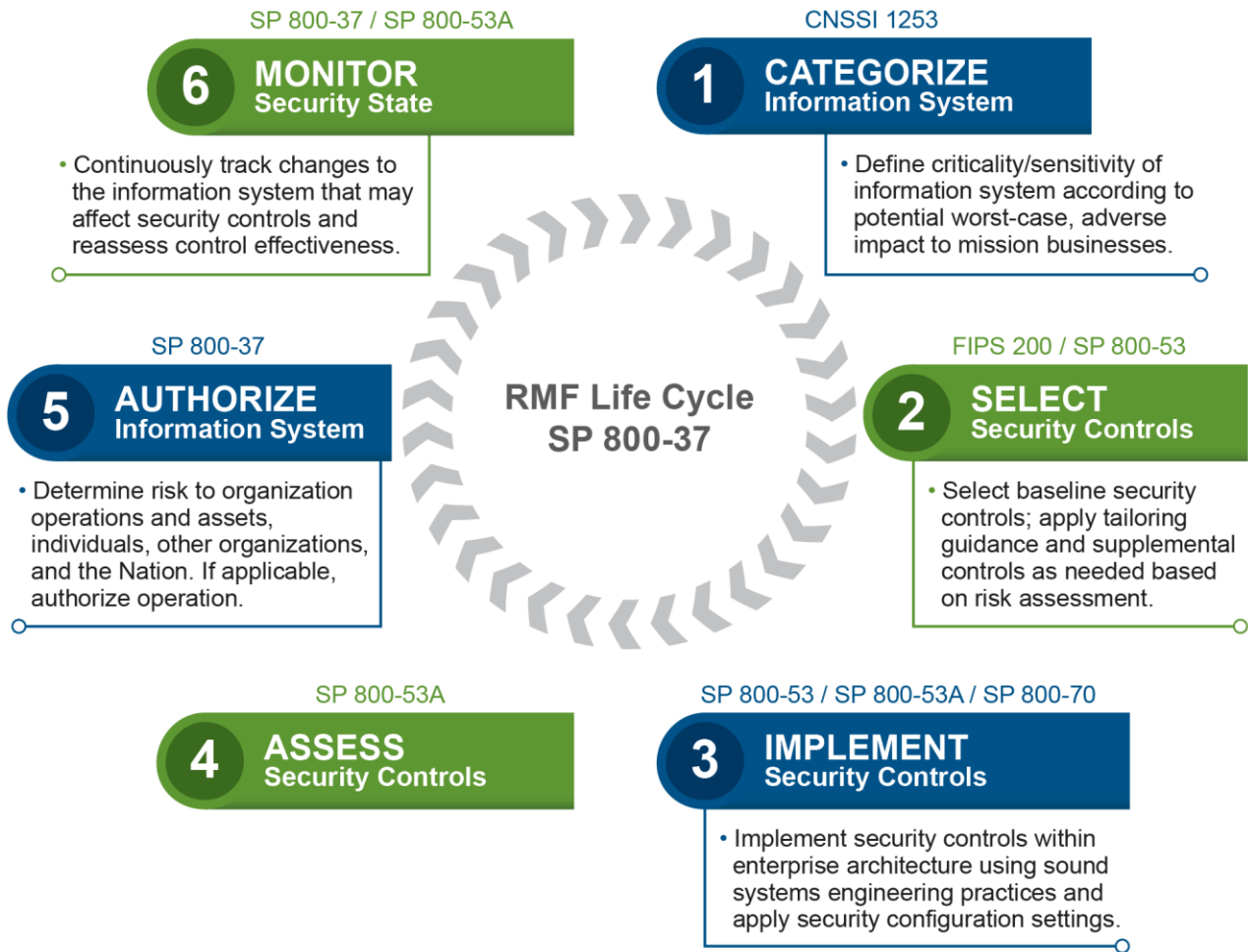
Figure 20: Risk Management Framework (RMF) Life-Cycle by Phase

Network Security: U.S. Department of Homeland Security

The U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) manages three systems that support the implementation of CSEPP:

- CSEPP Portal (described below)

- CSEPPWebCA (described in *Appendix E: Planning, Programming, Budgeting, and Execution*)

- Emergency Operations Planning Template (described in *Benchmark 5: Coordinated Plans*)

Each of these systems are subject to DHS information technology security requirements and have been granted an authority to operate (the process is similar to that used by DoD).

Chemical Stockpile Emergency Preparedness Program Portal

The CSEPP Portal is a web-based information sharing and collaboration site using Microsoft SharePoint™ software. It sustains the close, regular collaboration and

communication necessary between partners across the nation that support the sites in Colorado and Kentucky. The Portal consists of two elements:

- An external side provides the emergency management community with access to CSEPP training and other resources, as well as general program information (and links to community websites) for members of the public.

- An internal side hosts a large library, including presentations from stakeholder meetings; exercise reports; IPT documents; a program-wide event calendar; news coverage; a photograph library; and Army, FEMA, and other federal guidance. As a portal, it links to all CSEPP–related websites and social media at the local, state, and federal level. It also enables communities and Work Groups to collaborate remotely on projects with their own document libraries, task lists, calendars, and links.

Access to the internal side is available via password or Personal Identity Verification (PIV) Credential to all program partners upon request to the Webmaster, and contingent on approval by the FEMA System Owner. Although individuals can post information on their own, each component of the portal also has its own identified content manager from the community to provide technical assistance. For those unfamiliar with Microsoft SharePoint^{TM}, the CSEPP Portal User Guide and task-specific tutorials are located on the support page. In addition, user- and project-specific training is available from the Webmaster.

All automation system plans and procedures should provide for periodic maintenance, testing, and evaluation to sustain availability and reliability. Automation systems should receive preventive maintenance on a regular schedule, and necessary updates to ensure functionality and meet information assurance standards.

Benchmark 4: Communication Systems

Functioning communications links among the Chemical Stockpile Emergency Preparedness Program (CSEPP) installation, state and county emergency operations centers (EOCs), and the Joint Information Center (JIC) to support coordinated implementation of response plans. Figure 21 illustrates the alignment of Benchmark 4 to applicable *National Preparedness System* components and associated core capability.
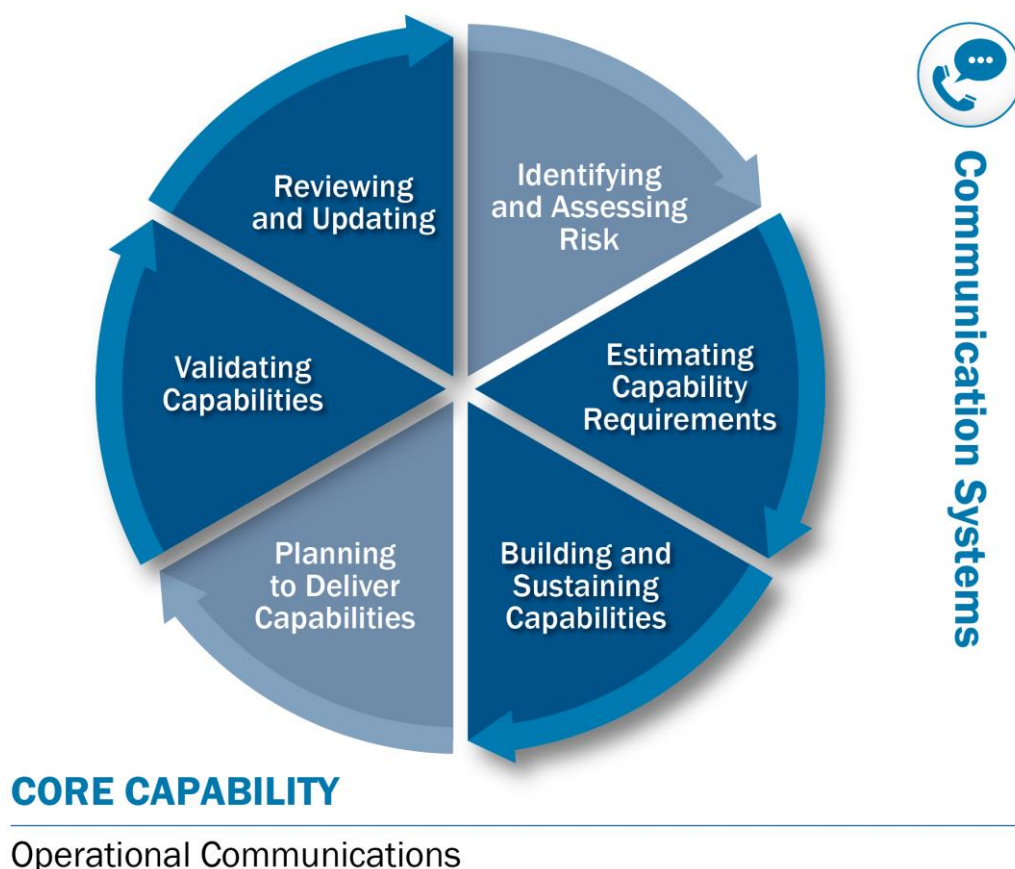

Figure 21: Applicable *National Preparedness System* Components and Core Capability Alignment for Benchmark 4

Intent

Delivery of information from the installation to county and state EOCs is a critical function to support command and control of emergency response and recovery. Emergency data and warning messages need to be communicated within minutes after an event, allowing EOCs to communicate hazard information and associated actions promptly to the public so they can take necessary protective actions. Communication systems must be maintained to provide this capability around the clock, without failure, connecting federal, state, tribal, territorial, and local emergency managers with a

seamless and continuous thread of information. Such systems include interoperable public safety radio, telephones, and dedicated hotlines.

Actions Required

- Maintain primary and alternative direct communication systems, providing the maximum practical reliability when used among the installation EOC, state, and all off-post local jurisdictions.

- Use communication systems to provide public alert and notification and the delivery of other emergency-related public information.

- Ensure availability of backup power for communication systems and maintain 24-hour operational capability for communication links.

- Develop, maintain, and adhere to standard operating procedures for sending, receiving, recording, disseminating, and validating communications.

- Develop and implement a program of regular preventive maintenance of all communication equipment, including a program of regular testing of all communication links.

Introduction

This benchmark focuses on the need for highly reliable communication systems to transmit information, while *Benchmark 2: Alert and Notification* and *Benchmark 11: Public Outreach/Education* addresses the substance and nature of the information being transmitted. Jurisdictions must be able to communicate with, activate, and mobilize their respective response units, such as law enforcement, fire, emergency medical, rescue, and other public safety resources, as well as governmental, health, school, and other special facility authorities. Communicators must be able to process and disseminate information related to a chemical accident or incident (CAI) accurately and quickly because of the nature of the hazard. As local emergency plans are updated, internal communication protocols should be reviewed and modified as needed to ensure rapid and accurate information transfer. Failure of communication systems and processes has great potential to negatively affect response and public safety.

Reliable and Available Communications Systems

Reliable and fully functional communications capabilities are necessary to successfully manage and coordinate emergency response activities. The purpose of redundant communication systems is to enable timely, reliable inter-agency and inter-jurisdictional communications. CSEPP provides for separate and dedicated primary communication links between the installation EOC and off-post warning points, as well as other secondary communication links. Dedicated primary links should be tested daily; all CSEPP communication systems are listed in *Appendix G: Communication Systems and Equipment*.

All jurisdictions should ensure provisions are in place to maintain reliability, security, and protection their critical communication systems. Communication systems require various forms of power; critical systems should have service from both commercial and

emergency power sources and robust grounding. More information on power and grounding can be found in Benchmark 6.

Critical communications systems require redundant capabilities and communication paths. Redundant communication systems should link the Army installation notification point with state and local EOCs and other notification points within Immediate Response Zone (IRZ) counties. Both primary and alternate systems must have high reliability.

Communication Systems Sustainment

Communication systems require regularly scheduled testing and maintenance to ensure operability. The ability to communicate vital information to first responders, emergency managers, public information officers, local officials, and the general public is of utmost importance.

Testing and Assessment

Plans and procedures should provide for periodic testing, maintenance, and evaluation of all communication systems that support alert and notification, EOC and field operations, public information, automation systems, and protective actions. All communication systems should receive preventive maintenance on a regular basis and should be tested at least monthly (daily for dedicated links as noted above).

Communication Systems Life-Cycles

Emergency communication systems life-cycles include initial purchase, upgrades, and continuing maintenance of both equipment and technologies. CSEPP grantees and sub-grantees should comply with the most recent cooperative agreement (CA) provisions on communications. The current CA should comply with and contain links to the latest U.S. Department of Homeland Security (DHS) SAFECOM Guidance for purchasing and funding maintenance of communications equipment. SAFECOM fosters purchase of equipment and planning for interoperability within the framework of the grantees' statewide interoperability communications plans, which should apply to all disaster response.

Interoperability

In accordance with DHS guidance, Fiscal Year 2017 CSEPP CA guidance includes links to SAFECOM, which has provisions on technical standards that ensure and enhance interoperable communications and Project 25 standards. Each CSEPP jurisdiction should maintain or be part of a regional Tactical Interoperable Communications Plan that includes governance structures, technology assets, and usage policies and procedures for operation during a CSEPP event.

Interoperability is expected to be further enhanced as the Integrated Public Alert and Warning System (IPAWS) is implemented both within CSEPP and nationally; IPAWS is discussed in more detail in Benchmark 2.

Documentation

Documentation should be retained and maintained on CSEPP communication systems. On-post documentation should follow Army policy. Off-post jurisdictions should develop and maintain documentation including, at a minimum, the following:

- System "as built" details and diagrams

- Communications path maps and studies

- Propagation studies

- Routine testing results

- Memorandums of agreement, memorandums of understanding, and/or intergovernmental agreements

- All contracts and agreements for communication systems equipment and services (e.g., maintenance agreements, site leases, access agreements)

- Equipment inventories

- Federal Communications Commission licenses and station files

- Life-cycle plan, including cost estimates for all equipment

Validation

Communications capabilities should be self-assessed at least annually by the community using the Community Readiness Profile as provided for in the CSEPP Exercise Implementation Guidance. Emergency communications should also be formally assessed during the annual CSEPP exercise. Communications crosses most of the Emergency Response Outcomes, which have specific Emergency Evaluation Guides (EEGs) pertaining to communications, including both systems and how those systems are employed in transmitting information. The community's self-assessment should be combined with the formal exercise evaluation and used as the basis for the Communication Systems Benchmark input for the annual Report to Congress.

FEMA and the Army are available to assist with the technical requirements, interoperability implementation, IPAWS, and other issues as they arise.

Benchmark 5: Coordinated Plans

Coordinated plans for response to hazards from the stockpile for each Chemical Stockpile Emergency Preparedness Program (CSEPP) installation, state, and county. Figure 22 illustrates the alignment of Benchmark 5 to applicable *National Preparedness System* components and associated core capabilities.
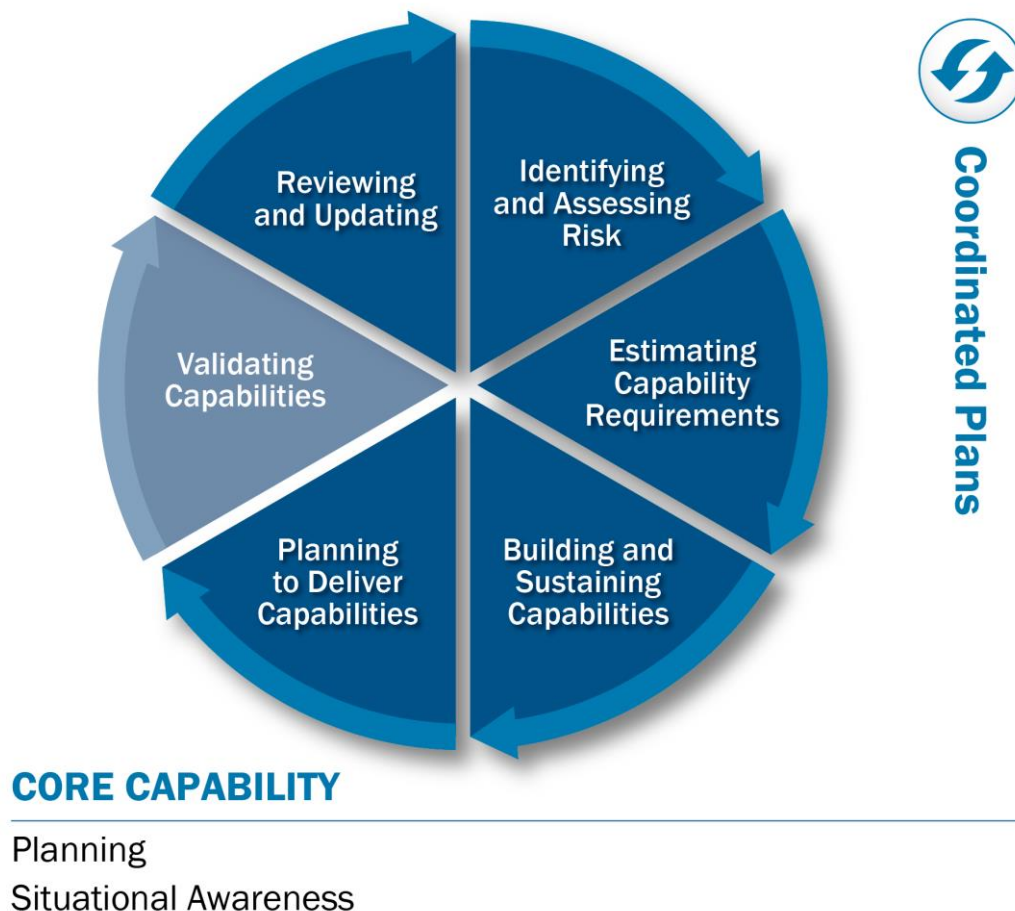

Figure 22: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 5

Intent

Installation, county, and state emergency planners prepare coordinated plans to respond to all potential hazards and related requirements, ensuring that all personnel and resources that have a role in responding to chemical accidents or incidents (CAIs) are taken into account. These plans outline roles and responsibilities; relationships among federal, state, tribal, territorial, and local agencies; and resources and actions required. CSEPP plans are updated periodically and tested during annual exercises to ensure all requirements are addressed and all personnel understand their roles and responsibilities. CSEPP emergency operations plans should be integrated with other emergency planning

and be consistent with CSEPP and other applicable federal, state, tribal, territorial, and local guidance.

Actions Required

- Identify assignments for primary and support roles and responsibilities for all key emergency functions.

- Develop procedures for implementing responses to a CAI for all emergency officials in public–, private–, and not-for-profit–sector organizations.

- Develop procedures for local implementation of the Joint Information Center (JIC)/Joint Information System (JIS) concept for emergency public information.

- Describe standard chemical event emergency notification systems being used and appropriate response actions based on each notification level.

- Develop policies for local implementation of public alert and notification system in accordance with the local protective action strategy.

- Specify relevant emergency personnel, units, and organizations and list associated equipment and/or systems assigned to support response operations.

- Maintain letters of agreement, mutual aid plans, and any memorandums of agreement (MOAs) or memorandums of understanding (MOUs) between local officials and other public, private, and not-for-profit organizations as needed to provide or direct resources to support a response.

- Conduct regular community review of plans and procedures to ensure synchronization.

Introduction

Current CSEPP plans capture and document each community's protective action strategies and the specific steps and responsible parties that implement them. Army installation, state, and local emergency planners worked closely together to develop coordinated plans and related procedures, which include all personnel and resources that have a role in responding to a CAI. Plans are updated annually and tested during the annual exercise to ensure continued coordination and that assigned personnel understand their roles and responsibilities.

Authorities and Responsibilities

Plans should reflect the allocation of responsibilities and authorities under current statutes. Multiple sources of authority and responsibility exist for chemical agent response, including the following:

- Environmental response (spill response, assessment, and cleanup) is authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and carried out in accordance with the National Contingency Plan (NCP).

- Federal disaster assistance is coordinated by the Federal Emergency Management Agency (FEMA) under the Stafford Act and the National Response Framework (NRF).

- Immediate actions to warn and protect the public and decision making regarding off-post protective actions and recovery are the responsibility of state and local officials as governed by state law.

Federal Authorities

CERCLA and NCP govern assessment, response, and cleanup of spills of hazardous substances. CERCLA authorizes the President to act, and the President, in Executive Order 12580, delegated cleanup authority to the U.S. Department of Defense (DoD) for spills that occur "on or from" DoD facilities. DoD in turn has delegated authority and responsibility for cleanup to the Army for events that take place on Army installations.

National Contingency Plan

NCP implements CERCLA and outlines procedures for environmental response. Under NCP, an On-Scene Coordinator (OSC) is designated to oversee response. The Army installation commander will designate an OSC in a chemical event. CERCLA and NCP authorize the OSC to call upon other Federal agencies to provide assistance. The OSC coordinates and directs federal efforts under NCP, including efforts to reduce (mitigate) the risk of further releases, assess the hazard to public health and the environment, and clean up any contamination. Army regulations and guidance pertaining to execution of OSC responsibilities are found in AR 200-1 and emergency planning and preparedness for Army installations in AR 525-27.

Stafford Act

The Stafford Act authorizes federal assistance to communities affected by an emergency or disaster. The usual procedure is that, when a disaster occurs, the Governor of the affected state assesses the damage and requests a Presidential declaration of emergency or major disaster. However, the FEMA Associate Director or a FEMA Regional Director can also request an emergency declaration, or another federal agency can make such a request through FEMA when the emergency concerns a federal government matter. Federal disaster assistance is carried out according to FEMA regulations and NRF. Under NRF, many federal agencies may be engaged in a primary or support role according to agency expertise and resources.

State and Local Authorities

Each state has an emergency management act that creates the emergency management agency and infrastructure for emergency response; mandates development of emergency plans and procedures; designates responsibility for taking action to protect the public in an emergency (the governor and generally a chief executive officer [CEO] at the county level); and provides a mechanism for declaring a "State of Emergency" to activate plans and invoke special policies and powers to aid response. In Kentucky and Colorado, the emergency management act allows the governor to declare a statewide emergency, and a local chief executive may declare a local emergency.

Responsibilities

Responsibility for protecting the health and safety of the public falls to state and local officials. This includes activating alert and notification systems; ordering evacuation or

shelter-in-place; closing roads, schools, and parks; and declaring curfews and other protective measures. Exactly who is authorized to make such decisions and their particular emergency powers is a function of state and local law and policy. Authorities in Colorado are found in C.R.S., Section 24-33.5-701 et seq., and Kentucky in K.R.S. Chapter 39A, Section 39A.100.

Consistency with National Planning Doctrine

Coordinated plans should maintain consistent intent, verbiage, and approach across jurisdictions, from local to state level, and align with national (DoD and Department of Homeland Security [DHS]) planning guidance (e.g., Comprehensive Preparedness Guide [CPG] 101, CPG 201). Plans should describe the responsibilities, requirements, and procedures for CAI planning across the five *National Preparedness Goal* Mission Areas—Prevention, Protection, Mitigation, Response and Recovery. Following national doctrine will ensure commonality of terms and definitions, content, and structure. Figure 23 illustrates current national planning doctrine to be integrated into all CSEPP plans.

National Incident Management System

Plans should reflect the use of the Incident Command System to manage response.

Comprehensive Preparedness Guide 101, Version 2.0

Plans should reflect the use of a common understanding of the fundamentals of risk-informed planning and decision making to help planners examine a hazard or threat and produce integrated, coordinated, and synchronized plans.

Comprehensive Preparedness Guide 201, Second Edition

Plans should reflect the use of the Threat and Hazard Identification and Risk Assessment process to include estimation of resources needed to meet the capability targets.

National Disaster Recovery Framework

Plans should reflect the Recovery Support Function structure for coordinating outside assistance.

National Response Framework

Plans should reflect the Emergency Support Function structure for coordinating outside assistance.

National Preparedness System

Plans should reflect the use of this organized process for everyone in the whole community to move forward with their preparedness activities and achieve the National Preparedness Goal.

National Preparedness Goal

Plans should reflect the use of the goal to prepared for all types of disasters and emergencies.

Core Capabilities

Plans should reflect the alignment of the applicable 32 core capabilities to the CSEPP National Benchmarks.

Figure 23: National Planning Doctrine

Army Response

The Army has specific functions, responsibilities, organizational requirements, and procedures for responding to CAIs and hazardous material incidents in general. Key documents include AR 50-6, Chemical Surety; Army Directive 2013-03, Chemical Accident or Incident Response and Assistance; AR 525-27, Army Emergency Management Program; and AR 200-1, Environmental Protection and Enhancement. Installation emergency plans for responding to a CAI are referred to as Army Chemical Accident or Incident Response and Assistance (CAIRA) plans.

CAIRA plans and capabilities are exercised quarterly, except for the quarter when the annual CSEPP exercise occurs. Off-post planners should be familiar with the installation CAIRA plan, especially those parts of the plan that relate to off-post activities (e.g., emergency assessment and notification, protective action recommendations [PARs], and coordination with off-post actions). Regular meetings and dialogue between community and installation CSEPP staff will help ensure that each organization understands the other organizations' roles, structures, and terminology.

FEMA Response

Effective planning, as described in Presidential Policy Directive (PPD) 8, spans protection, prevention, mitigation, response, and recovery. Planning should ensure that operations in all phases mesh with one another. CSEPP protection, prevention, and mitigation planning are the primary responsibility of the Army. Response and recovery planning are the joint responsibility of on-post and off-post organizations as described in the following sections.

State and Local Response

CSEPP–specific planning requirements should be addressed in a CSEPP–specific appendix or annex to the organization's all-hazards Emergency Operations Plan (EOP). The CSEPP appendix or annex should be based on the installation and community's assessment of hazards, risks, and vulnerabilities associated with the chemical weapons stockpile. It should be designed in accordance with local, tribal, territorial, state, and federal requirements, as applicable, and should be promulgated by the jurisdiction's chief elected or appointed official.

The all-hazards EOP or the CSEPP–specific appendix or annex should provide the following:

- Administrative elements, including a signature page, a record of changes, lists of abbreviations and program-specific terminology, a table of contents, and a record of receipt form

- Assignments for primary and support roles and responsibilities for all key emergency functions

- Detailed agency-specific or position-specific procedures for implementing whole community responses to CSEPP events for all emergency officials in public–, private–, and not-for-profit–sector organizations; procedures should address all benchmarks

- Specification of relevant emergency personnel, units, and organizations and lists of associated equipment and/or systems assigned to support response operations in the jurisdiction

- Identification of anticipated resource shortfalls and support requirements and identification of relevant outside resources to augment support

- A schedule for periodically updating annexes and associated standard operating procedures

- Inclusion of and references to letters of agreement, mutual aid plans, and any MOAs or MOUs among local officials and other public, private, and not-for-profit organizations that can provide or direct resources to support a response in the organization's jurisdiction

Zone Basis for CSEPP Planning

The extent and type of emergency response actions change as the distance from the source of a potential chemical release increases. Greater distance means that more time is available to implement protective actions. In addition, exposure to the hazard also decreases with distance as the concentration of agent becomes lower.

Recognizing that risk varies with distance from the source, emergency planning should be focused on geographic areas close enough to the installation to be considered potentially at risk. These areas are defined to serve as the basis for planning public warning and instruction, public protective actions, and protection of people with access and functional needs.

Two concentric zones are defined around each Army chemical installation. The inner zone is the Immediate Response Zone (IRZ), and the outer zone is the Protective Action Zone (PAZ). The IRZ encompasses an area requiring less than a 1-hour response time when exposed to a planning base agent release under "conservative most likely" weather conditions and extends to approximately 10 to 15 kilometers (km) (6 to 9 miles) from the potential chemical source. The PAZ extends from the outer edge of the IRZ to approximately 16 to 50 km (roughly 10 to 30 miles) from the potential chemical event source, depending on the nature of the stockpile, site meteorology and terrain, and population distribution. The PAZ is the area in which public protective actions may still be necessary in case of a release of chemical agent, but more time is expected to be available for implementation of protective actions. Figure 24 shows the Kentucky counties in the Blue Grass IRZ and PAZ, and Figure 25 shows the Colorado county in the Pueblo IRZ and PAZ.
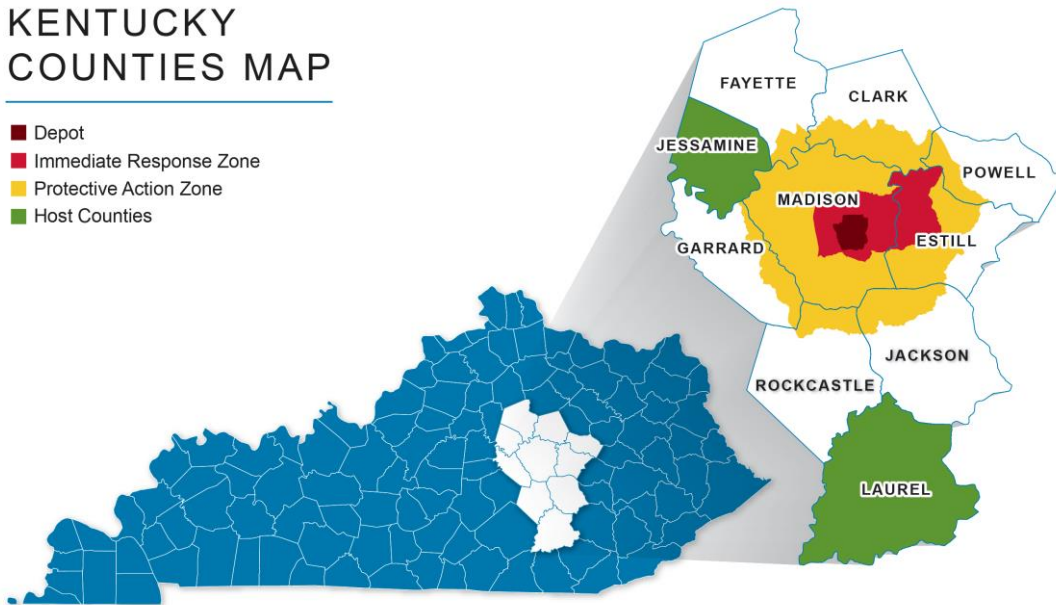
Figure 24: Map of Kentucky Counties in the Blue Grass Immediate Response Zone and Protective Action Zone
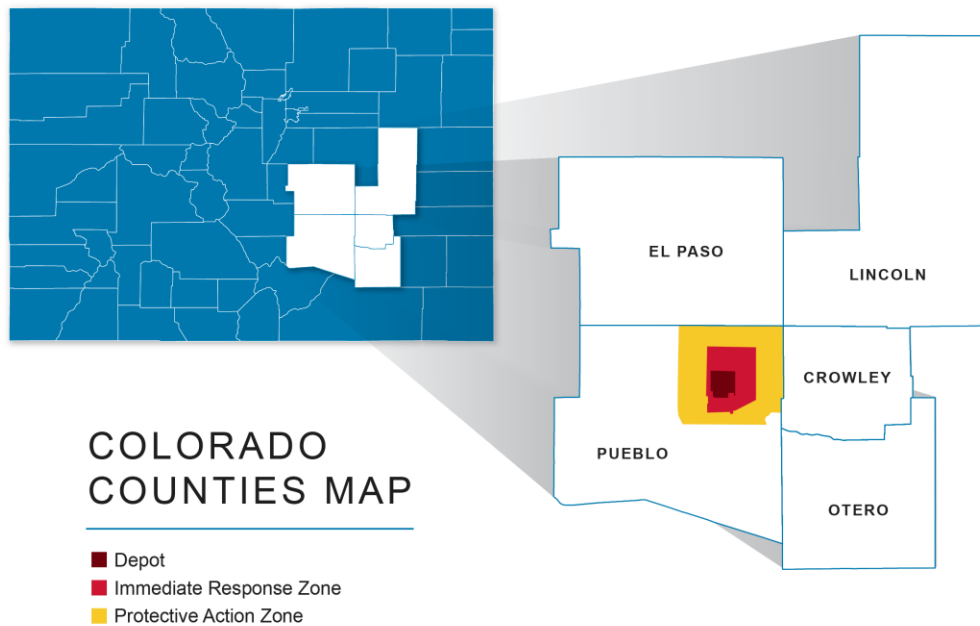
Figure 25: Map of Colorado and Pueblo County Immediate Response Zone and Protective Action Zone

Although considerations described above give representative distances for the boundaries of the IRZ and PAZ, actual boundaries accommodate local considerations. Zone boundaries have been adjusted to follow familiar landmarks and boundaries such as roads, rivers, and town or county boundaries. Following familiar landmarks and boundaries simplifies planning and allows emergency instructions to the public to be couched in familiar terms.

CSEPP communities also have designated sub-zones that divide the IRZ and PAZ into smaller units. Dividing the IRZ and PAZ into smaller units allows instructions to the public to be directed to the affected area based on conditions (e.g., wind direction) at the time of the accident or incident. As part of the CSEPP planning process, the IRZ, PAZ, and sub-zone designations are integrated into evacuation planning, emergency public information messages, and public education materials. Specific descriptions for the Blue Grass and Pueblo sites are provided in *Appendix C: Blue Grass Risk Snapshot* and *Appendix D: Pueblo Risk Snapshot*.

Protective Actions

CSEPP emergency plans should address the full range of protective actions for installation workers, the public including populations with access and functional needs, and emergency responders that are deemed appropriate for the community based on the nature of the chemical hazard and the specific characteristics of the community. Detail on protective action options and guidance on their suitability is provided in *Benchmark 10: Protective Action Strategies*. Selection of a protective action strategy for each CSEPP community should be a coordinated and interactive process involving planners and decision makers from the Army installation, the state, and affected local jurisdictions and be documented in their respective plans.

Coordination

CSEPP plans should align with federal, state, tribal, territorial, local, and installation plans to ensure a consistent and compatible approach across all functions and capabilities. Planning efforts among the CSEPP whole community should be coordinated. Agreements, including MOAs and MOUs, should be incorporated by reference.

Particular points of coordination are as follows:

- Alert and notification
- Protective action decisions (PADs) and implementation
- Evacuation, reception, and mass care
- Public education and emergency public information
- Medical preparedness
- Potential requirement for supplemental resources (identified through the Threat and Hazard Identification and Risk Assessment [THIRA] process)

CSEPP has developed additional guidance and tools applicable to coordinated planning:

- **Emergency Operations Planning Template (EOPT).** The CSEPP EOPT is an online tool that allows organizations to develop and maintain their EOPs consistent with current FEMA guidance. Access is available via password or Personal Identity Verification (PIV) Credential to the whole community upon request to the webmaster and contingent on approval by the FEMA system owner. The EOPT contains several all-hazards plan outlines drawn from CPG 101 together with reference material specific to each plan section as well as relevant NIMS requirements. The EOPT is designed to allow planners to collaborate online to develop and update their EOPs.

- **MOA/MOU Guide.** The CSEPP MOA/MOU Guide offers further guidance on agreements to support CSEPP–related preparedness. It gives general information about the process of developing agreements and provides example agreements for nine CSEPP–related functions: information exchange, alert and notification, firefighting, traffic and access control, medical support, JIS, sheltering of evacuees, off-post monitoring, and support from other military organizations.

Special Planning Issues

Comprehensive planning must incorporate an all-hazards approach, include both response and recovery, and consider populations with access and functional needs.

Recovery Planning

CSEPP plans should include provisions for recovery following a CAI. While much will depend on the details of the event (e.g., the amount of agent released, weather, area affected, time of year), some planning can be done in advance to expedite implementation of the recovery process. CSEPP planners should reference their respective state recovery plans when considering recovery following a CAI.

Unified Recovery Plan Recommended

It is recommended that a single, overarching recovery plan be developed to coordinate the activities of the installation, and state and local jurisdictions at a given site. The integrated approach is more efficient from a planning perspective (compared to separate, parallel plans for each jurisdiction) and will facilitate coordination among the organizations. Also, many aspects of recovery must be coordinated to be effective. For example, if several jurisdictions put in competing requests to the Army for monitoring services, confusion might result, and some important monitoring activities might be delayed. A coordinated plan would ensure that monitoring is conducted in proper order of priority. A single integrated recovery plan can be designed to accommodate the decision-making prerogatives of all included organizations. Jurisdiction-specific annexes may be appropriate in some cases to accommodate the unique needs of particular jurisdictions.

Resources for Recovery Planning

- **CSEPP Recovery Plan Workbook (April 2003)** is designed for use by CSEPP communities and provides a template for recovery planning. The template includes a basic recovery plan and covers recovery hazard assessment and decision making; management of access to restricted areas; protection of food and water; medical and

social services; relocation of residents; public information; claims and disaster assistance; and environmental remediation. The workbook also provides background, explanatory, and reference materials to aid planners. The workbook is available as a Microsoft Word file or as part of a recovery planning software package.

- **CSEPP Recovery Sampling and Analysis Plan Protocol (April 2008)** provides guidance on developing a recovery sampling and analysis plan. It lists necessary components for such a plan and covers pre-event and post-event sampling plan development, data validation procedures, and documentation and archiving.

- **CSEPP Exercise Implementation Guidance (2019)** addresses recovery functions and provides specific background information for exercise evaluators about recovery functions that may be demonstrated in a CSEPP exercise. They include initiating environmental remediation, initiating accident investigation, managing access to restricted areas, making and implementing ingestion-pathway decisions (food and water restrictions), medical screening, securing disaster assistance, temporary shelter for evacuees, monitoring and sampling, recovery-phase protective action decisions, implementing reentry, public information during recovery, support services for the Army community, and claims services. Recovery functions may be exercised as a follow-on to a regular annual CSEPP exercise, or in a separate seminar, workshop or tabletop exercise.

- **National Disaster Recovery Framework (June 2016)** contains FEMA recovery concepts and doctrine, and guidance for pre- and post-disaster recovery planning. FEMA also has a Pre-Disaster Recovery Planning Guide for State Governments (November 2016), a Pre-Disaster Recovery Planning Guide for Local Governments (February 2017), and a Community Recovery Management Toolkit.

- **CSEPP Guide for Assistance and Compensation Following a Chemical Event (June 2009)** is a resource on how to seek federal assistance to those who might experience injury or loss in the unlikely event of a release of chemical weapons agent from one of the storage installations in the continental United States. This guide was developed as a result of emergency exercises indicating that preparedness will be enhanced if an inventory of possible federal resources is available. The guide is provided for informational purposes only and is not intended as legal advice.

- **Community Recovery Plan Exercise Series After Action Report (October 2015)** provides a detailed analysis of processes, procedures, and best practices for post-event recovery efforts. This exercise series was designed to provide information on the process the Pueblo, CO, CSEPP community will follow in the unlikely event of a CAI. The exercise series was made up of five exercises that addressed recovery topics.

- **Colorado CSEPP Community Recovery Plan (January 2004)** outlines coordination and support activities that occur during the recovery phase following a chemical event at Pueblo Chemical Depot. The term "recovery" includes measures to assess the hazard and perform other urgent tasks in the area affected by the emergency; a controlled process for reentry, restoration, and remediation; and provision of services to persons, businesses and other organizations affected by the

emergency. The primary purpose of recovery activities is to protect public health and safety while returning the community to normal or near normal conditions.

Planning for Populations with Access and Functional Needs

Preparedness for a CAI includes protection of individuals with limited English proficiency (LEP), persons with disabilities, and others with access and functional needs. This includes working with facilities that host such populations (e.g., schools, pre-schools and day-care centers, nursing homes, and hospitals) and provision for individuals with access and functional needs who are living independently. Plans should integrate these populations at each stage of the preparedness and response process in order to ensure meaningful access for persons with LEP and effective communication, program access, and physical access for persons with disabilities and others with access and functional needs. FEMA's policy in accordance with Section 308 of the Stafford Act is annotated in Figure 26.

For CSEPP purposes, individuals with access and functional needs include people with disabilities, older adults, and populations having limited English proficiency, limited access to transportation, and/or limited access to financial resources to prepare for, respond to, and recover from the emergency.

It is FEMA's policy in accordance with **Section 308** of the **Robert T. Stafford Disaster Relief and Emergency Assistance Act**, as amended (Stafford Act), to ensure nondiscrimination on the basis of race, color, national origin, religion, disability, nationality, sex, English proficiency, sexual orientation, or economic status in all disaster assistance programs. Other federal laws also prohibit discrimination in FEMA's federally assisted programs, including **Title VI of the Civil Rights Act of 1964**, which prohibits discrimination based on race, color, and national origin (including language), and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination based on disability.

For more information on meeting requirements for persons with disabilities, see the FEMA publication:

*Accommodating Individuals With Disabilities In The Provision Of Disaster Mass Care, Housing, And Human Services Reference Guide**

Also, a recent Federal court case ruled that the **Americans with Disabilities Act** (ADA) requires consideration of the needs of disabled individuals in an emergency preparedness program. See CALIF v. City of Los Angeles (CV 09-0287 CBM [RZx] U.S. Dist. Ct., Central Dist. CA) (February 2011).

* https://www.fema.gov/media-library-data/20130726-1617-20490 -6430/section689referenceguide.pdf

Figure 26: FEMA's Policy in Accordance with Section 308

Plans should include measures designed to serve access and functional needs populations as appropriate based on their needs (including the use of service animals), protective actions that might be required, and available resources for assistance. For example, in addressing the needs of persons with LEP, planners should identify LEP populations in the community and consider measures to ensure meaningful access for these populations, which may include the following:

- Translating messages in the top languages of the LEP community
- Using ethnic media to support outreach
- Making interpreters available at meetings that are designed for the public or where there is public engagement
- Identifying individuals with verified language skills who are willing to volunteer during an emergency and are competent to do so
- Providing notice to LEP populations in their language(s) about the availability of free language services

In addressing the needs of persons with disabilities, planners should consider measures that ensure effective communication, program access, and physically accessibility, for example:

- Providing auxiliary aids to communication such as braille, video remote interpreters, and onsite interpreters
- Reviewing websites used to provide information to the public during disasters to ensure they are accessible to persons with disabilities
- Ensuring sheltering services and facilities are accessible to children and adults with disabilities

During the planning and review process, emergency planners should solicit and incorporate input from individuals and organizations representing persons with LEP, disabilities, and other access and functional needs. The process should also include representatives of vulnerable populations from school districts, daycare operators, colleges, and hospitals. State and local plans should be coordinated with emergency plans for school districts and other local institutions that host populations with access and functional needs.

Planning for Pets and Service Animals

Disasters and emergencies can have a direct effect on the well-being of humans, as well as their service animals or household pets. Although the care and safety of humans must be the primary focus in an emergency, planning for evacuation or sheltering of service animals and household pets is of great importance. Every plan should include information on transportation during evacuation; identification and tracking; congregate care/sheltering operations; emergency veterinary services; search and rescue; emergency feeding; and reporting requirements. It is important to note that, unlike a household pet, a service animal may not be separated from its handler, and the service animal is permitted by law to accompany its handler at all times and in all places supporting the general

public (e.g. during evacuation, mass care sheltering, and re-entry following the emergency).

CPG 101 provides guidance on incorporating service animals and household pets into emergency planning including a detailed checklist. Particular attention should be paid to building a comprehensive planning team with a broad base of knowledge in various disciplines including animal control, animal health monitoring, veterinary medicine, mass care, public information, public health, public safety, government, legal, and other such partners necessary for response.

Collective Protection

In specific circumstances, institutional populations such as schools and hospitals have been safeguarded through the use of collective protection systems. These systems modify the building's heating, cooling, and ventilation system so that in an emergency, air pressure in the building can be increased to prevent the infiltration of outside air. That protects building occupants by preventing infiltration of potentially contaminated air. The U.S. Army Corps of Engineers maintains these systems under contract to FEMA.

Benchmark 6: Emergency Operations Centers

Functioning emergency operations centers (EOCs) at each Chemical Stockpile Emergency Preparedness Program (CSEPP) installation, state, and county to support coordinated implementation of response plans. Figure 27 illustrates the alignment of Benchmark 6 to applicable *National Preparedness System* components and associated core capabilities.
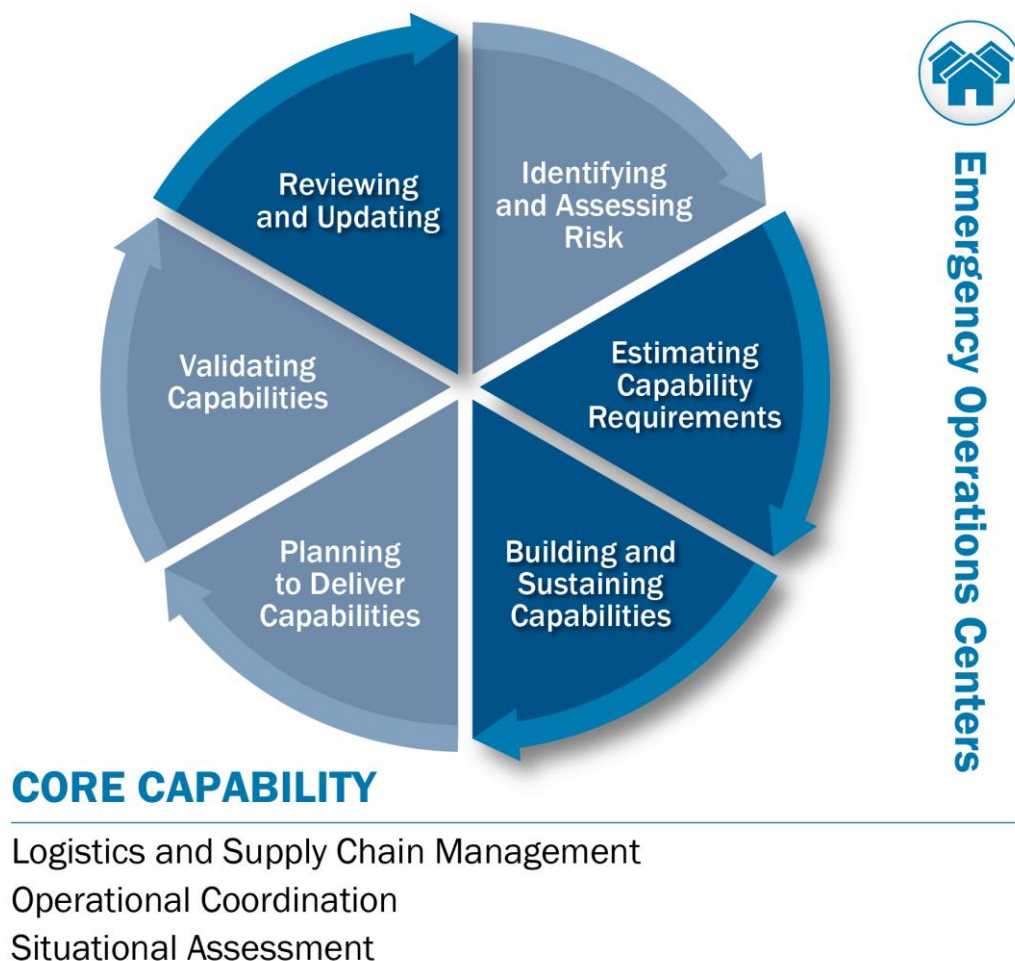

CORE CAPABILITY

Logistics and Supply Chain Management
Operational Coordination
Situational Assessment

Figure 27: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 6

Intent

A functioning EOC is the nerve center of any response to a chemical accident or incident (CAI). In the EOC, staff and officials provide direction and support to emergency responders in the field, and coordinate with other response organizations. As such, installations, counties, and states must ensure their EOCs are adequately equipped to support coordination of chemical emergency response and recovery operations.

Actions Required

- Provide adequate office furniture, equipment, and supplies to support operations and provide adequate storage space for medicines, food, additional office supplies, and any other equipment needed.

- Provide sanitary facilities and, if required, sleeping accommodations adequate for half the total assigned staff at a time.

- Provide an emergency power source with an independent fuel supply adequate for operating all necessary equipment.

- Provide necessary grounding and power-supply protection to ensure safe and continuous EOC operation.

- Provide a potable water supply that is adequate to support the fully staffed EOC and not dependent on commercial power or susceptible to disruption by disaster conditions.

- Provide a food supply adequate to feed the full staff for several days, which may be delivered from outside and/or stocked within the EOC.

- Provide a regular schedule for testing and maintaining the EOC equipment, including preventive and predictive maintenance plans for critical systems.

Introduction

The EOC is the central command and control facility for response to a CAI. Such facilities must be adequately equipped to support communications with other agencies, execute public warning, protective actions, other response actions, and coordinate recovery of areas affected by a CAI.

During an emergency response, staff at the EOC provide direction and support to emergency responders in the field, and coordinate with other jurisdictions and organizations. The EOC must be designed and equipped to support these functions, including adequate work space, communications and information technology equipment, displays and systems to promote situational awareness, protection for EOC personnel, and the ability to sustain operations for an extended period. The EOC should be set up in accordance with the National Incident Management System, and other national doctrine and best practices.

Building Design

The EOC building design should center on a hardened core where critical areas required for the EOC to function in an emergency will be located.

- Emergency Operations Room

- Auxiliary Communication Service, including Radio Amateur Civil Emergency Services/Amateur Radio Emergency Services

- Emergency Management Warning Point

- Communication and Equipment Server Room

- Building System Rooms (to support the areas above areas)

Where possible the EOC design should follow relevant design criteria and guidelines. A list of potentially relevant criteria and guidelines may be found in *Appendix K: Program Guidance and References*.

Building Systems

Building systems should be designed following the best practices, threat and vulnerability assessments, and management methodologies relevant to the potential threats for the proposed facility.

The building systems are then designed to mitigate these threats to ensure that the facility is operational during a disaster. Key building system design criteria should include the following:

- Redundant heating, ventilation, and air conditioning for critical building areas with outside air shutoff

- Provisions to continue operations when there is infrastructure damage; prudent practices include alternate power supplies, uninterruptible power supply backup generators, alternate communication transmission systems, and backup information storage

Where possible the building systems should follow relevant design criteria and guidelines. A list of potentially relevant criteria and guidelines may be found in *Appendix K: Program Guidance and References*.

Technology Systems

All technology systems needed to ensure a fully functioning EOC—including systems for alert and notification, plume modeling, and protective action decision-making, as well as tools to automate EOC business operations—must meet design guidelines provided in industry codes and standards, most notably *National Fire Protection Association 1221, Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*.

Grounding

EOCs should have an enhanced single point ground system as well as a rooftop lightning protection system. The grounding system will ensure that the people and communication equipment in the facility are protected from electrical surges due to lightning or grid disruptions (lightning is the number 1 natural hazard to protect against). An improperly grounded communications system can be completely destroyed with a single lightning strike. The grounding system should be designed to a 3-ohm resistance and follow *Standards and Guidelines for Communication Sites*.

Communications Towers

Since all EOCs rely heavily on communications, a communications tower should be located close to the facility. This communications tower will be used for mounting communication antennas, microwave and satellite dishes, and Global Positioning System equipment. The towers should be designed and constructed to the proper standards for loading, wind and ice factors, and other design criteria outlined in the Telecommunications Industry Association (TIA) and the American National Standards Institute (ANSI), including the latest revision of *TIA/ANSI Standard 222, Structural Standards for Communication Towers*.

An external communications shelter is recommended with a tower or as a stand-alone building where the communications equipment can be terminated (thus reducing the possibility of power surges if the communications equipment or tower is hit by lightning). If a tower is not available, the equipment should be mounted on the shelter. The grounding of the shelter and communications equipment should follow the *Standards and Guidelines for Communication Sites*. If a tower and communication shelter is not possible and the equipment is mounted on the EOC roof, proper lightning and grounding protection protocols must be followed.

Technology and Equipment

Since EOCs are the central command and control facilities responsible for carrying out emergency management functions, they are technology rich. A list of different technologies that can be useful in an EOC may be found in *Appendix G: Communication Systems and Equipment*.

Construction Requirements

Specific requirements are in place for using federal grants for any construction project, including compliance with all applicable federal, state, tribal, territorial, and local permits as well as environmental planning and historic preservation clearances. As provided in *44 CFR 10, Environmental Considerations*, the Federal Emergency Management Agency (FEMA) is required to consider potential impacts to the human and natural environment of projects proposed for FEMA cooperative agreement (CA) funding. Recipients of CSEPP funds shall provide all relevant information to FEMA to ensure compliance with applicable federal environmental and historic preservation (EHP) requirements. Any project with the potential to impact natural or biological resources or historic properties cannot be initiated until FEMA has completed the required EHP review.

Construction projects must be identified, justified, and approved during the life-cycle cost estimate process. The current CSEPP CA guidance should be consulted and followed prior to starting any construction project. FEMA Headquarters and Regional staff are available to assist with these requirements.

Benchmark 7: CSEPP Exercises

An exercise program that effectively tests integrated response capabilities and preparedness. Figure 28 illustrates the alignment of Benchmark 7 to applicable *National Preparedness System* components and associated core capabilities.
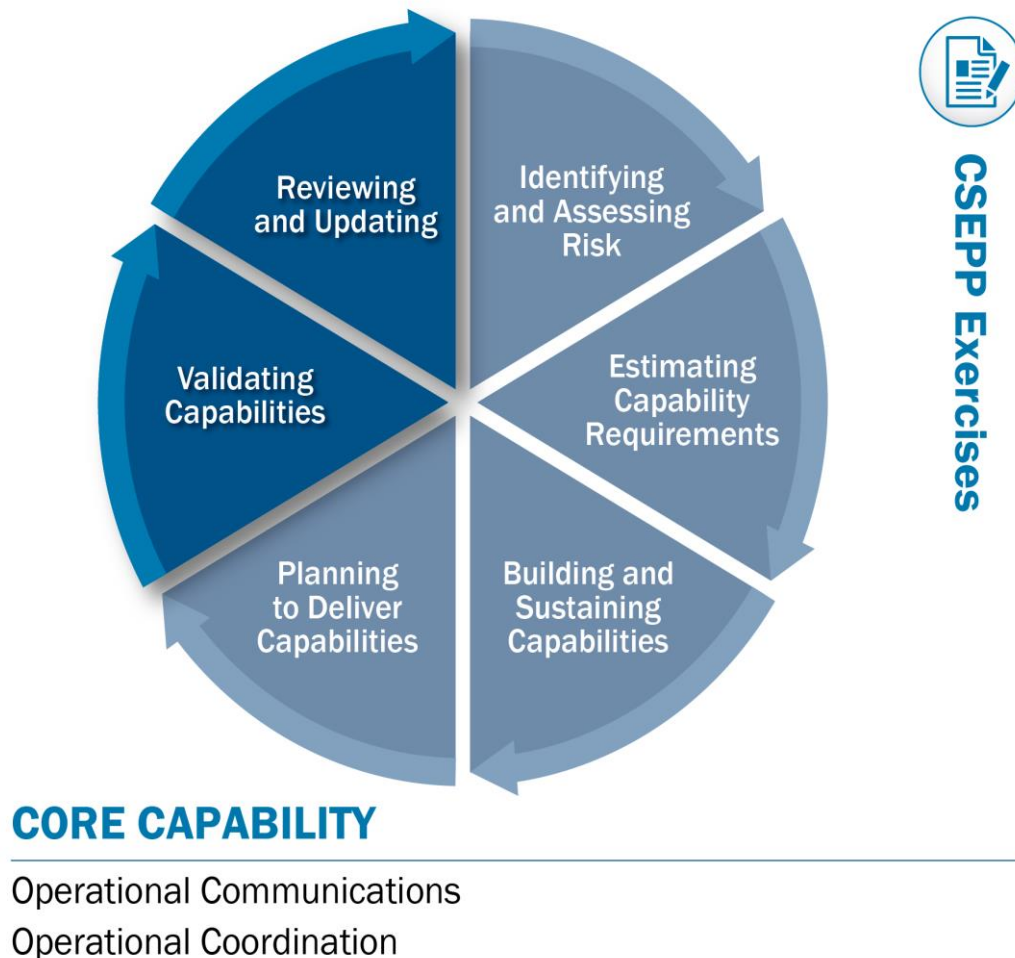

Figure 28: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 7

Intent

A well-developed exercise program evaluates and demonstrates the abilities of communities and installations to respond to chemical accidents and incidents. Exercises are an important element in evaluating implementation of emergency response plans and assessing adequacy of plans and procedures; the capabilities of federal, state, tribal, territorial, local, and installation response elements; availability of equipment; and coordination among response elements. Exercises also identify needed improvements and possible new funding requirements. Specific guidance on Chemical Stockpile Emergency

Preparedness Program (CSEPP) exercise planning, conduct, and evaluation is provided in the CSEPP Exercise Implementation Guidance.

Actions Required

- Prepare and submit an annual exercise date 2 years in advance of the current year to the CSEPP Training and Exercise Work Group.

- Assign adequate installation, state, and county representatives to serve on the exercise planning teams for each exercise and develop appropriate ground rules, concepts/objectives, and extent of play agreements (XPAs) to ensure robust exercise activity and demonstration of exercise objectives.

- Develop an XPA for each exercise to provide the basis for scenario development and document commitment to exercise participation. The XPA includes the assumption that the community will fully respond according to their plans, and will describe any deviations, such as simulations, out-of-sequence play, or non-participating organizations. The XPA also reflects the concepts/objectives that the community wishes to accomplish through the exercise, as well as demonstration of capabilities funded by CSEPP. The XPA includes demonstrations necessary to resolve issues identified during prior exercises.

- Ensure that installation commanders and community officials support all exercises with reliable and qualified evaluators.

Introduction

Exercises are a key component of national preparedness—they provide partners from across the whole community with the opportunity to shape planning, assess and validate capabilities, and address areas for improvement. Exercises allow personnel—from first responders to senior officials—to validate training, plans, policies and procedures, and practice strategic and tactical actions in a risk-reduced environment. Exercises are the primary tool for assessing preparedness and identifying areas for improvement, while demonstrating community resolve to prepare for an accident or incident. Exercises help organizations assess their capabilities so that gaps, vulnerabilities, and deficiencies are addressed prior to a real incident. They are a critical component of the continuous cycle of program management that is necessary to maintain readiness.

Program Exercises

The Army–Federal Emergency Management Agency (FEMA) memorandum of understanding (MOU) requires a cooperative effort to assess and improve the effectiveness of federal, state, tribal, territorial, and local response systems and procedures through design, conduct, and evaluation of exercises. As part of this effort, each CSEPP community conducts an annual exercise to demonstrate its capabilities to respond to a chemical accident or incident (CAI). These exercises follow Homeland Security Exercise and Evaluation Program (HSEEP) methodology for planning, conducting, evaluating, and reporting. Each Army chemical stockpile installation conducts quarterly Chemical Accident Incident Response and Assistance (CAIRA) exercises to demonstrate its response capabilities on post. The CSEPP Portal (under

Benchmark tab, Exercise) provides a repository of historical and current exercise-related documents. Exercises are regularly conducted within a local jurisdiction, between local jurisdictions and on post activities, and between multiple local off-post jurisdictions. All exercise participants support whole community preparedness and the CSEPP mission.

Program Exercises Types

HSEEP defines seven exercise types, ranging from seminars to full-scale exercises, and while CSEPP uses all of them, it routinely uses three major exercise types: full-scale, functional, and tabletop (shown in Figure 29). Traditionally, annual CSEPP exercises are full-scale exercises; however, other operations-based exercises such as functional exercises, discussion-based exercises such as tabletop exercises, or combinations of exercise types individually, or in series, may be used to meet programmatic needs at the national or community level.

Full Scale Exercise	• Mandatory, federally-evaluated demonstration of a jurisdictions full capabilities in a chemical accident or incident; annual requirement for one CSEPP full scale exercise • Driven by an Extent of Play Agreement negotiated with jurisdictions to address CSEPP emergency response outcomes
Functional Exercise	• Scale determined by co-directors and jurisdiction(s); exercise must be related to a chemical accident or incident; all jurisdictions should participate in the exercise, if applicable • May include out of sequence events (ex., tabletop exercise, training, etc.,) • Tests and validates specific capabilities (ex., emergency operations center, joint information center, hospital, decontamination, communications, etc.,)
Tabletop Exercise	• Used to assess plans, policies, procedures, and systems • May apply to mission areas (ex., Response, Recovery, etc.,) or procedures (sampling) • Useful for engagement of leadership and decision-makers • Building block to conducting a functional or full scale exercise

Figure 29: Three Types of CSEPP Exercises

Installations have an Army-mandated schedule of exercises (e.g., quarterly CAIRA exercises). Army Directive 2013-3 requires at least two CAIRA exercises per calendar year that incorporate external agencies identified in the CAIRA Plan. CSEPP exercises are conducted annually to evaluate integrated community response to a CAI.

States and other participating jurisdictions and entities may demonstrate emergency response functions for CSEPP exercise credit at other times (e.g., actual events, CAIRA exercises, Radiological Emergency Preparedness Program exercises, HSEEP, or other FEMA Grant Programs Directorate [GPD]–funded exercises). This must be done in

accordance with established FEMA policy and as approved by the FEMA Exercise Co-Director. This will be documented in the annual CSEPP Exercise Report.

Exercise Planning, Conduct, Evaluation, and Reporting

The CSEPP exercise program uses the HSEEP methodology. HSEEP provides a set of guiding principles for exercise programs and a common approach to exercise program management, design and development, conduct, evaluation, and improvement planning (shown in Figure 30).
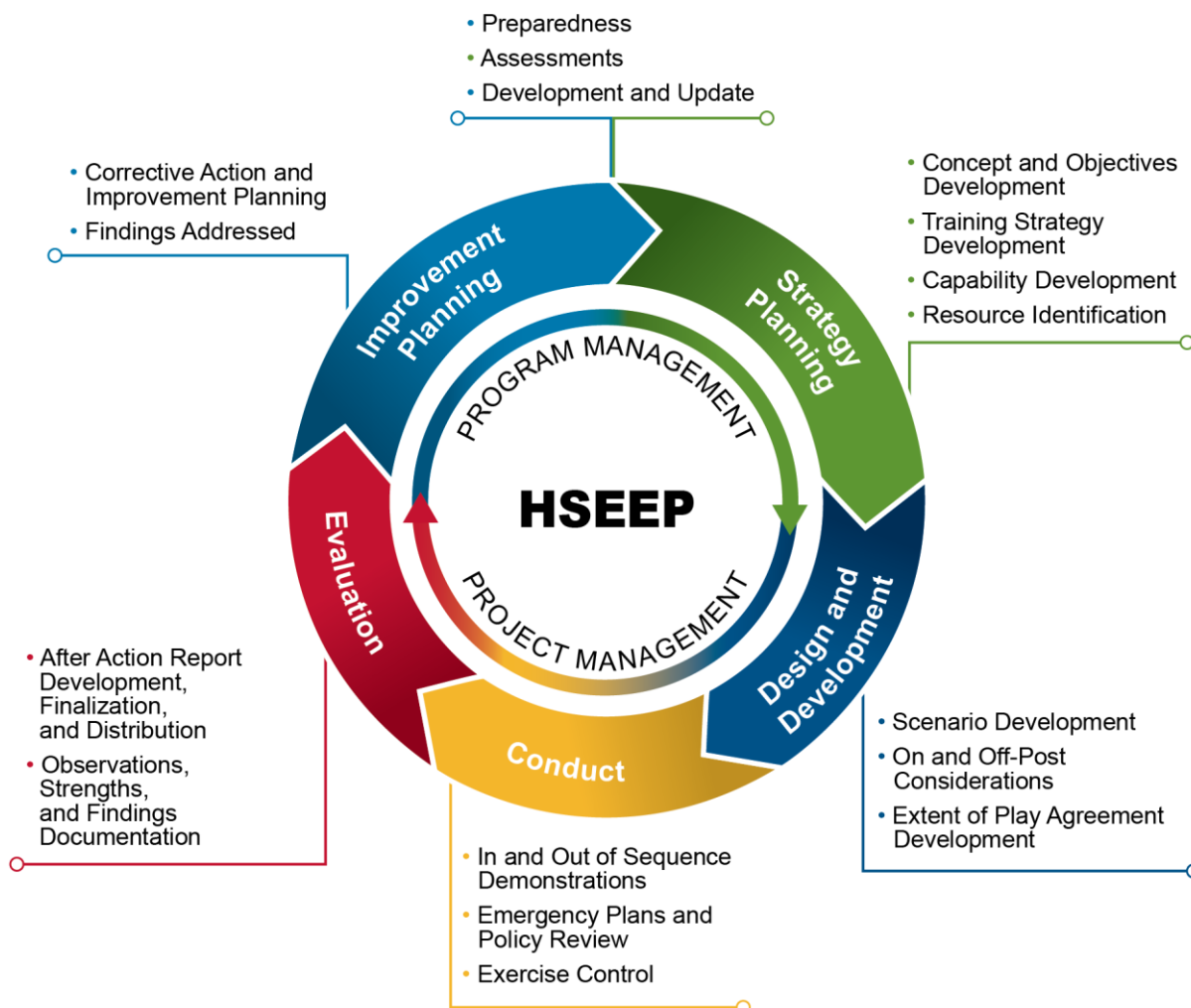

Figure 30: Homeland Security Exercise and Evaluation Program (HSEEP) Methodology

Through the use of HSEEP, exercise program managers can develop, execute, and evaluate exercises that address priorities established by CSEPP Army, FEMA, state, and local leadership. These priorities are based on the *National Preparedness Goal*, strategy documents, threat and hazard identification and/or risk assessment processes, capability assessments (e.g., State Preparedness Reports), and results from previous exercises and real-world events.

Planning the Exercise

An effective exercise program can only be developed and implemented through close coordination of representatives from all participating organizations. Planning the exercise brings together co-directors from the Army and the U.S. Department of Homeland Security (DHS)/FEMA, the state exercise coordinator, and local officials from the communities involved. CSEPP uses the HSEEP methodology and encourages states and communities to take a major and active role in the planning of their exercises. This process takes the better part of a year and is based on the schedule established in the CSEPP Exercise Implementation Guidance.

Conducting the Exercise

Within the parameters of the exercise extent of play agreement, the CSEPP community will demonstrate processes and procedures as defined in applicable emergency response plans, policies, and procedures during the exercise. This applies to the whole community, not just the individual jurisdictions. However, each jurisdiction should demonstrate for evaluation all actions in order to support the scenario.

Control

Under the direction of the co-directors, exercise controllers stimulate exercise play by injecting scenario inputs and simulating non-playing organizations. They also monitor exercise activities to ensure they are conducted safely. Controllers may be present at any evaluated location and also staff a simulation cell (SimCell) where they interact with each participating organization.

Evaluation

The CSEPP exercise evaluation methodology is organized around a standard set of eight Emergency Response Outcomes (EROs) (Figure 31) and is used in planning for and evaluating each CSEPP exercise. These EROs align with many of the 32 core capabilities outlined in the *National Preparedness Goal*. This alignment can be found in the CSEPP Exercise Implementation Guidance. Each ERO is divided into a series of tasks (called Exercise Evaluation Guides) to aid the evaluator in collecting data needed to determine if the outcome was successfully demonstrated during an exercise. EROs, Exercise Evaluation Guides, and supporting performance criteria are in Appendix C of the CSEPP Exercise Implementation Guidance.

01 Preparedness	05 Protection
02 Emergency Assessment	06 Survivor/Patient Care
03 Emergency Management	07 Emergency Public Information
04 Hazard Mitigation	08 Remediation and Recovery

Figure 31: CSEPP Emergency Response Outcomes

After-Action Report

The CSEPP exercise after-action report (AAR) documents the results of the exercise. The report provides a means for recommending improvements, tracking performance, and addressing findings noted in prior exercises. Exercise evaluation and development of the exercise report consists of analysis from the evaluators who observed the exercise play and may include player self-assessment. Development of accurate, useful information requires cooperation and candor between the evaluators, controllers, and players. Appendix A of the CSEPP Exercise Implementation Guidance guides AAR format and content. The Army and FEMA Co-Directors are responsible for developing and publishing the exercise AAR.

Exercise Roles and Responsibilities

During exercise play, participants perform various roles and responsibilities aimed at achieving exercise objectives and demonstrating core capabilities. Table 1 describes the roles and responsibilities associated with the conduct of CSEPP exercises.

Table 1: CSEPP Exercise Roles and Responsibilities

CO-DIRECTORS

These two positions are filled by staff members from the Army and the U.S. Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA). They work in partnership and are responsible for exercise planning, conduct, evaluation, and After-Action Report/Improvement Plan (AAR/IP) completion and have final decision-making authority concerning the exercise. The Co-Directors also assign, coordinate with, brief, debrief, and manage the exercise controllers and evaluators. They also brief involved officials before and after the exercise.

EXERCISE PLANNING TEAM

Each CSEPP exercise is developed by an Exercise Planning Team, which comprises the Co-Directors or designated representative, installation, State representatives, local emergency management staff, and representatives from other response agencies as appropriate. The Exercise Planning Team has the authority to make decisions and commit personnel and resources to support the exercise.

TRUSTED AGENTS

Trusted agents are representatives of federal, state, tribal, territorial, and local organizations who actively participate in exercise objective and scenario development. They plan, develop, and execute the exercise and are privy to the scenario. Trusted agents should be knowledgeable in the emergency response plans of their respective organizations. They provide crucial input during development of the Extent of Play Agreement (XPA) and in reviews of the exercise plan (ExPlan), exercise scenario, simulations and assumptions, and injects. They should ensure that chosen scripted injects accurately reflect their jurisdiction's plans and procedures and represent a realistic situation in a CAI. They should also be available during the exercise to assist in control of the scenario.

PLAYERS

Players respond to simulated events. Players should be familiar with their organization's plans and procedures and respond in a realistic manner, as the scenario drives. The XPA agrees to specific exceptions to the organizations' plans and procedures. Players must understand which organizations are participating in the exercise and how to use exercise communications directories. During the exercise, players demonstrate their proficiency in accomplishing tasks and responsibilities defined in their organization's applicable plans and procedures and CSEPP standards, using their current response capabilities.

CONTROLLERS

In operations-based and some complex discussion-based exercises, controllers plan and manage exercise play, set up and operate the exercise incident site, and possibly take the roles of individuals and agencies not actually participating in the exercise. Controllers direct the pace of exercise play, provide key data to players, and may prompt or initiate certain player actions and injects to the players as described in the Master Scenario Events List to ensure exercise continuity. Controllers issue exercise materials to players as required, monitor the exercise timeline, and supervise the safety of all exercise participants. Controllers are the only participants who should provide information or direction to players. The Co-Directors will designate a safety controller whose responsibility includes ensuring the safety of all exercise staff, observers, and visitors during exercise activity, from staff arrival and check-in through preparatory meetings, site visits, exercise activity, and demobilization.

EVALUATORS

Evaluators are chosen based on their expertise in the functional areas they will observe. Evaluators use Exercise Evaluation Guides to measure and assess performance, capture unresolved issues, and analyze exercise results. Evaluators passively assess and document players' performance against established emergency plans and exercise evaluation criteria, in accordance with Homeland Security Exercise and Evaluation Program standards and without interfering with exercise flow.

EMERGENCY RESPONSE OUTCOME (ERO) LEADS

ERO leads are responsible for compiling jurisdictional analyses related to their respective outcome. Each ERO Lead works with the Jurisdiction Lead and/or Team, as necessary, to compile the strengths, observations, or findings for their outcome.

JURISDICTION TEAMS/LEADS

Each Jurisdiction Team consists of the evaluators assigned to a specific jurisdiction to observe the exercise and collect data. The Jurisdiction Team prepares a timeline and develops an analysis for their jurisdiction. Jurisdiction Leads are the lead evaluator within a specific jurisdiction and are responsible for validating and submitting their jurisdictions' timeline and analysis to the respective ERO Lead.

MOCK MEDIA

Mock media work for the Exercise Co-Directors. Mock media are controllers acting in the role of real-world media, such as local and national television networks, radio stations, newspapers, and magazines. These simulated media representatives interact with player organizations only during the exercise. Mock media will not interact with the real-world media and must not "play" when in the presence of real-world media. Mock media typically interact with exercise participants at the Joint Information Center (JIC), at exercise locations open to public access, at emergency operations centers (EOCs) and medical treatment facilities to the extent agreed to by players, and from the Simulation Cell (SimCell).

REAL-WORLD MEDIA

Real-world news media are welcome to observe play during the exercise. Interested organizations should proactively make invitations to, and arrangements for, real-world media before the exercise, with the Exercise Co-Directors approval. These organizations should plan an appropriate itinerary at selected locations with knowledgeable escorts for media representatives. The exercise officials consider the group "invisible" for exercise play purposes. The mock media will not interact with the real-world media during the exercise. As part of the real-world media plan, the organizers may provide the media an opportunity to meet with "key" personnel at the exercise locations. The organizers should design this to ensure that there is minimal impact to the conduct of the exercise. See Appendix E for details pertaining to real-world media coverage of exercises.

OBSERVERS

Observers do not directly participate in the exercise; rather, they observe selected segments of the exercise as it unfolds, while remaining separated from player activities. Observers view the exercise from a designated observation area and are asked to remain within the observation area during the exercise. A dedicated controller or sponsor is assigned to manage the observers. Observers visiting multiple locations must have an escort and provide a proposed agenda to the Co-Directors for approval.

VERY IMPORTANT PERSONS (VIPs)

VIPs are a special category of observers, designated by the Co-Directors, and will wear distinctive identification/badges. The Co-Directors will provide escort for, and respond to, queries from VIPs. Additionally, in coordination with players, Co-Directors will provide VIPs with a tour, of selected exercise locations. The Co-Directors will prepare a VIP tour schedule and coordinate with the visited jurisdictions. Public affairs/information representatives or individuals familiar with CSEPP and the site will escort VIPs.

SPECIAL STAFF

Special staff personnel are those persons supporting management of the exercise. The special staff includes personnel assisting with safety, administration, briefings, communications support, information technology support, logistics, audio-visual support, site setup, public information, and protocol. Special staff personnel are essential to the success of an exercise, but they are neither controllers nor evaluators. They usually have no interaction with players.

VISITORS

Player organizations nominate visitors. These organizations present the nominations to the Co-Directors. The FEMA Co-Director has final approval on nominations by non-Army organizations, and the Army Co-Director has final approval on nominations by Army organizations. The organization may prepare an agenda for visitors if it escorts the visitors. The visited jurisdictions will coordinate in advance concerning unescorted visitors and visitor escorts.

VOLUNTEERS

Volunteers are frequently used in CSEPP exercises to enhance the realism of exercise play and facilitate performance demonstrations. Volunteers may serve in a variety of roles including evacuees at shelters, patients to be decontaminated, or hospital "patients." CSEPP has developed guidance regarding compensation for exercise volunteers.

Exercise Evaluation Process and Structure

Regardless of the scale and complexity of a CSEPP exercise, the Exercise Planning Team is most effective when it adheres to a coherent operational process and organizational structure. Generally speaking, the annual CSEPP full-scale exercise evaluation process uses a hierarchical structure that guides how evaluations are assigned, written, reviewed, and submitted. Prior to the exercise, the Co-Directors assign a Lead and team of evaluators to assist in assessing player actions within a jurisdiction (i.e., county, state, etc.). During the exercise, evaluators may evaluate at emergency operations centers, joint information centers, shelters, hospitals, decontamination sites, traffic control points, or other locations where exercise operations and player actions are occurring. After the exercise, evaluators write a narrative in collaboration with their Jurisdiction Lead and team that encompasses applicable strength(s), observation(s), and/or finding(s). The evaluator's documents are submitted to the Jurisdictional Lead for review; he/she may request additional information or clarification. When approved by the Jurisdiction Lead, the documents are submitted to the ERO Lead for review and validation; the ERO Lead may ask for additional information or clarification as well. Upon validation by the ERO Lead, the evaluators upload their documents to be compiled and integrated into the exercise AAR. The process and structure illustrated in Figure 32 reflects the scope of a CSEPP exercise and clearly delineates exercise roles and responsibilities; depending on available resources, the same personnel can be used to execute multiple functions.
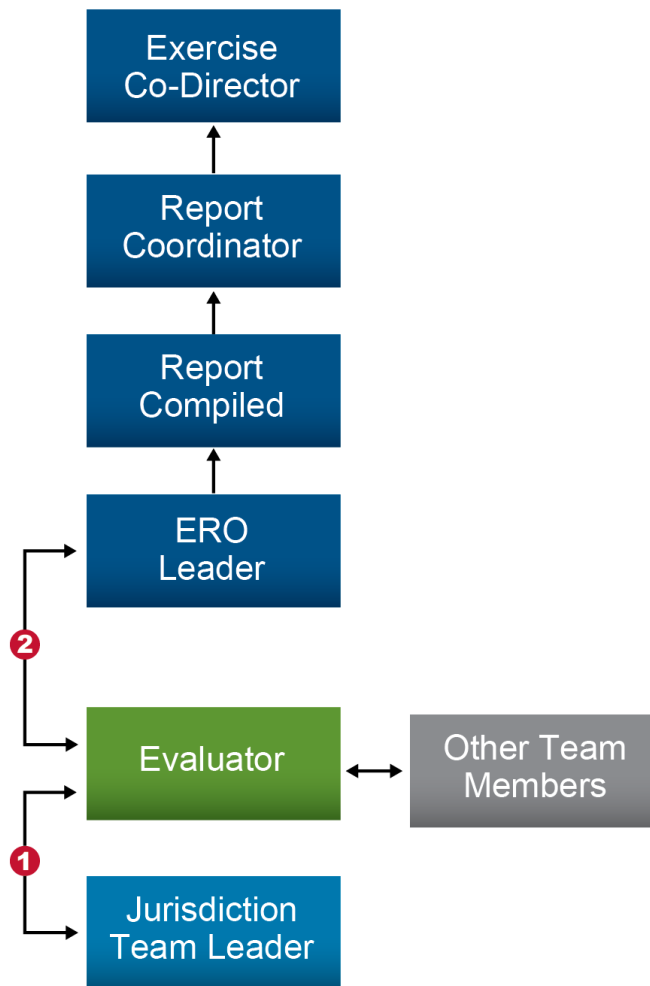
Figure 32: Sample CSEPP Exercise Evaluation Process and Structure

Community Profiles

In reporting the annual status of CSEPP efforts, the communities' CSEPP Program Managers provide a self-assessment of their capabilities prior to their annual exercise. This profile matches the current CSEPP National Benchmarks. Assessment of capability is based on analysis and assessment by each jurisdiction and agreed to by consensus during the community integrated process team (IPT) meeting. The community profile should be prepared at least 45 days prior to the exercise for incorporation into both the Exercise Plan and the final AAR, as described in Appendix A of the CSEPP Exercise Implementation Guidance. This profile is a tool for the exercise evaluation team to gain insight into the community's capabilities, as well as for the community to determine areas needing attention.

The community profile uses each of the 12 CSEPP National Benchmarks to assess each community's preparedness and response efforts as capable, partially capable, or not capable using the required actions and performance indicators associated with each benchmark.

- **Capable:** Fully able to perform emergency response activities (able to respond) in accordance with its plans, policies, and procedures

- **Partially Capable:** Able to respond, but needs minor improvement

- **Not Capable:** Unable to respond

FEMA Headquarters reports on chemical stockpile sites' community profiles and discusses how communities are improving and sustaining their capabilities in the annual CSEPP Report to Congress.

The exercise, when combined with benchmarks and other functional areas, assists in developing the overall community profile. The exercise results and community profile present annual assessments that drive actions toward improving CSEPP performance over the next exercise cycle.

Benchmark Specific Exercise Considerations

Some benchmarks have unique requirements specific to the assessment and validation of capabilities that must be considered when planning and executing the annual exercise.

Medical Preparedness

Evaluation of the elements of patient care as defined in the CSEPP Exercise Implementation Guidance begins on-post or at any entry point to the medical system and continues until final patient disposition occurs. CSEPP hospitals are required to participate in the community's annual CSEPP exercise. They are evaluated according to criteria described in the CSEPP Exercise Implementation Guidance and emergency preparedness standards set by their accrediting organizations.

The following elements should be included in each hospital and field decontamination site's XPAs for a CSEPP exercise. Actions should be demonstrated not simulated; the only situations where simulation should occur are in administration of medications and when, in the opinion of the evaluators, a safety risk exists. Responder/receiver organizations should consider demonstrating the following:

- Treatment of multiple patients presenting with chemical and conventional illness and injury

- Treatment of multiple patients exhibiting psychological signs and symptoms

- Emergency triage, patient tracking, and stabilization prior to decontamination

- Ambulatory and non-ambulatory decontamination or the demonstrated rationale of why decontamination is not needed

- Patient tracking throughout the continuum of care

- Decontamination and antidote administration identification processes

- Treatment of casualties, including antidote therapy if indicated

- Patient disposition

- Collection and decontamination of human remains

- Disposition of human remains

- Use of the Incident Command System, EOC, or hospital command center

- Personal protective equipment donning and doffing procedures

- Proper use of equipment, e.g., chemical agent detectors

- Communication with the joint information system

Public Outreach/Education

Identified joint information system members should train and exercise the joint information center (JIC) structure as often as possible, including cross-training in the specific JIC functions. All CSEPP exercises should include a proactive public information program.

Benchmark 8: Medical Preparedness

A medical program to support on- and off-post medical preparedness among first responder and receiver organizations for a chemical accident or incident (CAI). Figure 33 illustrates the alignment of Benchmark 8 to applicable *National Preparedness System* components and associated core capabilities.

CORE CAPABILITY

Critical Transportation

Environmental Response/ Health and Safety

Fatality Management Services

Health and Social Services

Mass Care Services

Public Health, Healthcare, and Emergency Medical Services
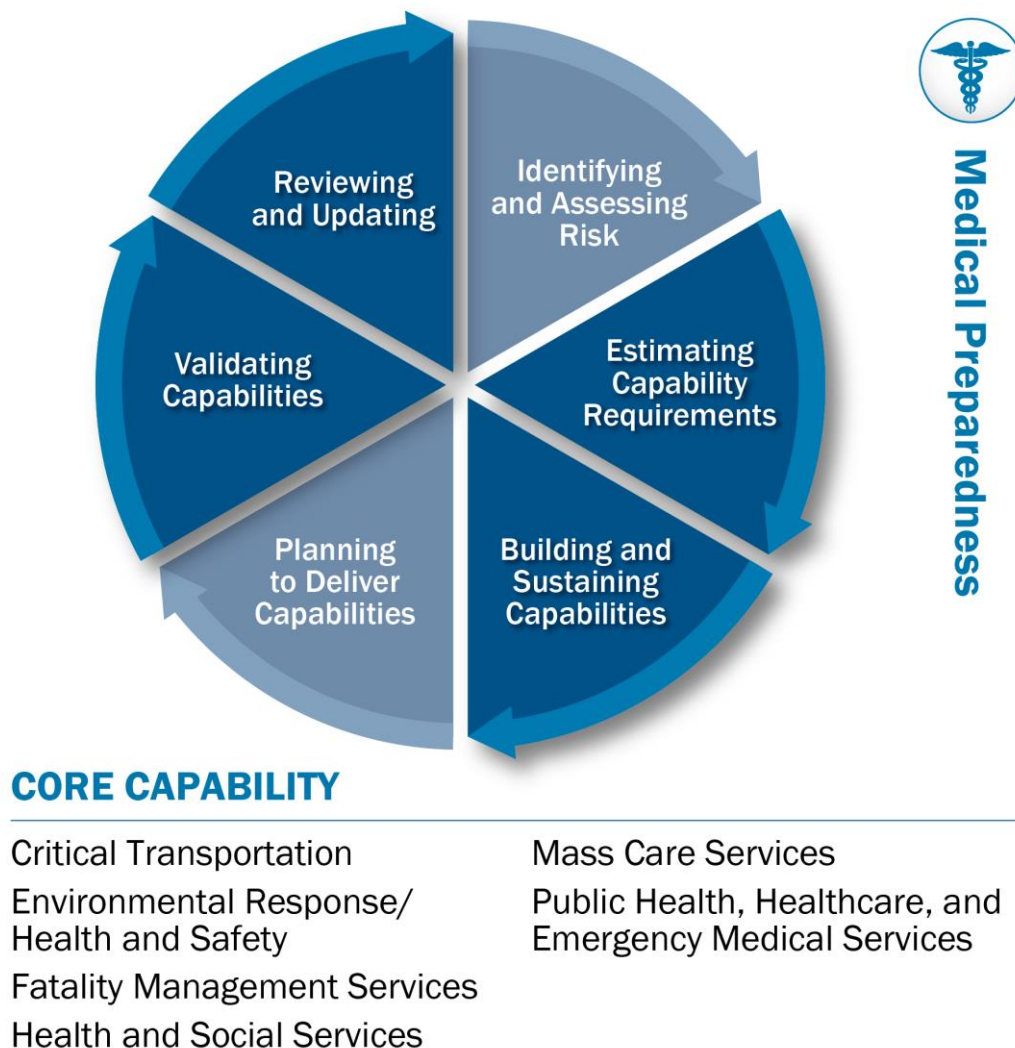
Figure 33: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 8

Intent

Chemical Stockpile Emergency Preparedness Program (CSEPP) installations and communities must be prepared to triage, treat, and transport casualties resulting from a CAI. This medical capability is based on plans and procedures that detail medical concepts of operations (CONOPS) and coordinated response actions to prepare for and respond to a CAI. These plans include anticipated response, medical resources, training,

and exercise actions. Medical training and exercises, including the use of medical countermeasures and personnel and/or patient decontamination, are vital parts of state and local emergency preparedness. Specific medical guidance is provided in CSEPP guides and evaluation tools developed by the program.

Actions Required

- Develop regular training for first responders and first receivers to perform specified patient care activities, such as screening, triage, treatment, decontamination, transport, disposition, and patient tracking.

- Develop medical emergency operations that are in accordance with CSEPP guidance and federal, state, tribal, territorial, local, and generally accepted standards for patient care and worker protection.

- Coordinate medical plans and procedures, as appropriate, with the CSEPP alert and notification system, the Joint Information Center (JIC), and the Joint Information System (JIS).

- Ensure that medical personnel participate in community response and recovery planning and community-based exercise and evaluation programs.

Introduction

A critical component of any community's ability to respond to an incident involving the release of a chemical agent is the ability to meet the medical needs of those individuals who may have been exposed to an agent. While the chance that such an incident would occur off-post is considered extremely unlikely, a coordinated response by the first-response community and hospitals is essential.

The Army Public Health Command, through a formal agreement with CMA, provides guidance and subject matter expertise for both on- and off-post medical support. The Army Public Health Command also provides planning, exercise development, and training assistance to partners across the program.

As part of the CSEPP's ongoing efforts to improve medical preparedness and response, the CSEPP Medical Work Group (MWG) has developed medical guidelines. These guidelines do not supersede current medical or public health practices and requirements. Local health and emergency management officials, working with Army personnel, must analyze the nature of possible releases at their location, determine what kinds of intoxication and what level of contamination might be possible, and match local or regional resources to the potential task.

Any CAI will likely place an additional strain on local medical service providers, even if a release does not affect off-post areas. If off-post populations are affected by a chemical release, local medical service providers will have to provide specialized screening and care for large numbers of persons who may or may not have been exposed to chemical agent. The following conditions should be considered in developing CSEPP medical planning:

- Release of a chemical agent from a chemical storage facility may affect local medical resources.

- Emergency medical, public health, mental health, and hospital services could be called upon to evaluate and treat a large number of actual or potential affected persons

- Chemical agent treatment and resources may be significant extensions of normal duties and will likely overwhelm the local medical and EMS community.

- Preparation for medical response should include written plans, policies, memorandums of agreement, memorandums of understanding, and procedures at CSEPP hospitals, field triage and decontamination points, and other locations where responders may encounter potentially exposed individuals.

- Care of chemical casualties may involve identification of agent, decontamination, administration of antidote (if appropriate), burn care (if appropriate), emotional support, and definitive care.

- Chemical agent exposure may result in physical medical consequences as well as long-lasting emotional and psychological effects.

- In case of chemical agent fatalities, removal of remains (both human and animal) may need to be anticipated.

Preparedness Tools

To ensure CSEPP medical programs support on- and off-post medical preparedness, tools and resources have been developed to promote an all-hazards approach for medical responders in CSEPP communities. In addition to the Medical Capabilities Review Report, tools and resources specific to a chemical hazard have been developed to better prepare CSEPP communities; all tools and resources are available on the CSEPP Portal.

CSEPP Medical Resource Guide

The CSEPP Medical Resource Guide was developed as a comprehensive tool to provide the pre-hospital and hospital communities with an all-hazards approach to emergency preparedness that emphasizes chemical recognition, decontamination, and treatment. This guide includes tools, regulations, guidelines, and a comprehensive list of relevant medical references and links.

The CSEPP Medical Resource Guide discusses standards and guidelines, planning tools, a comprehensive medical CONOPS, response and recovery information, and learning strategies. It features three general steps to assist with the development of emergency management plans:

- **Step 1: Pre-incident Planning and Preparedness.** This section summarizes medical preparedness planning and relevant regulatory requirements and accreditation standards. It also addresses the role of training and exercises to hone and maintain preparedness.

- **Step 2: Incident Response and Recovery.** This section discusses medical response CONOPS and the transition from response to recovery.

- **Step 3: Learning Strategies.** This section has a collection of best practices and opportunities for improvement.

Medical Evaluation Guidelines

The CSEPP Medical Work Group created Medical Evaluation Guides (MEGs) for pre-hospital and hospital planners. CSEPP pre-hospital and hospital MEGs are all-hazard, comprehensive guides that outline the critical elements of a medical response plan. These tools guide pre-hospital and hospital planners in performing an inventory of their capabilities.

OSHA Best Practices for Hospital-Based First Receivers

The Occupational Safety and Health Administration (OSHA) document *Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances* provides practical information to help hospitals address employee protection and training as part of emergency planning for mass-casualty incidents involving hazardous substances. Individuals who believe they have sustained chemical contamination may arrive at the hospital and require decontamination before medical care can be provided. First receivers at hospitals are different than first responders in the sense that first responders respond to the incident site and first receivers do not. This being the case, there may be slight differences in what is required of each entity in respect to level of training, regulations, and standards of practice. The Best Practices document includes guidance on patient decontamination, PPE, and employee training.

Medical Workgroup CSEPP Portal Page

The Medical Workgroup Portal page provides a repository of historical and current documents helpful to those seeking first responder and/or hospital information. It also provides Medical Workgroup meeting notes.

Definition of Medical Providers

Various terms are used to describe medical providers within CSEPP. This term is broad and inclusive; as such, words or phrases that may be used to describe medical providers are outlined below for awareness and clarity.

First Responders

The provision of on-scene medical care and decontamination by first responders may include fire, emergency medical services (EMS), and law enforcement. First-responder emergency services are regulated by state licensing or certification requirements, standard operating procedures, and contractual agreements. Emergency services plans and procedures should be well integrated into the community-wide response to a CAI, including integration with community hospital planning.

EMS that respond to a CAI must develop and maintain appropriate medical readiness. Capabilities include appropriate equipment, supplies, training, and participation in exercises.

Hospitals

CSEPP hospitals maintain capabilities to treat patients injured by chemical agents, including appropriate equipment, supplies, training, and participation in exercises. CSEPP hospitals may be designated by two different mechanisms: by the Army Chemical Installation through an MOA or through the Federal Emergency Management Agency (FEMA)/CSEPP approval process.

The hospital's emergency planner should have a clinical background or access to medical subject-matter experts and understand principles of emergency management. The planner should know where to access local plans and formulate a relationship with the local emergency manager. CSEPP planning is most effective when hospital plans are integrated into community and state plans.

Public Health

In a CSEPP event, local and state public health agencies may play a role in coordinating local medical response, arranging assistance to local medical care providers, and explaining medical consequences of the event to the public. During recovery, local and state public health officials may play a role in assessing evidence of any residual hazard; determining when areas may be opened for reentry; and coordinating any medical follow up to serve affected populations.

Other Healthcare Providers

In all CSEPP communities, it is important to acknowledge that other healthcare providers exist, such as freestanding medical facilities and mental health agencies. Freestanding facilities may include walk-in emergency clinics, public health clinics, rural health clinics, community health centers, and private physician offices. Mental health facilities may include hospitals, outpatient clinics, and components of disaster relief agencies, private practices, and governmental entities. These healthcare providers are part of the CSEPP medical community and work with the Medical Coordinator to implement the CSEPP medical concept of operations and receive periodic education on related issues.

Continuum of Patient Care

Medical planning begins with the on-post medical plans and procedures to handle the most probable event and continues with plans and procedures to mobilize on- and off-post medical personnel and EMS in response to a maximum credible event (MCE). Civilian emergency medical response resources include, but are not limited to, local ambulance services (ground and air), local fire services, law enforcement, local and regional hospitals, mental health resources, other healthcare providers, and state/county health departments (public health and coroner's office). The continuum of patient care begins on-post, or at any entry point to the medical system, and continues until final patient disposition occurs. MOAs between the installation and off-post medical treatment facilities are used to ensure coordination for the continuum of patient care.

Medical Preparedness and Planning

Medical planning for each CSEPP community involves integration of pre-hospital and hospital services. The CSEPP medical program includes not only hospitals but also public health resources and first responders such as fire, EMS, and law enforcement.

Medical Concept of Operations

Medical preparedness should be based on plans and procedures that detail the medical CONOPS and coordinated response actions to prepare for and respond to a CAI. These medical plans and procedures should be integrated with state and local emergency response plans and those of the Army installations. These plans should include anticipated response, necessary resources, and appropriate training. Key elements of CSEPP local medical preparedness include the following:

- Local first receivers should know how to recognize and treat symptoms of chemical agent exposure. Training should include the concept of prioritizing the patient's most urgent medical needs. First receivers and other local medical staff also should have received general training on chemical agents, their likely threats and hazards, and scenarios considered plausible.

- Hospitals should have the ability to decontaminate patients.

- Hospitals, the installation's medical entity, EMS and ambulance services, and local emergency management agencies should all be able to communicate with one another to share patient information, as appropriate and within legal and regulatory confines.

- There should be plans and agreements, as needed, to augment local medical resources if there are large numbers of patients.

- There should be plans and agreements, as needed, to augment local medical resources for continuing treatment of patients with severe agent poisoning.

- The community should have the capability to provide information to the public about the status of patients and the medical response effort, in a manner that is informative but respects patient privacy.

Medical Training

Medical training should be included as part of existing state and local programs and should be coordinated as part of an all-hazards approach. Training should be structured to take advantage of existing federal, state, tribal, territorial, and local training programs. The CSEPP Medical Resource Guide, Portal, and *Appendix J: Program Training Resources* contain lists of medical training opportunities.

Decontamination Planning

In the event persons originating off-post may have received agent contamination, proper decontamination will be necessary to prevent secondary contamination and chemical injury to medical and rescue personnel. Basic competencies required for removal of chemical agent contamination are the same as those for other hazardous materials emergencies. Hospitals should ensure use of proper equipment, facilities, training, and procedures to protect healthcare workers, perform successful decontamination, and

prevent contamination from spreading to other areas in the hospital. Hospital decontamination plans should address equipment, personnel, and procedural requirements. Additional decontamination guidelines for persons who may have been exposed to chemical warfare agent are located in the CSEPP Medical Resource Guide.

Medical Funding

CSEPP requirements for medical equipment, personnel, training, and exercises should be incorporated into the individual states' life-cycle cost estimates and the annual FEMA cooperative agreement (CA) process. CSEPP regional review and comment on the states' requirements is a key element of the validation process. Details as to those items considered eligible or ineligible for full or partial CSEPP funding will be identified in CA guidance and the Notification of Funding Opportunity (NOFO). Additional information regarding program funding can be found in *Benchmark 1: Administrative Support* and *Appendix E: Planning, Programming, Budgeting, and Execution*.

Medical Program Assessment

A self-assessment of medical capabilities throughout the community is provided using the community profile tool (additional information can be found in *Appendix F: Assessments*). Areas to consider include the following:

- Communication systems, equipment, facilities, and displays

- Medical services—first response, transportation, and facilities

- Screening, registration, decontamination, and congregate care of evacuees

- Individual item status:

  - Select PPE (suit, boots, gloves, and approved powered air-purifying respirators) on hand

  - Appropriate stocks of antidote on hand

Service Animals

Veterinary resources may also be a part of the community medical response. This is a coordinated effort between Emergency Support Function (ESF) #8—Public Health and Medical Services and various veterinary or agriculture agencies. Coordinated efforts may provide assistance in the pre-evacuation of families with pets and for necessary actions related to lifesaving, transportation, evacuation, or treatment of injured animals; small- and large-animal sheltering; animal decontamination; and disposition of deceased animals during response operations and in a post-disaster environment to ensure an effective response.

Benchmark 9: Qualified Personnel

Specialized personnel, such as the Chemical Stockpile Emergency Preparedness Program (CSEPP) manager, public information officer, planner, and information technology specialist, to support CSEPP activities at CSEPP installations, states, and counties. Figure 34 illustrates the alignment of Benchmark 9 to applicable *National Preparedness System* components and the associated core capability.
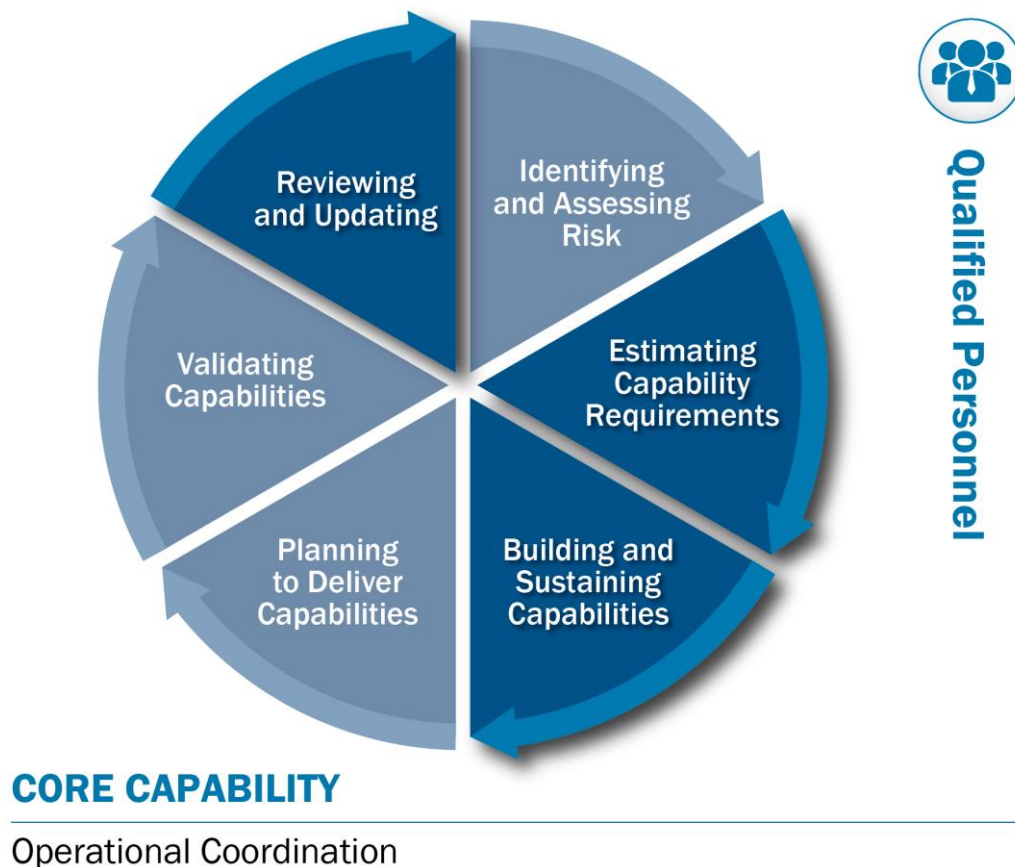
Figure 34: Applicable *National Preparedness System* Components and Core Capability Alignment for Benchmark 9

Intent

Trained and qualified personnel are vital to successful sustainment of installation, county, tribal, territorial, state, and federal response capabilities. Plans, procedures, and equipment are useless without people overseeing the effort who are prepared to implement procedures and coordinate response actions. These CSEPP–funded personnel run day-to-day execution of the program, including periodic program management tasks required to ensure that emergency responders are adequately trained and equipped to complete their missions.

Actions Required

- Establish an administrative system for performing day-to-day operations.

- Ensure employee job descriptions are developed as needed, detailing each position's specific assignments in the event of an emergency or disaster.

- Develop and update employee work plans yearly as part of the cooperative agreement (CA) package for program funding.

- Ensure that vacancies occurring in CSEPP–funded positions are promptly filled with qualified personnel.

Introduction

Trained and qualified personnel are essential to successful sustainment of installation, county, tribal, territorial, state, and federal response capabilities. Plans, procedures, and equipment are useless without people overseeing the effort who are prepared to implement procedures and coordinate response actions.

Program Personnel

CSEPP–funded personnel execute the program daily, including periodic program management tasks required to ensure that there is adequate training and equipment for emergency responders to complete their missions. Although the Federal Emergency Management Agency (FEMA) cannot support public- or private-sector first responder positions with CSEPP funding, jurisdictions have requested and received support for personnel associated with CSEPP functions, including the following:

- Administrative Specialist

- Communications Officer

- EOC Positions

- Exercise Officer

- Finance Officer

- Hazard Analyst

- Information Technology Coordinator

- Logistics Officer

- Medical Coordinator

- Operations Officer

- Planner

- Personal Protective Equipment Specialist

- Public Information Officer

- Training Officer

In conjunction with the annual budget request, jurisdictions must update position-specific work plans for all funded positions in CSEPPWebCA annually. These work plans describe the connection between projects and personnel supported under annual CSEPP CAs. In addition, FEMA has specified allowable and unallowable costs under this benchmark in the annual CSEPP Notice of Funding Opportunity (NOFO).

In accordance with the NOFO, CSEPP personnel positions fully funded by CSEPP are restricted in their availability to perform non-CSEPP activities and must work full time on CSEPP. CSEPP–funded employees can respond and support emergencies or disasters within their jurisdictions for a period of up to 2 weeks (14 days). Work plans should identify positions that are partially CSEPP–funded. The supervisor is responsible and accountable for ensuring that the individual's time performing for CSEPP is in direct proportion to the percent paid by CSEPP.

Benchmark 10: Protective Action Strategies

Protective action strategy for each jurisdiction that is based on the threat from the stockpile, consistent with response plans, and conforms to established Chemical Stockpile Emergency Preparedness Program (CSEPP) guidance. Figure 35 illustrates the alignment of Benchmark 10 to applicable *National Preparedness System* components and associated core capabilities.

CORE CAPABILITY

Environmental Response/Health and Safety
Mass Care Services
Operational Coordination
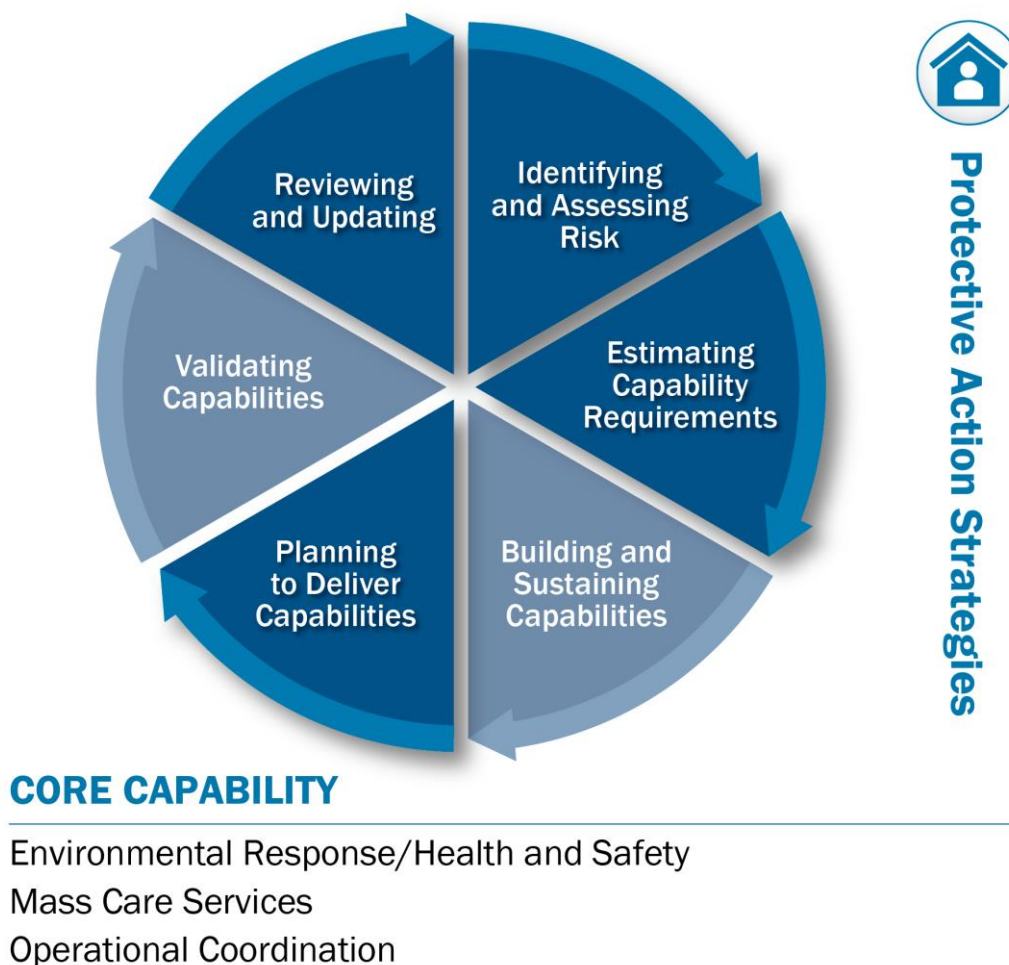
Figure 35: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 10

Intent

Each community surrounding a chemical stockpile site has a unique topography, infrastructure, and set of capabilities, and each installation holds a unique set of chemical agents and/or munitions. Because of these differences, each site requires a unique protective action strategy that enables communities to take necessary actions to protect themselves from exposure to chemical agents. These strategies account for plume

pathways, population density, highway network, evacuation times, weather, and other variables to ensure the maximum possible protection for people in potential hazard areas. To be successful, the protective action strategy must also be communicated, understood, and executable by the community.

Actions Required

- Develop a coordinated, local decision-making process for selecting and implementing protective actions that can be rapidly implemented on a 24-hour basis.

- Ensure the strategy is based on scientifically sound risk assessment methodology for chemical warfare agents.

- Address selection and implementation of access and traffic control points, criteria for combining evacuation and/or in-place sheltering as public protection measures, and protective measures for populations with access and functional needs.

- Identify procedures for safety and protection of emergency workers and measures to address potential impacts on domesticated animals, crops, and food and water supplies.

- Regularly review and adjust protective action strategies as needed in light of changes in risk, infrastructure, standards, or other factors that may affect choice of protective measures.

Introduction

The primary goal of CSEPP is to protect the public health and safety in accordance with the Congressional "maximum protection" mandate. The ability to rapidly implement effective protective actions for the public, on-post populations, and emergency responders is the overarching goal of the entire program and the benchmark that all other benchmarks support.

This benchmark describes the protective action options for CSEPP, including evacuation and shelter-in-place (SIP), and planning considerations for choosing and implementing chemical emergency protective actions.

Principles of Protective Action

A chemical accident or incident (CAI) triggers a sequence of actions both on the Army installation and in the surrounding communities. When protective actions are necessary to protect health and safety, installation authorities must provide on-post warnings, recommend actions to protect installation personnel, notify off-post warning points, and provide a protective action recommendation (PAR) for any affected off-post zones.

Off-post authorities are responsible for making a protective action decision (PAD) and alerting and notifying the public in affected zones; however, some of these actions can be delegated to the Army installation in accordance with local memorandums of agreement (MOA). The process of developing and implementing protective actions should be carefully planned between the installation and off-post authorities so that they can be executed quickly and effectively during an emergency. Because of the fast-breaking

nature of potential chemical stockpile emergencies, protective action strategies must be developed in the preparedness phase and cannot be done ad hoc, or after a CAI occurs.

Protective actions are activities that a population at risk engages in to obtain the best possible outcome in the event of a CAI. The principal desired outcome is avoidance of fatalities and other human health effects to the maximum extent possible. An additional goal is to minimize harm to property and the environment. A balanced protective action strategy consists of an appropriate mix of immediate evacuation and temporary SIP, with appropriate follow-on actions to end SIP.

Protective actions will provide the best outcomes if they are the following:

- Derived from a balanced protective action strategy

- Appropriate to the unique nature of the hazard and risk at each site

- Developed jointly between the Army installation and community officials

- Embedded in plans, agreements, training, exercises, public education, and emergency response actions throughout each CSEPP community

Initial recommendations, decisions, and directions to take a specific protective action in particular zones should be based on previously agreed-upon protocols and plume modeling and related calculations. While these initial recommendations, decisions, and directions might be based on incomplete information, the alternative of waiting for complete information (i.e., definitive monitoring or more sophisticated modeling results) will almost certainly put public safety at risk. Subsequent recommendations, decisions, and directions to modify initial protective actions (e.g., evacuate a larger area or end SIP in a specific area) must be developed and promulgated as thoughtfully and quickly as initial protective actions (shown in Figure 36). A balanced protective action strategy also assumes that some percentage of a population at risk may act contrary to direction and that people with access and functional needs might need special consideration. These concerns should be addressed in plans and MOAs and taken into account as response evolves.

Both on- and off-post authorities conduct regular reviews and adjust their protective action strategies as needed. Adjustments are based on changes in risk, infrastructure, standards, or other factors that may affect choice of protective measures.
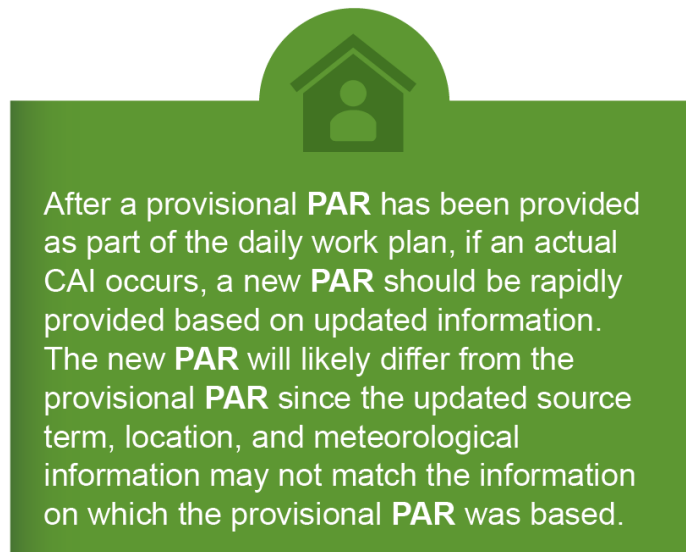
After a provisional **PAR** has been provided as part of the daily work plan, if an actual CAI occurs, a new **PAR** should be rapidly provided based on updated information. The new **PAR** will likely differ from the provisional **PAR** since the updated source term, location, and meteorological information may not match the information on which the provisional **PAR** was based.

Figure 36: Issuance of Protective Action Recommendations (PARs)

Protective Action Decision Making

PADs are made jointly between the Army and off-post community. PADs are issued based on the current, available information and are updated as the situation develops or as new information is received. This section discusses the decision-making process for developing and issuing PADs.

Responsibility for Decision Making

When a chemical emergency occurs, PADs must be made for individuals on the Army installation and within the affected areas of the off-post community. The Installation Commander has the responsibility and authority for initial chemical event response on-post, the protection of on-post personnel, and mitigation of the event's consequences. The Installation Commander is also responsible for providing appropriate PARs to the off-post community. PARs must be situation-specific and must be updated as the situation warrants. PARs should include recommendations to end SIP at the appropriate time, since this is essential to minimizing exposure to toxic agents.

State and local officials are responsible for making PADs for the off-post community. Off-post officials may choose to delegate authority for initial off-post PADs to Army installation officials in situations where a quick decision is needed to save lives. Any such delegations should be carefully developed and fully documented.

Time Available for Decisions

During any emergency, quick response is essential. A reasonable PAR or PAD that is issued quickly, based on pre-approved criteria of the community's protective action strategy and current community conditions, is better than a "perfect" PAR/PAD that is issued too late to be effective. Any delay in making PADs can occur at the expense of

fatalities in areas closest to the storage site. Detailed guidance on timing of making PADs and alert and notification can be found in *Benchmark 2: Alert and Notification*.

Coordination of Decision Making

Because of the limited time available to make this complex decision during an emergency, it is important that the process is carefully planned. It should be anticipated that there will be very little time for staff activation, consideration, discussion, coordination, or confirmation of circumstances before a decision must be made and implemented. Plans and procedures should document the method for quickly determining preferred protective actions and the areas to which they apply based on information that is expected to be available before and immediately after the event.

The decision process should be documented in a memorandum of understanding (MOU) that includes all relevant organizations. The MOU should indicate who will make PADs and how they will be communicated to the public, including circumstances, if any, under which the Army installation will initiate activation of public alert and notification systems and/or issue a PAD to off-post populations.

To prepare for the possibility of a CAI, at least once per workday, the Army installation should develop a hazard estimate based on the maximum credible event (MCE) for storage operations or emergency response planning scenario (ERPS) for demilitarization operations for that day's planned operations. The MCE/ERPS, along with real-time meteorological data, should be used with the Army's approved hazard models to develop a provisional PAR. The MCE/ERPS may change during the day, for example, if there is a change in planned operations or a significant change in meteorological conditions. In that case, an updated hazard assessment and new provisional PAR should be generated and transmitted to off-post authorities.

It is recommended that the Army installation and off-post authorities develop an MOU that describes when and how the installation provides daily work plan information, including the MCE/ERPS, to the appropriate points of contact off-post. Similarly, off-post authorities should provide daily information to the installation emergency operations centers (EOCs) regarding road closures or other conditions that might affect emergency response for the installation.

Determining the Appropriate Protective Action

A balanced protective action strategy that includes provision for evacuation and SIP should be incorporated into on-post and off-post CSEPP plans. Detailed guidance for developing a balanced protective action strategy can be found in the *Report of the Shelter-in-Place Work Group* and the *Shelter-in-Place Protective Action Guidebook*. Plume modeling using approved Army model(s) should be used to estimate the hazard for PAD-making purposes. Additional information on protective action options and implementation of protective actions follows this section.

When a CAI occurs, preferred protective actions for each affected zone should be chosen based on the following factors, as applicable:

- The identity of the chemical agent involved

- Projected areas affected by each Acute Exposure Guideline Level (more information can be found in *Appendix B: Technical Background*) threshold

- The time that the hazard is projected to reach each affected zone

- How long it will take to implement protective actions, including evacuation time estimates, and time needed to implement SIP, as applicable

- The degree of protection offered by local housing stock and other populated structures

- The current traffic situation (e.g., inclement weather or road closures that might impede evacuation)

Any SIP PAD must always include provision for terminating SIP to minimize exposure. In essence, SIP is a two-part decision that is not complete until the "end SIP" recommendation is made and an end SIP instruction is broadcast.

Zone Based Protective Action Strategies

The most effective and appropriate protective action may vary depending upon the distance from the hazard and the time required for a hazard to arrive. For example, evacuation is not feasible for areas where the plume arrives before a significant number of people at risk are able to evacuate the zone. Each CSEPP plan should sub-divide the immediate response zone (IRZ) and protective action zone (PAZ) into smaller sub-zones or response areas to permit more granular protective action decision making.

Army and off-post officials should evaluate the relative effectiveness of all available protective action options (detailed in the next section) to determine whether a single protective action is appropriate at all times for certain sub-zones or whether the optimum protective action for a sub-zone will vary depending upon the circumstances of the release and prevailing meteorological conditions. The full range of protective actions appropriate for each sub-zone should be documented in plans and procedures and used in conjunction with the Army hazard assessment model at the time of an actual emergency to determine zone-by-zone protection strategies. Zone based decision making for protective action strategies should be applied during all phases of a CAI; the zone basis is described in detail in *Benchmark 5: Coordinated Plans*.

Protective Action Options

There are three basic protective actions in a CAI: evacuation, SIP, and stay-at-home or standby. Any or all of these actions may be appropriate for different areas depending on factors such as time available before toxic plume arrival, protection afforded by shelters, and evacuation time estimates.

Important considerations for these options include the following:

- The threat level at which to warn the public

- Who needs to be warned

- The warning methods that are available

- What specific actions are to be taken

- Whether to issue a precautionary message

- How multiple protective actions are communicated to different audiences

- How updated protective actions are communicated

Evacuation

Evacuation consists of temporarily leaving an area of actual or potential hazard for a safe area. It is the most effective of all protective actions, *provided it can be completed before the arrival of the toxic plume*. Evacuation may be precautionary or responsive in nature. A precautionary evacuation is one that is based on risk of a toxic release but that takes place before any release has occurred. A responsive evacuation is one that occurs after a release. Both types entail similar planning tasks: estimating the number of potential evacuees, with particular emphasis on populations with access and functional needs; identifying the most appropriate evacuation routes; designating access and traffic control points (ACPs/TCPs); estimating the time needed for evacuation; and anticipating potential problems.

ACPs/TCPs should be designated ahead of time and based on pre-designated emergency planning zones. However, instructions to evacuate should not be delayed pending establishment of ACPs/TCPs. Staffing and equipment to set up and maintain ACPs/TCPs should be identified in the plans and procedures.

Shelter-in-Place

SIP is accomplished by isolating the individual from exposure to a hazard. Shelters may be congregate (for many people) or individualized (a home). Shelters may be existing structures, with or without upgraded protective measures, or facilities specifically designed to provide shelter from toxic chemicals. In CSEPP, there are four types of SIP:

- **Normal SIP:** Involves taking cover in a building, closing all doors and windows, and turning off ventilation systems. Effectiveness is improved by going into an interior room. The shelter should be ventilated or exited after the plume has passed.

- **Expedient SIP:** Is similar to normal SIP except that, after going into the room selected as a shelter at the time of an emergency, the inhabitants take measures to reduce the rate at which air or chemical agent enters the room. Such measures include taping around doors and windows and covering vents and electrical outlets with plastic. Effectiveness is improved if an interior room is selected as a shelter. The shelter should be ventilated or exited after the plume has passed.

- **Enhanced SIP:** Is similar to normal SIP except that it involves taking shelter in a structure to which weatherization techniques have been applied before the emergency to permanently reduce the rate at which air or chemical agent seeps into the structure. Effectiveness is improved by going into an interior room. The shelter should be ventilated or exited after the plume has passed.

- **Pressurized SIP:** Is similar to normal SIP except the infiltration of contaminated air is effectively prevented by drawing outside air into the shelter through a filter that removes chemical agent. This filtered air creates a positive pressure in the shelter so that clean air is leaking out instead of contaminated air leaking in.

The duration of protection offered by unpressurized shelters is limited. Because such shelters cannot be made completely airtight, they will eventually be infiltrated by chemical agent. People in the shelter will be exposed to gradually increasing concentrations of agent, and exposure will continue even after the chemical agent plume has passed outside of the shelter. Consequently, the protection offered by unpressurized shelter depends on exiting the shelter at the appropriate time; the dose-reduction advantage of SIP can be minimized or lost if the shelter is not exited at the right time. The Army has responsibility to notify off-post communities of optimal times to exit these shelters.

Stay at Home/Standby

Some CSEPP communities include a "stay-at-home" or "standby" recommendation among their protective action strategies. A "stay-at-home" option is employed when there is an event on-post that might create public concern but the expectation of hazard off-post is not sufficient to warrant evacuation or sheltering in place. The public is requested to stay away from the depot, limit travel, limit telephone calls, and wait for more information.

A "standby" instruction to persons in certain protective action zones to remain where they are and monitor emergency information may be issued to allow directly affected zones to evacuate quickly. The goals of a standby or stay-at-home strategy are to keep the public informed and to facilitate response by keeping local roads clear for emergency vehicles and evacuation traffic. Like any protective action option, if it is to be used in an emergency, the standby or stay-at-home option should be addressed in plans, training, and public education materials.

Protective Action Implementation

Protective actions are implemented differently within each CSEPP community. This section outlines key considerations for implementation of protective actions to be documented in CSEPP plans and procedures. An additional resource available to support planning efforts is the CSEPP Protective Actions Toolkit. The toolkit is available on the CSEPP Portal and provides detailed information on the theory behind protective actions, key actions for consideration, checklists, and other useful references to enhance understanding and implementation of protective actions.

Evacuation

Plans and procedures for implementing evacuation should include the following:

- Time estimates for evacuating each subzone or subzone clusters of the IRZ and PAZ

- Designated evacuation routes associated with each zone

- Public instructions developed for each zone, including designated evacuation routes, reception center locations, and brief instructions on what to take along (instructions should be consistent with pre-distributed public education materials)

- Provision for law enforcement personnel to assist with traffic management, including identifying ACPs/TCPs at key intersections along evacuation routes

- Designated reception centers set up for evacuees or persons relocating after shelter

- Provision for populations with access and functional needs

- Provision for measures to help people who, for whatever reason, did not evacuate after the recommendation was given

- Provision for companion animals

- Plans for responding to spontaneous evacuations that may occur even if evacuation is not a directed public action

Shelter-in-Place

Plans and procedures for implementing SIP should include the following:

- Public instructions that are consistent with public education materials that have been distributed and cover the following points:

  - The importance of prompt compliance

  - Brief instructions for expedient shelter

  - Reference to public education materials that have been previously distributed

    - Instructions should reference public education materials but should not assume knowledge of them. There may be considerable numbers of persons who lack exposure to prior public education efforts.

  - Use of SIP kits, if they have been distributed

  - The importance of having some means of mass communication (Internet, radio, telephone, television) to receive exit-shelter instructions

- Control of access to the sheltered area

  - ACPs/TCPs should be identified along with resources (e.g., staff and barricades) to implement control.

- Provisions for possible relocation after termination of SIP

  - Relocation implementation measures are similar to those for evacuation and should include designated routes, reception centers, traffic management, provisions for populations with access and functional needs, and provisions for companion animals. Relocation after SIP should not be automatic but based on documented actual conditions that may imply existence of a residual hazard.

Maintaining Shelter-in-Place

The expected time to remain in shelter is likely to be brief (30 minutes to 4 hours); therefore, most individuals will have no need to collect supplies, such as medications, prior to sheltering. Once established, the integrity of the shelter should be maintained to protect against air infiltration. It is permissible to briefly open an entry to the shelter to allow someone to enter if the alternative is to deny shelter to someone in need. It is unlikely that this will significantly decrease the protective value of the shelter. Occupants should not leave the shelter or the room within the shelter that provides for the least air infiltration for any reason other than an immediate life-threatening medical emergency until instructed to do so.

A device to monitor emergency alert system (EAS) or other emergency messaging technology is essential in the shelter for receiving instructions on exiting SIP. In addition, a portable or mobile phone is useful. To avoid overload of local telephone services, the telephone should not be used while in a shelter except for a dire medical emergency or to report clear symptoms of nerve agent exposure. Local plans and public education materials should cover who to call in the event of a medical emergency while sheltered and what range of responses are likely.

Ending Shelter-in-Place—Timing

Ending SIP at the appropriate time is key to its protective effect. For each zone where the public has been instructed to take a protective action, the Army installation should provide a timely recommendation to exit shelter. Exit-shelter recommendations should be based on plume modeling to estimate hazard levels at downwind locations. The model should have the following characteristics:

- It should be based on when the plume concentration outside becomes less than that inside shelters.
- It should consider the dose-response relationship that is most relevant to the effects of the agent on a sheltered population.
- It should consider exposure before, during, and after SIP.
- It should provide information to minimize fatalities.

In addition, timing for ending SIP is most crucial for areas close to the source of the release where dangerous concentrations are more likely to be encountered. The procedure for ending SIP should to distinguish between areas close to and areas further away from the release source.

Ending Shelter-in-Place—Method

Recommendations on how to end SIP will depend on several variables. Ventilation of the shelter is important if the shelter is within the hazard wedge or risk envelope and the occupants are going to remain inside because they cannot exit. If they are going to exit or relocate, ventilation is not as important, and the additional time involved might result in additional harmful exposure in the process. In addition, some people might be reluctant to leave their homes unsecured and delay their exit and relocation while they secure their

valuables or collect their valuables to take with them. Below are options for how to end SIP:

- **Resume normal activities with no restrictions.** Resuming normal activity with no restrictions would be an appropriate action for persons who were never in danger but who were sheltered as a precaution. This is the usual interpretation of "all clear."

- **Ventilate the shelter but remain indoors.** In some cases, the best action to end SIP might be to remain indoors but ventilate the building by opening doors and windows, removing tape and plastic installed during expedient sheltering, and turning on ventilation equipment. (This might be the only option for populations with access and functional needs.) This option also might apply when the weather is such that remaining outside for an extended period is inadvisable or when there is believed to be some other hazard outdoors to be avoided.

- **Exit the shelter and remain nearby.** To decrease overall exposure, it might be appropriate to instruct the public not to take the time to open windows, remove tape, and turn on ventilation equipment prior to leaving the building. Rather, they should simply go outside and let the building ventilate itself gradually. The potential for aerosol deposition (creating a contact hazard) is a minor consideration, since it is such a remote possibility and not likely to be a safety factor at significant distances from the source, even if the event generates an agent aerosol. This might also be the best option for persons who lack transportation to relocate.

- **Relocate to a designated facility.** Local officials may direct that, upon the termination of SIP, sheltered populations should relocate to designated facilities to be accounted for and medically screened for agent exposure symptoms. In that case, instructions are to exit from shelters and proceed immediately to a place where this follow-up can occur. Instructions should identify the routes to take to avoid encountering the plume again and traffic bottlenecks. Designated routes and facilities for relocation might not be the same as for an initial evacuation. In dire circumstances, such as if the duration of the release is longer than originally expected and SIP is no longer a good choice, sheltered persons might be asked to relocate immediately to a safer place.

Collective Protection or Overpressurization

In specific circumstances, institutional populations such as schools and hospitals have been safeguarded through the use of collective protection systems. These systems modify the building's heating, cooling, and ventilation system so that in an emergency, air pressure in the building can be increased to prevent the circulation infiltration of outside air. That protects building occupants by preventing infiltration of potentially contaminated air.

Where pressurized shelters have been developed, protective action procedures should ensure that separate instructions are issued for persons in those shelters. Persons in pressurized shelters are not subject to the same time constraints as those in unpressurized shelters; the protective properties of the shelter will continue for a longer period than in an unpressurized shelter.

Reception and Care of Evacuees

Persons advised to evacuate (or to SIP and then relocate) should be advised to proceed along designated routes to locations where they can receive further emergency services, including reception and mass care. *Reception*, as used in this guide, refers to a process in which evacuees receive a very quick evaluation for medical needs, receive expedient decontamination if necessary, are referred for further medical care if needed, may be registered for tracking purposes, and are referred to a mass care shelter if they need a place to stay. A *reception center*, as used in this guide, refers to a location where reception functions are performed. A reception center can be at a facility or at an ACP/TCP. *Mass care*, as used in this guide, refers to providing shelter, food, and other services in a temporary residential setting.

Reception Center Functions

Reception centers should be located as close as possible to the area affected by the emergency. The farther away they are, the longer it takes to travel there, which may be detrimental to evacuees who need help (e.g., those suffering effects of agent exposure). Reception centers should be located where large flows of traffic can be handled quickly and efficiently. Reception center staffing should include law enforcement personnel for security and traffic management.

Upon arrival at the reception center, evacuees should be quickly evaluated for signs of agent exposure or other medical distress. Speed is essential for this process since there may be a few people with potentially serious medical problems among a very large number of relatively unaffected people. The reception center should be designed and staffed to promote this quick evaluation. For example, an emergency medical technician [EMT]-trained "greeter" might perform a quick visual exam of incoming evacuees and ask them a few questions, such as where they came from, when they left, whether they were SIP first, and whether they are experiencing a short list of agent systems such as dim vision or headaches.

Evacuees showing symptoms of agent exposure should be offered immediate expedient decontamination and referred for further medical treatment, which might include complete personal decontamination. *Expedient decontamination*, as used in this guide, refers to removing the outer layer of clothing, washing exposed skin and hair with soap and water, and providing suitable replacement for outer clothing. *Complete personal decontamination* refers to washing the entire body with soap and water and a complete change of clothing.

Evacuees showing other signs of distress (not apparently agent-exposure–related) should also be referred for further medical treatment. Preferably, EMTs and at least an expedient decontamination capability available at the reception center.

Evacuees who do not need immediate medical attention should be offered the following services:

- Registration to establish that they arrived at the reception center, account for their personal safety, and allow for reuniting families who have been separated.

▪ Mass care for those who need a place to stay.

To the extent that these services are provided at the reception center, the reception center should be arranged and managed so that evacuees waiting for these services do not cause a bottleneck that slows down the medical screening process for subsequent arrivals.

Mass Care Functions

Based on past evacuations from various natural and technological emergencies, generally about 15 percent to 30 percent of evacuees receive assistance at mass care centers. The American Red Cross typically operate mass care centers pursuant to national and local agreements. The American Red Cross has established guidelines for selecting facilities for use as mass care centers and has procedures and training on how to operate them. American Red Cross guidelines prohibit co-locating a decontamination operation with a mass care facility. Facilities to be used for mass care should be pre-designated and generally should be located outside the PAZ.

American Red Cross activities in mass care centers must be coordinated with other emergency response functions. Therefore, it is desirable to have an American Red Cross liaison at one or more off-post EOCs to handle inquiries about missing persons, track the number of persons at mass care centers, and coordinate with other response organizations. Mass care centers may need support from local jurisdictions for law enforcement, traffic management, transportation, medical care, and other functions.

Access and Functional Needs

As indicated in *Benchmark 5: Coordinated Plans*, emergency plans should take into account populations with access and functional needs during preparedness and response so that these populations are protected at least as well as the general population. Recommended preparedness and response measures for these populations include the following:

▪ Maintaining contact information

▪ Incorporating measures to ensure alert and notification is received

▪ Consideration of transportation requirements

▪ Selection and implementation of protective actions

▪ Incorporating measures to ensure accommodation at reception centers and mass care facilities

Maintaining Contact Information

To provide assistance to populations with access and functional needs, it is necessary to maintain information about their locations and needs. Planning should include lists of special facilities (e.g., nursing homes) with contact information and mechanisms for updating the list (i.e., by contacting agencies that manage or license them). Planners should also make an effort to collect and maintain information on individuals with access and functional needs who are not in special facilities. Self-identification mechanisms to obtain such information include the following:

- Providing tear-out cards in public outreach and/or education materials

- Working with public health or social service agencies, religious, fraternal, social, and service organizations, and volunteer and nonprofit groups at the state and local levels

  - While the need for confidentiality generally prevents such agencies from providing direct information, they may be willing to provide questionnaires, referral information, and assistance to their clients who can then identify themselves to emergency planners.

Information about individuals with access and functional needs and the arrangements made on their behalf must be protected from public disclosure; it should be available to emergency responders but limited to those who need to know. Plans should also include mechanisms for protecting this information and updating it at least annually.

Every effort must be made to safeguard personally identifiable information, Health Insurance Portability and Accountability Act–protected health information, and other personal data required by law or regulation to be protected.

Alert and Notification, Transportation, and Protective Action Implementation

The following should be considered when providing protective action plans for populations with access and functional needs:

- **Assistance or special equipment for notification.** Persons with visual or auditory impairments may require special equipment to receive alert and notifications. Reference *Benchmark 2: Alert and Notification* for further information on alert and notification measures for populations with access and functional needs.

- **Provision of educational materials and emergency instructions for individuals with limited English proficiency (LEP).** Education materials and emergency instructions should be translated if it is determined through survey or another means that 1 percent or more of the population at risk has LEP. An effort should be made to have translation services available at key response locations, such as reception and medical centers, and mass care shelters.

- **Equipment for alert and notification of special facilities.** For example, it may be appropriate to provide advisory alert radios and/or tone-alert radios to special facilities even where they are not provided to the public generally.

- **Separate PADs for populations with access and functional needs.** In some cases, (e.g., for facilities or individuals where evacuation would be difficult, time-consuming, or dangerous), it may be appropriate to plan for recommending SIP for those facilities or persons even though the general public is recommended to evacuate. Where protective action options are limited, it may also be appropriate to consider providing for enhanced or pressurized shelter.

- **Assistance with carrying out protective actions.** If resources are available, either through emergency response agencies or from volunteers, arrange assistance for persons with access and functional needs to implement protective actions (e.g.,

transportation for evacuation or assistance from a neighbor to carry out expedient SIP).

▪ **Host facilities for special facilities.** Where special facilities may be evacuated, host facilities outside the PAZ should be identified that can accommodate access and functional needs of evacuated facilities' occupants.

- Schools are an example of a distinctive type of special facility. Measures to protect people in such facilities should be carefully planned and well publicized. In particular, special attention should be given to informing parents about arrangements for protection of children. Major safety problems could occur if parents attempt to pick up children at schools during an evacuation. Parents need to be confident that children are being cared for and know how to be reunited with children after the protective action. This information should be included in public education materials and in emergency instructions such as EAS messages.

Reception Centers and Mass Care Facilities

Accessibility of all emergency services, including reception and mass care, is required under the Americans with Disabilities Act (ADA) and Federal Emergency Management Agency (FEMA) policy. CSEPP planners should think through the entire process of evacuation, reception, and mass care in terms of access for populations with access and functional needs. In addition, planners should seek participation in the planning and review process by representatives of organizations that regularly work with these populations.

Extensive guidance and review criteria are available on the subject of accommodating persons with access and functional needs in emergency planning generally and mass care shelters in particular. Planners should consult the FEMA Office of Disability Integration and Coordination for resources and guidance regarding populations with access and functional and chapter 7 of the U.S. Department of Justice (DOJ) publication *ADA Best Practices Tool Kit for State and Local Governments* entitled "Emergency Management, Title II of the ADA." Addenda 2 and 3 of this DOJ document address access for all during emergencies and disasters and provide planners with a checklist for reviewing accessibility of emergency shelters. Chapter 4 ("The Planning Process, Step 5: Plan Preparation, Review, and Approval") of *Comprehensive Preparedness Guide (CPG) 101* also addresses accessibility issues in its review criteria for shelters.

The DOJ best practices guide includes a "mainstreaming" concept—populations with access and functional needs should be accommodated, as far as practicable, in ordinary public shelters, rather than in a specialty facility. FEMA has developed a guide specifically on this topic: *Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters*.

Provision for Pets and Service Animals

In the *Pets Evacuation and Transportation Standards (PETS) Act* (Public Law 109-308), Congress established policies to include pets and service animals in emergency planning and response. The PETS Act promotes incorporation of pets and service animals into

federal, state, tribal, territorial, and local emergency plans and preparations and makes pet-care expenses eligible for federal reimbursement in presidentially declared emergencies and disasters.

- **Accommodation of pets.** Most American Red Cross shelters do not accommodate pets. FEMA and American Red Cross policies encourage people to provide private arrangements for care of their pets in an emergency. However, in a large-scale evacuation, it may be anticipated that there will be some pets that need emergency shelter separate from their owners. The plan should identify agency responsibilities for coordination of pet care and resources for care of evacuated pets (e.g., animal control shelters, nonprofit household pet rescue shelters, private breeding facilities, and kennels). Chapter 4 of *CPG 101* entitled "*The Planning Process"* and Appendix C "Emergency Operations Plan Development Guide" contain detailed checklists of points for review of mass care plans with respect to pets and service animals.

- **Service animals.** Under the ADA, service animals—unlike pets—must be accommodated in mass care shelters. Service animals include the familiar seeing-eye dogs and other animals that may provide a variety of services to someone with a disability. Examples include alerting people who are deaf or hard of hearing to sounds, pulling wheelchairs, carrying or retrieving items for people with mobility disabilities or limited use of arms or hands, assisting people with disabilities to maintain their balance, and alerting people to and protecting them during medical events such as seizures. An animal that has been trained to work or perform tasks for a person with a disability qualifies as a service animal and must generally be allowed to accompany its owner anywhere other members of the public are allowed to go.

Emergency Worker Protection

The U.S. Occupational Safety and Health Administration (OSHA) establishes regulations for workplace safety, including rules for when particular types of personal protective equipment (PPE) are needed and what types of protective equipment may be used. OSHA rules governing emergency workers who may be exposed to toxic materials are found in 29 CFR 1910.120, Subsection Q. (State and local government employees do not fall under OSHA's jurisdiction but are subject to U.S. Environmental Protection Agency (EPA) rules. EPA has issued a rule—40 CFR 311—that incorporates OSHA requirements; therefore, state and local government emergency workers are subject to OSHA requirements via the EPA rule.)

OSHA encourages states to administer their own workplace safety programs and reviews and approves state plans to do so. Kentucky has an approved state plan and thus administers workplace safety regulations within the state. In Colorado, OSHA administers occupational safety rules.

As is the case for any response situation potentially involving hazardous materials, protective equipment and work rules for CAI response should be selected based on a hazard analysis that includes consideration of the specific tasks to be performed. Different response tasks may require different levels of protection. Operationally,

personnel protection is the responsibility of the incident commander with advice and assistance from the safety officer.

The National Institute for Occupational Safety and Health has published a summary of standards applicable to PPE for emergency responders facing the potential for chemical or radiological exposure: *Guidance on Emergency Responder Personal Protective Equipment for response to Chemical, Biological, Radiological, and Nuclear Terrorism Incidents (Publication No. 2008-132).* This document is a good starting point for researching applicable standards.

Benchmark 11: Public Outreach/Education

A program for coordinated emergency public information and education, including a public outreach/education program to enhance Chemical Stockpile Emergency Preparedness Program (CSEPP) awareness and familiarity with the protective action strategy. Figure 37 illustrates the alignment of Benchmark 11 to applicable *National Preparedness System* components and associated core capabilities.

CORE CAPABILITY

Community Resilience
Public Information and Warning
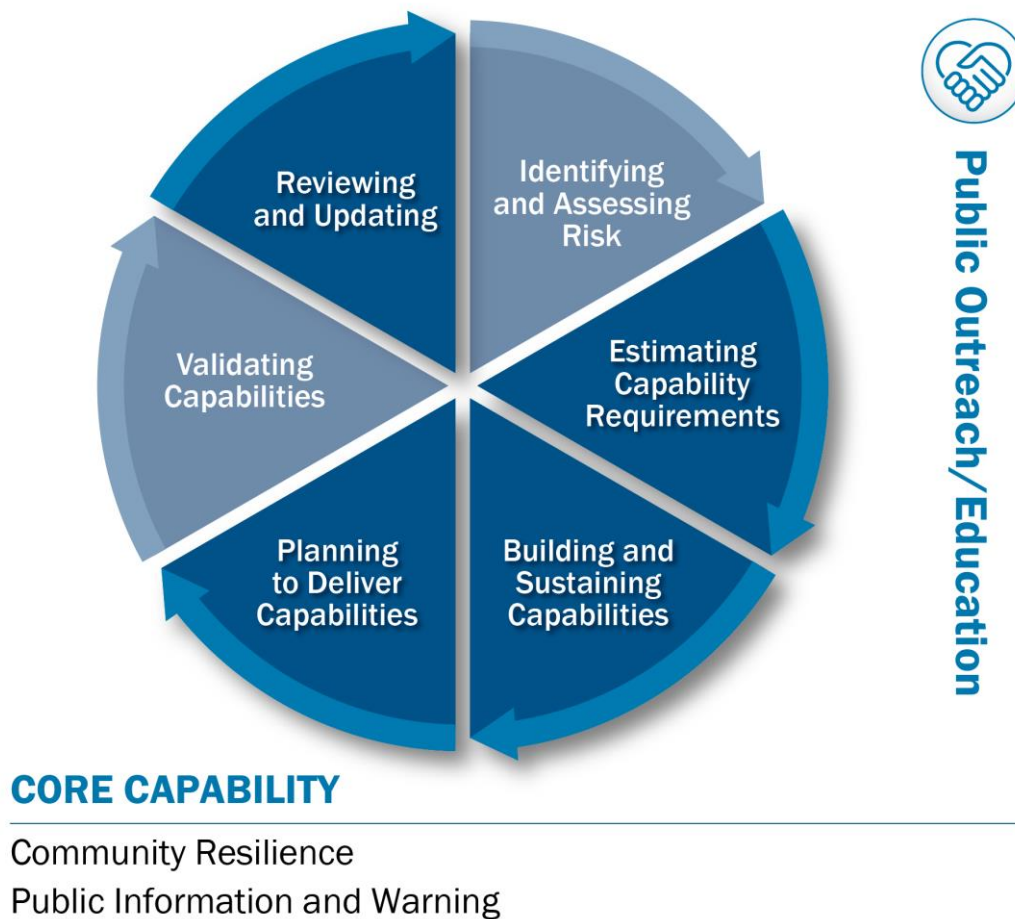
Figure 37: Applicable *National Preparedness System* Components and Core Capabilities Alignment for Benchmark 11

Intent

The role of public outreach efforts is to improve the public's and the news media's awareness of CSEPP. Getting CSEPP information to the public and the media has two different but complementary aspects. The first requirement is to improve the public's awareness of CSEPP and their (the public's) role during an emergency through various methods, such as outreach offices, phone and mail communications, and the Internet. The second requirement is keeping the public and the media informed during an actual chemical accident or incident (CAI). An informed and active public is a strong partner.

Actions Required

Pre-incident

- Develop and implement a public education program to increase the public's knowledge of stockpile hazards, sources of emergency information, and emergency protective actions.

- Plan, develop and train on emergency public information/ ESF15 capabilities.

During and Post-incident

- The lead Federal agency—the Army in this case—would activate Emergency Support Function 15 (ESF 15) External Affairs for coordination of messaging among other federal, state, tribal, territorial, and local jurisdictions through their public information/affairs officers.

- Develop and implement a Joint Information System (JIS) that provides a mechanism to organize, integrate and coordinate information to ensure timely, accurate, accessible, and consistent messaging across multiple jurisdictions.

- Develop and when required activate a Joint Information Center (JIC) plan that facilitates operation of the JIS.

Introduction

Achieving an informed public requires research to gain an understanding of the public's current levels of protective action knowledge. Based on that research, a public education program can be designed and implemented to increase the public's knowledge of emergency protective actions and the relative risks associated with an event. In addition, an effective outreach program should accomplish the following:

- Maintain residents' trust in emergency management.

- Foster two-way communication between CSEPP and program partners.

- Communicate to the community the risks posed by the stockpile and appropriate protective actions that should be taken during a stockpile accident.

The public education program should be periodically evaluated to determine whether it is achieving these goals and to provide a basis for improvements to public education efforts.

Senior elected officials, emergency managers, and on-post military commanders play an important role in development and implementation of CSEPP public education and emergency public information programs. Without senior management collaboration, a risk exists of communicating mixed messages to the public and causing confusion about which emergency protective actions are appropriate. This benchmark describes the mechanisms for developing, coordinating, and distributing information to the public.

The Public Affairs Integrated Process Team (IPT) page on the CSEPP Portal provides a repository of historical and current documents related to public outreach and education, public information, and other topics.

Public Outreach Tools and Processes

The CSEPP Public Affairs IPT has developed a step-by-step process for communities to develop public outreach campaigns. The process begins with defining knowledge gaps, setting goals and metrics for the outreach, and evaluating and implementing outreach strategies and follow-up studies to measure campaign success (shown in Figure 38). Detailed guidance on implementing an outreach campaign is located in the *CSEPP Public Affairs Guidebook*.
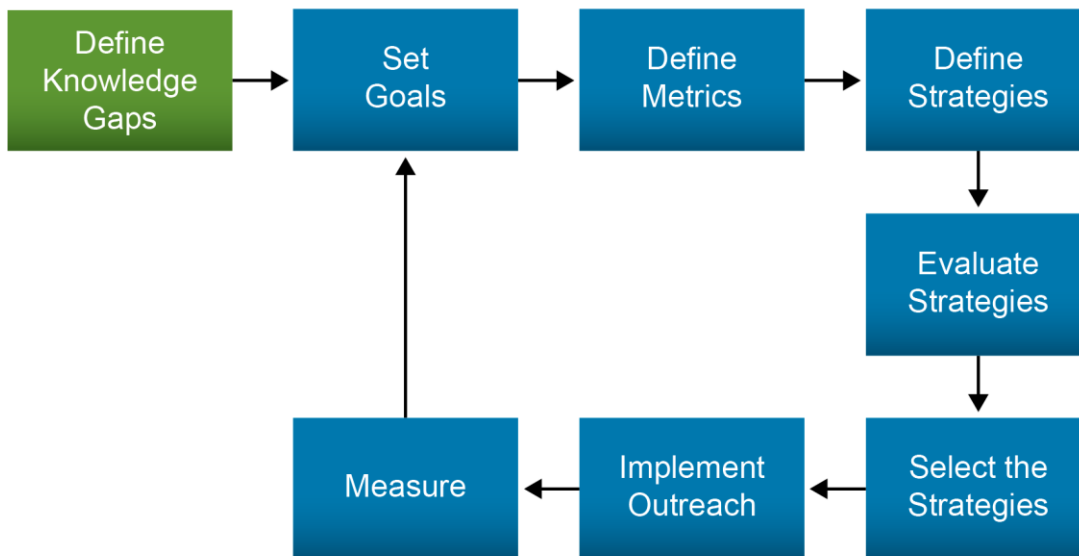
Figure 38: Public Affairs Outreach Strategy

Keys to public outreach strategy include the following:

- Two-way communication between officials and public
- Use of plain, non-technical language
- Involved community leaders (officials, clergy, civic leaders, media)
- Active and connected social media effort to deliver and monitor public information

Tailoring a Program to a Community's Needs

CSEPP public education programs should be tailored to each community based on research that identifies the community's needs. For example, diverse ethnic and socioeconomic groups may require a variety of approaches. Public Information Officers (PIOs) should use available demographic resources (such as geographic information system and the local Threat and Hazard Identification and Risk Assessment) to understand their community demographics and communications tools most appropriate for that population or consumer. Education programs should also follow existing federal guidelines on providing information to these groups. Public education programs may include the following:

- Printed public information materials such as calendars, telephone directory inserts, and brochures distributed to residents and special facilities such as schools, nursing homes, and hospitals (with specific information such as relocation points, facility plans, and items to take to a mass care center)

- Posters and displays in areas where transient populations pass

- Presentations before civic and fraternal organizations and other formal and informal groups

- Public meetings

- Programs designed for specific audiences, including school children, persons with access and functional needs, local media, and community leaders

- Paid advertising, if appropriate, to disseminate specific outreach messages

- Social media

Emergency Public Information

The principal objective of an emergency public information program is to minimize fatalities, injuries, and property damage by ensuring appropriate instructions are distributed to the public in a timely manner during a CAI. Research and case studies show that accurate, consistent, and timely information calms anxieties and reduces potentially problematic public reactions such as spontaneous evacuation. Before an emergency occurs, communities consider what information will be needed by the news media and public and then develop a strategy for gathering, coordinating, and disseminating that information quickly and accurately (shown in Figure 39).

In the event of a CAI, emergency public information is disseminated in stages. The initial stage focuses on immediate, urgent protective activities such as shelter-in-place (SIP) or evacuation. As off-post response facilities (e.g., mass care shelters) become operational, emergency public information centers on longer-term response. Each new phase will likely have a different focus and involve different information. Similarly, populations with access and functional needs will have varied information needs. Each emergency public information program includes provisions for meeting the unique needs of the groups and population within the community.

As stated previously, emergency public information and communications is a central part of Emergency Support Function (ESF) 15 – External Affairs. For more details on ESF 15 and how it is organized and used to help our communities, the ESF 15 Standard Operating Procedures is a useful reference: https://www.fema.gov/media-library-data/1469621171375-60d307a6345fad752633d2e2e21d1db2/ESF15_SOP_07.06.2016.3.pdf
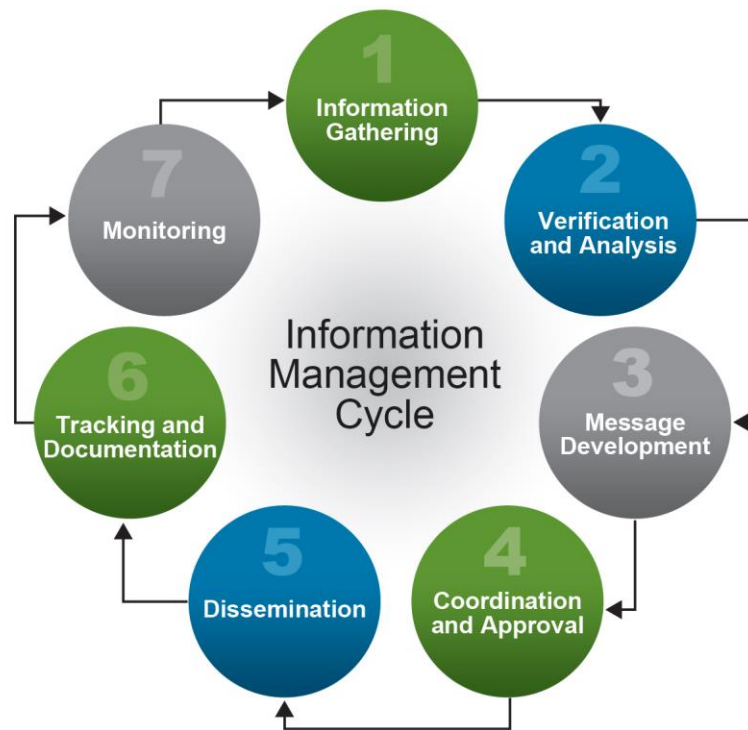
Figure 39: Information Management Cycle

Initial, urgent action messages are distributed over dedicated outdoor alerting systems such as sirens, and indoor alerting systems such as advisory alert radios or tone alert radios, and the Federal Emergency Management Agency's (FEMA) Integrated Public Alert and Warning System (IPAWS). However, over the course of an emergency and its aftermath, social media and the traditional news outlets will be important sources of public information. Since these two communications channels rely on both official and non-official sources, providing accurate, consistent and timely official information to news organizations and through social media is important. Government representatives need to be immediately available to provide information over the course of an emergency. In addition, FEMA's National Incident Communications Conference Line (NICCL) and State Incident Communications Conference Line (SICCL) are resources available to managers for coordination of post-incident information.

Given the many demands that occur in the immediate aftermath of an emergency event, there will not be time to develop a comprehensive emergency information program after an incident occurs. To ensure a coordinated process, a JIS and JIC should be developed and tested ahead of time.

Joint Information System

A JIS is a network that allows multiple organizations involved in an emergency response to communicate and coordinate with one another regarding information to be provided to the public and news media. Elements of a JIS must be put into place before an emergency occurs. This includes plans, protocols, and structures used to provide information during

incident operations. It encompasses all public information operations related to an incident, including those performed at the federal, state, tribal, territorial, local, and private-organization levels.

Public information presented during an emergency must be clear, accurate, and consistent. Considering the number of agencies and jurisdictions that are likely to be part of a response to a CAI, the activation of ESF 15 would be necessary to coordinate and synchronize the public information effort across federal, state, tribal, territorial, and local jurisdictions. Each agency's or jurisdiction's procedures for disseminating public information should be coordinated and made compatible with strategies developed by all other agencies and jurisdictions that may be affected by a CAI.

DoD policy requires any official information intended for public release that pertains to military matters, national security issues, or subjects of significant concern to DoD be cleared by appropriate security review and PA offices prior to release. This includes materials placed on the Internet or released via similar electronic media.

Joint Information Center

A JIC is a physical location where public information specialists from federal, state, tribal, territorial, and local jurisdictions and volunteer and nongovernmental agencies meet to coordinate release of emergency public information. An effective JIC will gather, verify, produce, and disseminate information using all available means and should be large enough to accommodate expected staff and news media.

The JIC is part of the ESF15 organizational structure and would be staffed and support all operations related to media engagement. Under ESF15, the JIC is supported by teams that produce varied and diverse products to media as well as other key stakeholders including congressional and state local officials and private sector (including news releases, talking points, and advisories)

JIC staff should monitor public phone calls and analyze news and social media coverage of the emergency, with a rapid response team addressing identified gaps in information, misinformation, or unconfirmed information (i.e., rumors or speculation) that may detrimentally affect the response and recovery effort. Senior management buy-in for the concept of communicating through a JIC is imperative for the center to work effectively.

The JIC should also be activated in emergencies whenever feasible so that, even in limited responses, it becomes a familiar tool for public information officers (PIOs), emergency responders, and the news media. This will allow for any glitches in procedures and protocols to be identified and fixed. Pre-event planning should also address surge situations where staffing, facilities, equipment, and other resources may be inadequate to meet the needs of the news media or public.

Key programmatic elements of a JIC include the following:

- **Facility.** Both a primary and alternate JIC location should be identified.

- **Coordinated Planning.** JIC staffing, equipment, and supplies should be provided for in emergency plans. Planning for the JIC should anticipate that federal and state PIOs may be unable to report to the JIC or that additional JICs may be established by other response organizations. For complex incidents spanning a wide geographic area, multiple JICs may be necessary. In particular, the Army installation may need to rely on a separate media center. A single JIC location is preferable, but the JIS should be flexible to accommodate multiple JICs if established. When multiple JICs are established, information must be coordinated among them to ensure that a consistent message is disseminated to the public. All JICs must communicate and coordinate with each other on an ongoing basis using established JIS protocols.

- **Staffing.** Plans for a virtual JIC that links all participants through technological means offer greater flexibility and expanded resources for sustained staffing for multiple operational periods. This, in turn, reduces the need for volunteers in most CSEPP JICs and allow for CSEPP–trained PIOs in other jurisdictions to assist during any CAI (i.e., possibly assist with answering questions remotely from the media and public). Additional information on staffing can be found in the *CSEPP Public Affairs Guidebook.*

- **Automation and Communication Systems.** Equipment and systems should be provided for communications to support the JIC. Personnel in the JIC must be able to communicate with EOCs, other JICs (if active), and with the news media and the public. Adequate phone, radio, computer, and Internet capabilities are critical.

- **Training and Exercises.** The JIC structure should be exercised as often as possible, and the JIC concept should be explained to local news media representatives.

Recovery

Once the immediate response to an emergency has been completed, a longer-term recovery phase will begin. This phase, which can last for days, weeks, or months, is characterized by information regarding residual hazards, protective actions, care and services available to the public.

Planning for the recovery phase should provide for a transition from the emergency response to a longer-term recovery mode. A key focus will be development of a staffing plan that covers a potentially lengthy JIC activation and anticipates possible public affairs resources and support from the state and/or federal government. Additionally, the activation of ESF 15 can provide recovery support through outreach to state/local officials by leveraging the Intergovernmental Affairs and other External Affairs components.

During this period, the recovery plan should address the following:

- Gathering information and coordinating with public information staff from all organizations involved in the recovery effort

- Obtaining advice from experts in recovery fields such as environmental clean-up, claims, and social services

- Disseminating recovery information to the public and news media via news releases, interviews, news conferences and briefings, social media, and response to public inquiries

Collaboration and Coordination

As in other CSEPP program areas, public affairs employs the "whole community" concept of collaboration and coordination. Successful implementation of a JIS and adequate staffing of a JIC require ongoing coordination by public information professionals in the CSEPP communities. To facilitate coordination, CSEPP PIOs should employ an all-hazards approach to emergency readiness and response to ensure each community has a network in place for any emergency and can work together toward an end goal of a better-prepared public. This methodology will also benefit the community when the CSEPP mission is complete because a solid working relationship among public affairs staff will remain. Agencies such as hospitals, schools, utilities, higher education institutions, response agencies, local government entities, and chambers of commerce are all partners during a community emergency. PIOs from each of these agencies should attempt to meet regularly as a group. Annual activation of the JIC during a CSEPP exercise allows the group to practice its emergency message coordination with qualified individuals on hand to evaluate the response.

In addition to building all-hazards partnerships, CSEPP PIOs benefit from developing working relationships with other public affairs practitioners who are directly involved with the stockpiles. Federal agencies such as FEMA, CMA, and the Program Executive Office, Assembled Chemical Weapons Alternatives employ subject-matter experts who have a critical messaging role before, during, and after any CAI. Familiarization with each agency's roles and responsibilities and pre-planning of crisis communication is critical to coordinating public information effectively. In an effort to ensure an ongoing networking among these agencies and between the two stockpile states, information officers have identified a continuing need for a Public Affairs IPT. The Public Affairs IPT has a responsibility to develop a work plan, mentor incoming CSEPP PIOs/Public Affairs Officers (PAOs), communicate public affairs efforts throughout the program, and share best practices and lessons learned with each other. In addition to the programmatic CSEPP Public Affairs IPT, site PIO/PAO Work Groups comprising on- and off-post personnel should be used to plan and implement local outreach efforts.

When partnerships are pursued, the public information team should consider members of the news media among those partners. The professional relationships between a PIO and local print, television, and radio reporters is vital because each is a direct link between CSEPP and the public. To ensure a positive relationship, a PIO must be available, honest, and responsive to inquiries when working with the news media. Maintaining an open line of communication with this specific partner will facilitate conversation and should encourage reporters to consider the PIO a valuable asset when information relevant to the CSEPP mission is requested by the public, or when controversial issues emerge. It also increases the likelihood that overall coverage of stockpile storage and demilitarization activities will be more accurate as reporters become familiar with and knowledgeable about CSEPP.

Social Media

Social media is the media channel through which users collaborate, share, and discuss in real time. It is distinct from traditional media as it provides the ability for real-time collaboration, sharing, and discussion by anyone with Internet access. Social media can have a major impact in the emergency management community. It can shape how crises are communicated and how response is coordinated. It can provide new and accessible communication platforms that offer the opportunity to reach more people than ever before. Additionally, social media technology can provide a mechanism for PAOs/PIOs to quickly relay critical information in a time of crisis to both the public and each other. It is a proven and invaluable resource for emergency management across the world. Social media technologies are the standard for information dissemination and can enhance an agency's information network efforts to reduce the impact of emergencies and disasters on life and personal property. Social media can best be leveraged during time-critical response efforts if agencies have already built a history and trust. Social networks can be used as notification systems, in recovery efforts, emergency information gathering, and as information repositories.

Communication starts instantaneously, and rumor management is top priority. In fact, the PAOs/ PIOs job is to focus not only on getting the message out but also on ensuring the accuracy of the message that has already been disseminated by unofficial sources, such as bloggers, iReporters, and individuals sharing, re-sharing, and commenting on social media. This means that emergency communicators must be equipped to monitor media and online conversations and respond quickly to correct misinformation. Accurate information is critical for decision making. Integration and institutionalization of social media into an agency's operational workflow greatly increases an agency's ability to adapt as technology advances and internet trends change.

The benefits of using and supporting social media as a tool for information sharing include the ability to access social media tools from mobile sites, making it a low-cost, accessible option for a wide variety of audiences. This enables PIOs to share information and messaging quickly with a large number of people and through a variety of social media tools at the same time. PIOs use social media as a situational awareness tool to monitor new events in the community and the reaction to those events. Social media enables PIOs to evaluate how current messaging is being received, accepted and acted upon in the community. This also provides a platform for engagement with members of the community, including residents, business owners, and community groups. The PIO is able to direct and manage messaging about an activity or event directly with the community and with all levels of traditional news media (local, state, and national). This tool enables PIOs to manage rumors and misinformation quickly and efficiently so that community members have accurate information with which to make the safest choices for themselves. It is important that organizations establish a social media role in their community before a disaster or emergency occurs so that they may be deemed a trusted source of information.

Each agency should develop a formal policy on social media tools they will use, specifying how they are to be used, for what purpose, and the staff who will have access

to them. Social media should be included in the communications plan as a method for sharing emergency information, daily operations, and public education messaging. Figure 40 illustrates a process for legitimizing social media.

Legitimize Social Media
When working to legitimize social media and gain leadership buy-in, identify the following:

Essential Information
Identify essential elements of information. For example, the demographic breakdown of your local community, where community members tend to search for information online, etc.

Available Information
Identify existing and available information. For example, key data sets such as census data, power status, critical infrastructure status, etc.

People Needs
Identify people needs. Agencies should incorporate social media into all common practices, including planning, training, exercises, education, hiring, policy development, and response structure. Social media should be integrated into the agency's organizational structure, roles, and responsibilities.

Governance
Identify governance. For example, Standard Operating Procedures, Concepts of Operations, and other documentation.

Process Needs
Identify process needs. Although social media enables new ways of communicating and sharing information, it must align with existing methods used for coordination, information gathering, processing, action-planning, and other operational standards.

Hardware/Software Needs
Address the challenge of ensuring technologies within Communication Centers have the ability to receive the various digital mediums in an effective manner. Also consider available technologies and supporting policies.

Opportunities To Partner
Identify opportunities to partner with other agencies. Part of the legitimization process must include establishing partnerships with leading public safety organizations.
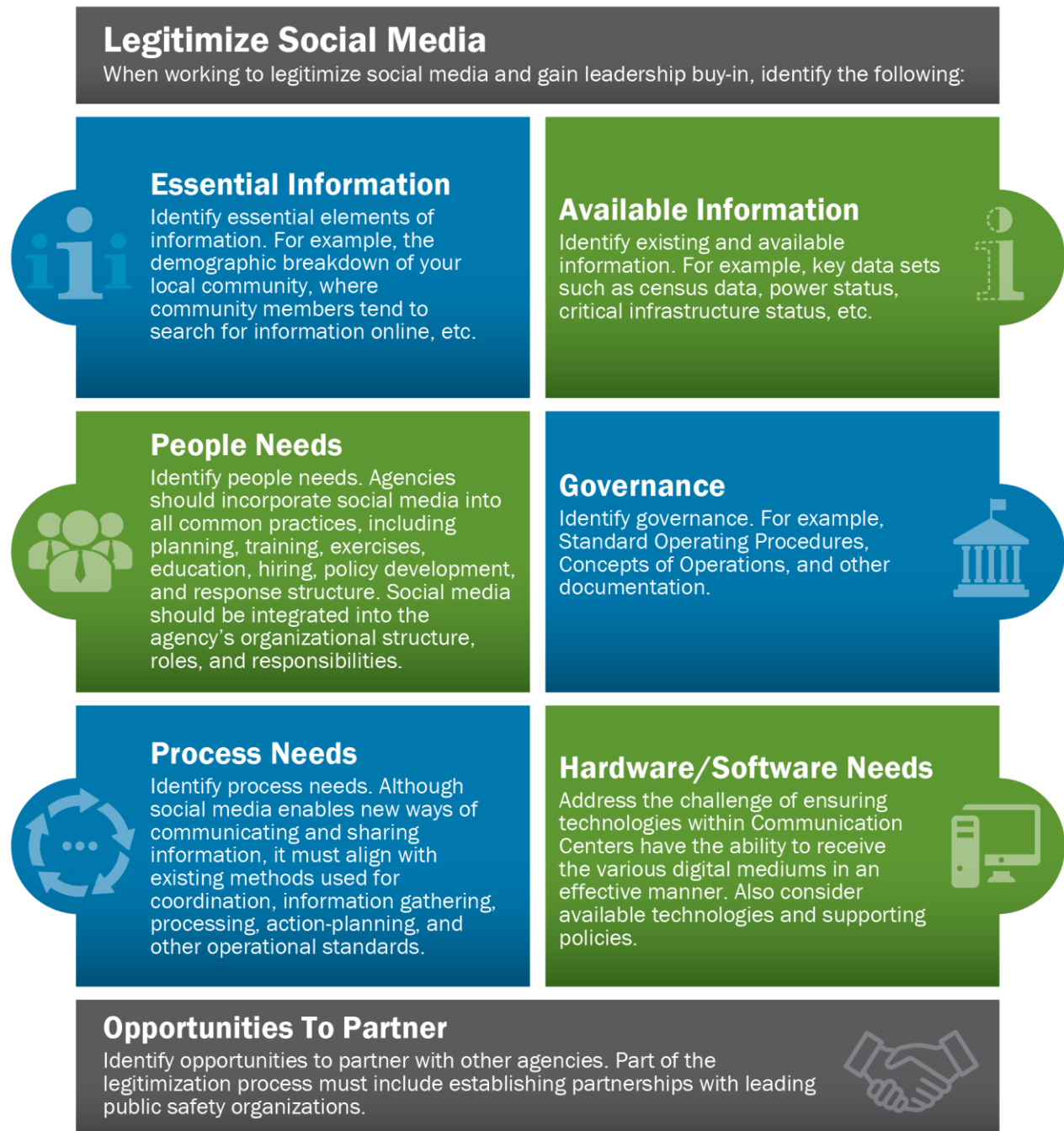
Figure 40: Process to Legitimize Social Media

In addition to a formal policy, each agency should develop a social media strategy. Agencies need a strategic, coordinated, and audience-centered approach to developing, disseminating, and evaluating social content. A social media strategy helps agencies

identify social media goals and provides a baseline from which to evaluate measurable social media objectives.

Challenges exist for implementing and using social media as part of a communications plan. Most importantly, the effective use of social media requires the strong support of management and incident command. Social media tools—and the PIOs responsible for administering them—must be used and trusted to have an impact during the communications process. Identifying staff to monitor and post information can also be a challenge. Social media participation involves both sending information out and having staff to monitor and respond to messaging coming into the organization. Since social media will continue to evolve to meet the needs and demands of the community, a commitment to ongoing staff training and involvement with the tools available is important.

Benchmark 12: Training Programs

Training programs, consistent with Chemical Stockpile Emergency Preparedness Program (CSEPP) guidance, state and local training plans (for off-post jurisdiction personnel) and Army certification requirements (for installation personnel) that maintain proficiency of emergency services providers/responders and CSEPP staff. Figure 41 illustrates the alignment of Benchmark 12 to applicable *National Preparedness System* components and associated core capability.
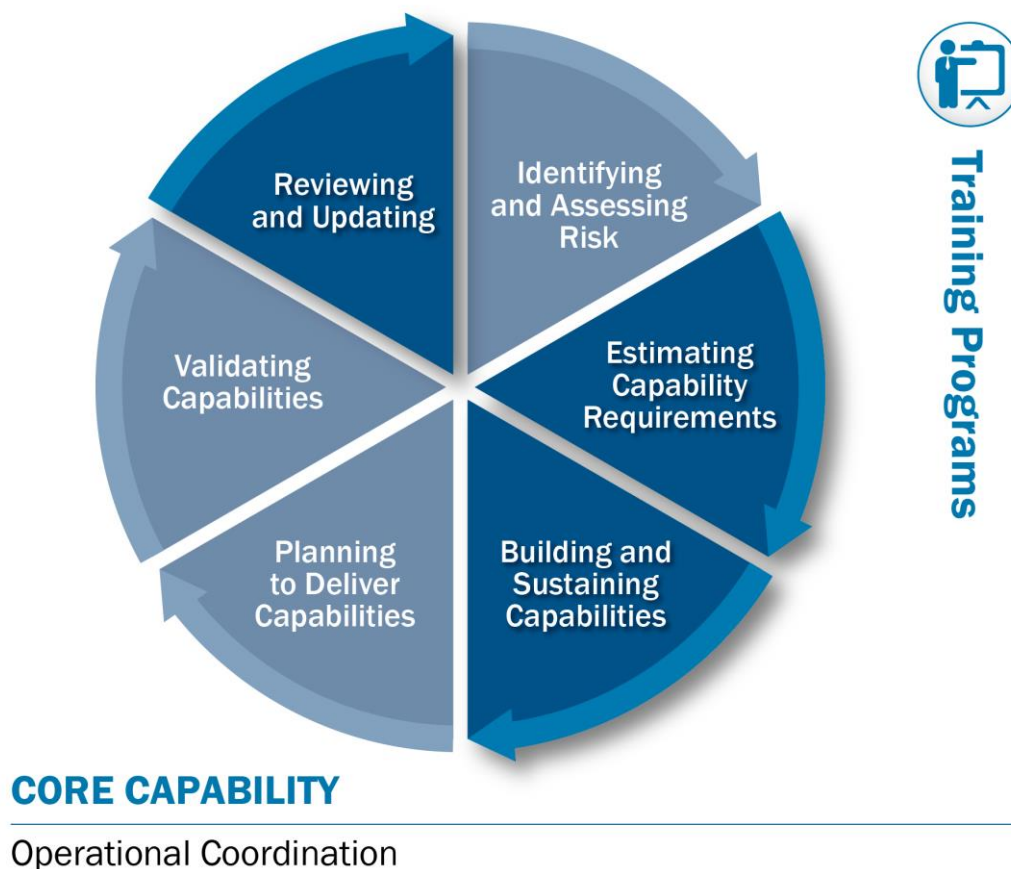
Figure 41: Applicable *National Preparedness System* Components and Core Capability Alignment for Benchmark 12

Intent

Because of unique hazards created by storage and elimination of chemical weapons, CSEPP personnel and emergency responders must maintain specialized proficiencies to respond to chemical accidents or incidents (CAI). This can include practice with hazard-prediction modeling tools, use of personal protective equipment and medical countermeasures, sheltering-in-place drills, decontamination procedures, communications exercises, emergency public information, and other technical aspects of incident

command, hazardous material response, and emergency medical treatment. In addition, CSEPP training encompasses preparedness activities, such as exercise evaluation.

Actions Required

- Conduct training needs assessments to inventory and track needs and skill levels of CSEPP staff requiring specific training or specialized skills.

- Identify training coordinators for each installation, state, and county to ensure annual training is available as required, that appropriate training materials and measurement tools are used, and that appropriate training records are maintained.

- Employ competent training instructors based on the needs assessment and ensure that all training is job-specific and documented.

- Assess effectiveness of each training course and each trainee's performance and ability to meet course objectives.

Program Training

CSEPP provides or recommends both general emergency management and program-specific training courses designed to address the unique hazard responders may encounter during a CAI response. As a result, each jurisdiction should maintain a training program that accomplishes the following:

- Develops skills and knowledge necessary for emergency management and response personnel to plan for and respond to a CAI

- Includes a continuous assessment process that reviews the current training plan, tracks completed training, and identifies new training opportunities for incorporation

- Includes a combination of classroom and online-based courses combined with hands-on activities, drills, and exercises for practical application and increased learning

Training should be conducted in accordance with the jurisdiction's training plan and tracked to ensure personnel receive initial and refresher training, as appropriate, for their position(s). CSEPP provides tuition and travel resources for necessary training.

Professional Development

Regular training for CSEPP personnel is a critical element of professional development and may take many forms, such as formal classes, field deployments, and meeting attendance and participation. Training helps personnel in CSEPP communities expand their expertise and learn new ideas and methods for maintaining an effective all-hazards program. CSEPP personnel should strive for a comprehensive training approach that integrates the whole community. By involving all relevant partners in training opportunities, coordination will be improved, familiarity with emergency response procedures increased, and available resources maximized.

CSEPP personnel have access to a wide range of training, both directly through the program and as professional members of larger networks and associations that exist in their states and at the national level. Program managers should support ongoing

professional development of personnel to the extent possible. Training is an investment that must be made during periods of routine operations to yield dividends if a CAI were to occur. Additional training available through CSEPP targets decision makers, program managers, elected officials, and subject-matter experts, emphasizing their unique roles in communicating before, during, and after an emergency.

To identify opportunities that exist for professional development, both CSEPP–specific and other courses presented at the local, state, or national level should be considered. Local, state, and Federal Emergency Management Agency (FEMA) Regional staff are the best sources of information about what is available and how it can be accessed. Training requests should be coordinated through appropriate points of contact, who in turn will work with their counterparts in FEMA. Courses sponsored directly by CSEPP are generally funded by FEMA Headquarters and presented at no cost to local participants. While administrative requirements for non-CSEPP training will vary, those courses are also often available at little or no cost.

Additional professional development regularly occurs through the Program Management Team and functional Integrated Process Team and Work Group meetings. During these meetings, lessons learned and best practices are routinely exchanged. Regular attendance and participation of all CSEPP staff who have either full- or part-time program responsibilities is strongly encouraged.

Professional development is important to closeout planning. While training opportunities should be relevant to one's primary roles and responsibilities, communities should consider providing or approving training that will aid in successful program transition to ensure the capability is retained after CSEPP is complete.

Training Administration

A successful training program provides communities with people who possess knowledge, skills, and abilities to perform their roles and responsibilities in the event of a CAI. CSEPP training enables communities to close capability gaps and sustain capabilities long-term while also addressing training needs of first responders, emergency managers, and policy makers at all levels.

Training Coordinator

Each jurisdiction should identify a training coordinator responsible for developing and updating the training plan, arranging training opportunities, tracking completed training, and maintaining all training records. This may not be a full-time position, but it is a critical duty for the betterment of the entire jurisdiction.

Training Plan

Each jurisdiction should have a training plan based on a position-specific needs analysis. For each position within the jurisdiction that will respond to a CAI, understanding the training needs associated with that specific position is important. By conducting a needs analysis, jurisdictions are able to develop a position-specific training plan and schedule required and optional training by position, as necessary.

Training Records and Reporting

State and local governments should maintain training records and report the records to their respective FEMA Regions. Records and reports should include the following at a minimum:

- Training rosters that show completed training by jurisdiction personnel and include course number and name, type of training, dates, instructor name(s), students' affiliated organization, students' position or function, and any other relevant information

- Results from the performance test and course evaluation used by jurisdictions to complete a post-training evaluation

- The total number of classes, students, and course offerings provided in a given year

- Complete expense records for each training activity

- Any optional training courses—i.e., courses offered in a given year that were not required for a specific position

Performance-Based Evaluation

Each jurisdiction's training program should include a performance-based evaluation process to assess the training courses effectiveness and student's ability to meet course objectives. Classes taught using CSEPP resources should meet local and state requirements. Any performance deficiencies noted during the training, including during hands-on activities, drills, and exercises should also be included in the evaluation.

Training Resources

CSEPP–specific training is intended to supplement—not replace or duplicate—emergency management training available from other sources (e.g., FEMA's Emergency Management Institute). To the extent possible, CSEPP jurisdictions are encouraged to take advantage of existing training available from other institutions or sources. A calendar of upcoming training courses, along with a library of training materials are available on the CSEPP Portal.

Public Training and Education

Ensuring the public is trained and educated is critical to whole community preparedness. CSEPP offers training and education opportunities to all residents inside and outside CSEPP communities that may be affected by a CAI. These opportunities describe actions residents should take to protect themselves and their families during an emergency and educate residents about the chemical stockpile in or near their communities. An informed public helps the whole community respond more effectively.

The public interface of the CSEPP Portal includes training videos and other materials in four key areas: medical and public health, first response, emergency planning, and communities/public. Training videos are available on the CSEPP YouTube Channel, and training materials are available on the CSEPP Portal.

Appendix A: Program History

The Chemical Stockpile Emergency Preparedness Program (CSEPP) is a unique whole community partnership between federal, state, tribal, territorial, and local governments created to protect the public in communities where chemical weapons continue to be stored during destruction of the national stockpile. This appendix describes the origin, evolution, and current status of the program.

CSEPP Origins

In 1985, Congress directed the U.S. Department of Defense (DoD) to dispose of its lethal unitary chemical agents and munitions while providing "maximum protection for the environment, the general public, and the personnel involved." (Public Law 99-145, Department of Defense Authorization Act for Fiscal Year 1986.) To comply with this requirement, the U.S. Army expanded an existing program that was already addressing disposal of the M55 rocket stockpile. Oak Ridge National Laboratory (ORNL) prepared documentation under the National Environmental Policy Act and held public meetings and hearings with each of the affected communities in 1986 to gather public input on the Draft Programmatic Environmental Impact Statement (DPEIS). The DPEIS contained detail on risks of stockpile storage and disposal, including the potential consequences of an accidental release. Extensive public input highlighted the need for enhanced emergency preparedness around the stockpile sites.

In 1987, the Army released a Draft Emergency Response Concept Plan (ERCP), which presented a basis for the development of local emergency response programs and examined various methods of emergency planning. The Army also prepared a Chemical Stockpile Disposal Implementation Plan and requested funds to implement enhanced emergency preparedness on-post and off-post for all chemical stockpile sites. The Federal Emergency Management Agency (FEMA) joined the Army in implementing CSEPP through a memorandum of understanding (MOU) signed most recently in 2004.

Evolution of CSEPP

The history of CSEPP to date can be divided into four phases: initial development, program development, program maturation, and sustainment/closeout. A more detailed history of the program may be found in *History of the Chemical Stockpile Emergency Preparedness Program, Interim Report 2012, Volume I: Summary of Program* (May 2012).

Initial Development (late 1986–early 1990s)

The ERCP was initially developed by a team of contractors with assistance from the Army, ORNL, and FEMA. ERCP development began in November 1986, and a draft was presented to the Under Secretary of the Army in September 1987. In attendance at that meeting were numerous FEMA officials, including the Director of FEMA. The FEMA Director proposed that the U.S. Army and FEMA join forces to implement the concepts discussed in the ERCP. This meeting initiated the process that led to the 1988 MOU between FEMA and the Army. The final generic ERCP was included in the Final

Programmatic Environmental Impact Statement when it was published by the Army in 1988.

Between 1986 and 1992, ORNL developed a series of technical studies for the Army that addressed many of the concepts outlined in the ERCP including topics such as protective action options and effectiveness, emergency responder protection, rapid accident assessment and protective action decision making, and warning system effectiveness.

Following execution of the 1988 Army/FEMA MOU, ORNL developed a series of draft technical standards for critical program areas. These draft standards were presented for review by the Joint Army/FEMA Steering Committee and were combined and released as "interim draft" program guidance for the CSEPP in 1991. Also during this period, ORNL developed site-specific ERCPs for each of the eight participating communities, applying the ERCP concepts to the unique nature of each community and each installation's chemical stockpile. In 1991, the Army published Pamphlet 50-6 (rescinded in April 2013), which established guidance for installation commanders in response to chemical warfare agent emergencies. The first CSEPP Policy Paper defined the Congressional "maximum protection" mandate as "avoidance of fatalities to the maximum extent practicable" and was also published jointly by FEMA and the Army in 1991.

Program Formalization (early 1990s–2000)

During this time, management structures at FEMA and the Army went through a series of changes: the program became more formalized; state, tribal, and local CSEPP organizations were established, and program fundamentals such as annual exercises were established.

One of the hallmarks of this phase was an evolving management structure at both FEMA and the Army. The early Steering Committee structure with multiple functional subcommittees proved to be unwieldy because of its size, and program policy became more centralized between FEMA and Army management. There were many differences of opinion between the federal partners during this period. In response, the involved states became better organized and began meeting as a bloc to discuss program issues and to advocate for their positions with the Army and FEMA management.

Also during this period, a series of U.S. Government Accountability Office (GAO) reports were issued that were critical of program management systems and the limited results that had been accomplished to date. These reports resulted in a restructuring of the program in 1997 to address the GAO recommendations, and to confirm FEMA as the lead agency for off-post preparedness in Section 141 of Public Law 105-261. One of the more significant outcomes of this restructuring was the commitment to use both national and community Integrated Process Teams (IPTs) to manage the program and resolve fundamental issues.

During this period, heavy emphasis was also placed on developing emergency plans; designing and delivering training; hiring dedicated state and local staff; building

infrastructure, including automation systems, warning systems, communication systems, and emergency operations centers; and purchasing personal protective equipment.

Program Maturation (2000–2005)

From 2000 until 2005, CSEPP was in a "program maturation" phase. New management at both the Army and FEMA CSEPP offices produced a more team-oriented approach, and the relationship between the federal partners became much more cordial. The new program management initiated a "re-baselining" of CSEPP in early 2000, which included development of a new standardized CSEPP state-specific life-cycle cost estimate (LCCE) process where CSEPP state agencies and counties took their annual cooperative agreement-detailed line item budget requests and expanded them into multi-year LCCEs. Also in 2000, a CSEPP Planning Conference was held that established a prioritized list of unresolved program issues and established a series of Work Groups to address each priority issue. These Work Groups ultimately evolved into functional, national-level IPTs and developed landmark innovations, including the CSEPP Portal, automated shelter-in-place decision tools, reentry and recovery guidance, risk communication programs, and other planning tools and performance indicators. During this period, FEMA also initiated development of an enhanced grants management software tool that ultimately evolved into a central web-based financial management tool used by FEMA and off-post communities to manage budgets, track grant expenditures, and report performance.

The terror attacks of September 11, 2001, placed additional emphasis on the vulnerability of the U.S. chemical warfare agent stockpile and led to renewed efforts to speed up the disposal process. As a result, plans to neutralize the bulk stockpiles at Aberdeen Proving Ground, Maryland, and Newport Chemical Depot, Indiana, were expedited. During this period, several of the "baseline" incineration sites received their operating permits and began disposal operations.

Sustainment and Closeout (2005—present)

Since 2005, the program has been in a phase of sustainment of capabilities and closeout of sites. Development of major new initiatives and infrastructure investments gave way to a focus on planning for a smooth program closeout while maintaining a high level of public safety and replacing obsolete systems as required. The Aberdeen, Anniston, Deseret, Newport, Pine Bluff, and Umatilla stockpiles have been eliminated, and the CSEPP operations for those communities have been closed out. As of 2017, the systemization phase is underway at Blue Grass, and agent destruction has begun at Pueblo. The Army and FEMA have focused on sustaining and adjusting the federal management structure so as to maintain efficiency while ensuring that the maximum-protection mandate remains fulfilled.

Congress has set parameters for ending CSEPP as demilitarization is completed at each site. In 2008, the National Defense Authorization Act amended 50 U.S.C. 1521(c)(5) to state that assistance may be provided to State and local governments in developing capabilities to respond to emergencies involving the storage and destruction of lethal chemical agents and munitions until the earlier of the following:

- The date of the completion of all grants and cooperative agreements with respect to the installation or facility for purposes of this paragraph between FEMA and the state and local governments concerned; or

- The date that is 180 days after the date of the completion of the destruction of lethal chemical agents and munitions at the installation or facility.

The transition to a two-site program will not change the commitment of the Army and FEMA to provide maximum protection, but it does allow for opportunity to assess program functions as the stockpile is eliminated. Program and functional management will continue through integrated process teams (IPTs) and working groups. These may change or evolve in concert with the program.

CSEPP funding will continue until the Army has completed destruction of each installation's stockpile of lethal chemical agents and munitions. Until expiration of the statutory limit, the Army and FEMA will continue to request and expend appropriated funds to assist emergency preparedness and response to a chemical accident or incident. The most important objective for these funds remains to develop and maintain the capabilities required to avoid injuries and fatalities should an accidental release of a chemical agent occur.

The Program Closeout IPT captured a number of planning considerations and site-specific lessons learned for publication in the *CSEPP Closeout Guidebook*. *Appendix H: Program Closeout Planning* provides an updated version of the task lists originally included in *CSEPP Closeout Guidebook* to reflect the new grant requirements under 2 CFR 200.

Appendix B: Technical Background

Effective emergency response planning under the Chemical Stockpile Emergency Preparedness Program (CSEPP) requires a technical understanding of the chemical agents and materials involved and the way they are stockpiled and to be destroyed. This appendix describes aspects of the chemical agents and stockpile pertinent to emergency planning. The stockpile is described in terms of agent and munition types, storage facilities, agent destruction technologies, and physical characteristics of the agents and symptoms of exposure.

Chemical Stockpile

Originally stored at eight continental U.S. Army installations and three non-contiguous sites, the chemical agent stockpile has been largely eliminated using various destruction technologies. The remaining stockpile is stored at two sites—Blue Grass Army Depot in Richmond, Kentucky, and Pueblo Chemical Depot in Pueblo, Colorado—and represents 10 percent of the original stockpile (by weight) at the time of startup of agent-destruction activities at Pueblo in 2016. The stockpile consists of two types of nerve agents (GB and VX) and a blister agent (mustard). The stockpile contains projectiles, cartridges, and rockets. All of the agents and munitions are at least 50 years old; some are more than 60 years old. Further site-specific information is provided in *Appendix C: Blue Grass Risk Snapshot* and *Appendix D: Pueblo Risk Snapshot*.

Chemical munitions are stored in a designated surety area within each installation that is referred to as the "chemical limited area." The stockpile is kept on pallets, in boxes, or in cans and is stored in concrete, earth-covered bunkers (igloos) specifically designed to protect munitions from external forces (e.g., environmental factors and attack) and also contain the force of an explosion. Igloos have lightning-protection systems and steel doors and are equipped with multiple locking systems. Each igloo contains only one type of agent, and access is strictly controlled by security forces augmented with intrusion-detection devices, barricades, and area lighting.

The chemical agent destruction technologies at Blue Grass and Pueblo are as follows:

- **Blue Grass:** neutralization followed by supercritical water oxidation for nerve agents and static detonation chamber for the blister agent (mustard)

- **Pueblo:** neutralization followed by biological treatment with 'reject' munitions destroyed in an Explosives Destruction System

Properties of Chemical Agents

The Blue Grass Army Depot stockpile contains both nerve and blister agents; the Pueblo Chemical Depot stockpile contains only blister agents. The chemical and physical properties of these agents determine the agents' volatility; behavior in explosions, spills, and fires; and diffusion into the atmosphere. These qualities in turn have a direct bearing on emergency planning and response. Agent toxicity determines impact on human,

animal, and plant life. All community and installation emergency operations centers maintain copies of safety data sheets on these agents.

Physical and Chemical Properties

The chemical agents within the munitions remain in liquid form, although the sulfur mustards (H and HD) will freeze around 59ºF and the sulfur mustard agent blend (HT) around 32ºF. If munitions are breeched, the liquids will evaporate to form nerve or mustard gas. These vapors are denser gases in the immediate area of the release, but they will become neutrally buoyant (carried by the wind) at relatively close distances. The general characteristics of the chemical agents are listed in Table 2.

Table 2: Chemical Agent Properties

Agent	Type	Classification	Color	Odor
GB	Nerve	Non-persistent (hours)	Colorless	Odorless
VX	Nerve	Very persistent (weeks)	Colorless to pale amber	Odorless
HD	Blister	Persistent (days)	Pale yellow to dark brown	Garlic/horseradish

Agent Exposure and Symptoms

The nerve agents GB and VX inhibit cholinesterase in the central nervous system. Signs and symptoms may appear within seconds, minutes, or hours. Mustard agent is a vesicant (causes blisters) and damages tissues. Signs and symptoms of mustard exposure are delayed from hours to days. Mustard agent is classified as a carcinogen. All of the agents pose a risk for both inhalation and skin contact, and all are potentially fatal. The effects of agent exposure and the signs/symptoms are listed in Figure 42.

| EXPOSURE | TIMEFRAME | DOSE | SIGNS AND SYMPTOMS |

GB/VX

Inhalation

Ingestion (swallowing)

Skin Absorption

Seconds to Hours

Low/ Moderate

- Abnormally low or high blood pressure
- Blurred vision
- Chest tightness
- Confusion
- Cough
- Diarrhea
- Drooling and excessive sweating
- Drowsiness
- Eye pain

- Headache
- Increased urination
- Nausea, vomiting, and/or abdominal pain
- Rapid breathing
- Runny nose
- Slow or fast heart rate
- Small, pinpoint pupils
- Watery eyes
- Weakness

ADDITIONAL HEALTH EFFECTS

Large

- Convulsions
- Loss of consciousness

- Paralysis
- Respiratory failure possibly leading to death

MUSTARD

Inhalation

Eye

Skin Contact

Hours

Low/ Moderate

- **Skin** | Redness and itching of the skin, may eventually change to yellow blistering of the skin
- **Eyes** | Irritation, pain, swelling, and tearing
- **Respiratory Tract** | Runny nose, sneezing, hoarseness, bloody nose, sinus pain, shortness of breath

- **Digestive Tract** | Abdominal pain, diarrhea, fever, nausea, and vomiting
- **Bone Marrow** | Decreased formation of blood cells (aplastic anemia) or decreased red or white blood cells and platelets (pancytopenia) leading to weakness, bleeding and infections

ADDITIONAL HEALTH EFFECTS

Hours to Days

Large

- **Skin** | Second- and third- degree burns and later scarring
- **Eyes** | Irritation, pain, swelling, and tearing plus light sensitivity, severe pain, or blindness

- **Respiratory Tract** | Chronic respiratory disease, repeated respiratory infections, or death

Figure 42: Agent Symptoms

Public Health and Environmental Impacts

The magnitude of the impact of an agent release depends on a number of variables:

- Agent type and amount
- Release method (e.g., spill or explosion)
- Weather conditions
- Warning time
- Exposed population factors (including number, age, health, and protection level)
- Type of exposure (skin, inhalation)
- Speed of evacuation
- Adequacy of shelters
- Timeliness of decontamination and medical treatment

The Army provides the plume model for these assessments and the automation system used for notification between the depots and state and county emergency managers.

Recovery factors for consideration after the response phase are as follows:

- Drinking water sources
- Food supplies
- Livestock
- Land use and crops

Acute Exposure Guideline Levels

CSEPP uses Acute Exposure Guideline Levels (AEGLs) as toxicity criteria for the purposes of emergency planning and response. AEGLs are exposure guidelines designed to help responders manage emergencies involving chemical spills or other catastrophic events where members of the general public are exposed to a hazardous airborne chemical. These criteria reflect Army and U.S. Department of Homeland Security recommendations and are consistent with planning recommendations for all extremely hazardous substances. AEGLs are used in conjunction with plume-dispersion modeling to identify and prioritize areas for protective action. The chemical agent AEGLs concentrations are listed in Table 3, Table 4, and Table 5.

- **AEGL-3:** Is the airborne concentration (expressed as parts per million [ppm] or milligrams per cubic meter [mg/m^3]), of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.

- **AEGL-2:** Is the airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

- **AEGL-1:** Is the airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

In general, AEGLs may be used to prioritize actions as follows:

- **AEGL-3:** Priority should be given to prevent exposures above AEGL-3 that could result in severe, incapacitating, and possibly lethal outcomes.

- **AEGL-2:** Protective actions should be directed toward preventing or minimizing exposures above AEGL-2 above which some temporary but potentially escape-impairing effects could occur.

- **AEGL-1** boundaries identify those areas where, at or below expected concentration, no action is required to protect the public. This information may be used at the discretion of local emergency decision makers to alert and notify communities.

Table 3: Chemical Agent Acute Exposure Guideline Levels (AEGLs) for Nerve Agent GB (Sarin) (concentrations in parts per million [ppm] [mg/m^3])

AEGL	10 Minutes	30 Minutes	60 Minutes	4 Hours	8 Hours
1	0.0012 [0.0069]	0.00068 [0.0040]	0.00048 [0.0028]	0.0024 [0.0014]	0.0017 [0.0010]
2	0.015 [0.087]	0.0087 [0.050]	0.0060 [0.035]	0.0029 [0.017]	0.0022 [0/013]
3	0.064 [0.38]	0.032 [0.19]	0.022 [0.13]	0.012 [0.070]	0.0087 [0.051]

Table 4: Chemical Agent Acute Exposure Guideline Levels (AEGLs) for Nerve Agent VX (concentrations in parts per million [ppm] [mg/m^3])

AEGL	10 Minutes	30 Minutes	60 Minutes	4 Hours	8 Hours
1	0.000052 [0.00057]	0.000030 [0.00033]	0.000016 [0.00017]	0.0000091 [0.00010]	0.0000065 [0.000071]
2	0.00065 [0.0072]	0.00038 [0.0042]	0.00027 [0.0029]	0.00014 [0.0015]	0.000095 [0.0010]
3	0.0027 [0.029]	0.0014 [0.015]	0.00091 [0.010]	0.00048 [0.0052]	0.00035 [0.0038]

Table 5: Chemical Agent Acute Exposure Guideline Levels (AEGLs) for Sulfur Mustard (concentrations in parts per million [ppm] [mg/m^3])

AEGL	10 Minutes	30 Minutes	60 Minutes	4 Hours	8 Hours
1	0.060 [0.40]	0.020 [0.13]	0.010 [0.067]	0.0030 [0.017]	0.0010 [0.0038]
2	0.090 [0.60]	0.030 [0.20]	0.020 [0.10]	0.0040 [0.025]	0.0020 [0.013]
3	0.59 [3.9]	0.41 [2.7]	0.32 [2.1]	0.080 [0.53]	0.040 [0.247]

State and local emergency managers selecting alternative decision criteria should document the criteria and rationale and coordinate associated planning with the Army and FEMA. The Army will provide modeling and software capability and output based on described decision criteria.

Risk Assessment

CSEPP employs its own detailed, site-specific analyses of hazards, vulnerabilities, and risks to the surrounding community at each of the stockpile sites. These analyses provide information that CSEPP communities can use as they conduct their five-step Threat and Hazard Identification and Risk Assessment.

Risk assessment snapshots for the Blue Grass and Pueblo communities can be found in *Appendix C: Blue Grass Risk Snapshot* and *Appendix D: Pueblo Risk Snapshot*. Each of these snapshots provides a summary of the location, contents, potential health effects, and risks of the associated stockpile.

Appendix C: Blue Grass Risk Snapshot

In addition to a technical understanding, it is important to recognize the unique properties of the chemical agents stored at the Blue Grass Chemical Activity (BGCA) and the associated risk. This appendix describes BGCA size and stockpile composition, storage and destruction, vulnerability, maximum credible event planning, and risk.

Blue Grass Chemical Activity

The BGCA resides within the Blue Grass Army Depot (BGAD) (shown in Figure 43), located in Richmond, Kentucky. The depot size is approximately 15,000 acres, with 255 acres dedicated to the storage of chemical weapons.

Figure 43: Blue Grass Army Depot Entrance

The BGCA chemical stockpile consists of two types of chemical agent: a blister agent (mustard) and two nerve agents (GB and VX). The nerve agent GB is commonly called sarin. The nerve agent VX is less volatile than GB and more persistent in the environment. Additional information, including physical and chemical properties of each agent, and exposure and symptoms, can be found in *Appendix B: Technical Background*.

Storage of the blister agent (mustard) began in 1944, and nerve agent storage commenced in the mid-1960s. The stockpile is stored in 45 concrete structures (igloos) inside a secure, restricted area. The igloos store approximately 523 tons of chemical agent within

approximately 102,000 projectiles and rockets. The chemical agents will be destroyed on-site at the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP), which borders the chemical storage area.

Storage and Destruction

The BGCA mission is the safe storage of its stockpile of chemical weapons. Igloos are located near BGAD's northern boundary in an area of approximately one-half square mile. Destruction of the chemical stockpile is managed by the Program Executive Office, Assembled Chemical Weapons Alternatives and BGCA. The Bechtel Parsons Blue Grass Team is the systems contractor responsible for designing, constructing, and operating the BGCAPP. The chemical agent will be destroyed by chemical neutralization followed by supercritical water oxidation.

Vulnerability

BGAD is located in a heavily-populated section of Madison County; Madison and Estill Counties have been designated as immediate response zone (IRZ) counties for planning purposes. Other counties in the footprint are Clark, Fayette, Garrard, Jackson, Powell, and Rockcastle; Jessamine and Laurel are host counties. The total estimated population of the footprint is 473,103 residents.

Maximum Credible Event Planning

The Army assigns risk to categories in a Risk Assessment Code (RAC), accounting for the hazard probability (ranging from frequent to unlikely) and the hazard severity (ranging from negligible to catastrophic). BGCA uses the RAC in daily planning for all chemical operations.

For each chemical operation, BGCA plans for a potential chemical accident or incident called the Maximum Credible Event (MCE). Using current meteorological conditions, the BGCA projects a hypothetical chemical plume based on the MCE using WebPuff™. If the Acute Exposure Guideline Level (AEGL)-3 chemical threshold level is projected to exceed the BGAD boundary (and hence reach the general population), the operation is prohibited from being conducted. MCEs are typically either a spill of chemical agent or an explosion of a chemical munition. These hypothetical MCE plumes generally do not exceed the BGAD boundary. However, because of its design and construction, the M55 rocket MCE includes a 'sympathetic' detonation of a second rocket and damage to an entire pallet of 15 rockets (shown in Figure 44). These hypothetical plumes could exceed the BGAD boundary and require more detailed planning and monitoring than the other munitions in the stockpile.

Figure 44: M55 Rockets in Storage at Blue Grass Army Depot

Risk Description

The U.S. Department of Homeland Security defines risk as the "potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences." For the Chemical Stockpile Emergency Preparedness Program (CSEPP), risk is primarily a function of the chemical stockpile characteristics (i.e., physical and toxicological properties of chemical agent) combined with the probability of an accident release and the community emergency response characteristics (e.g., ability to evacuate and effectiveness of shelters). The risk results combine all possible chemical stockpile accidents with all possible weather conditions. Due to the nature of potential accidents involving the chemical munitions, the physical properties of the chemical agents, and the distance to the BGAD boundary, chemical agent in liquid or droplet form is not expected to reach the BGAD boundary. The risk to the general public is limited to exposure to potential chemical agent vapors.

The largest contributors to public risk from the BGCA chemical stockpile are external events that involve a large number of munitions: lightning-induced fires (71%) and seismic events (27%) comprise the bulk of the storage risk.

The risk from the chemical stockpile can be expressed in a number of ways. The two common methods used within CSEPP are risk of fatality and exceedance of an exposure threshold (e.g., AEGL-2).

Select risk results include the following:

- For the public closest to the stockpile, the individual risk of fatality is an estimated 0.7 in 1 million per year, which is slightly less than the common 'acceptable' risk measure of 1 in 1 million per year. The risk decreases with increased distance from the stockpile. At a distance of 10 miles—the approximate extent of the IRZ—the individual risk of fatality is an estimated 1 in 100 million per year. (The Madison County Emergency Management Agency selected the standard 1 in 100 million for maximum protection for collective pressurization of schools.)

- The estimated frequency of occurrence for the AEGL-3 (threshold for severe symptoms) at the nearest BGAD boundary is one event every 40,000 years. The frequency of the AEGL-2 (threshold for mile-moderate symptoms) is one event every 25,000 years.

- In Fayette County, the AEGL-3 frequency is generally less than 1 in 1 million per year.

- Although the BGCA chemical stockpile poses a very real risk to the surrounding general public, the results indicate that the risk is low.

Appendix D: Pueblo Risk Snapshot

In addition to a technical understanding, it is important to recognize the unique properties of the chemical agent stored at the Pueblo Chemical Depot (PCD) and associated risk. This appendix describes PCD size and stockpile composition, storage and destruction, vulnerability, maximum credible event planning, and risk.

Pueblo Chemical Depot

The PCD (shown in Figure 45) is located on 23,000 acres of land approximately 14 miles east of Pueblo, Colorado. The depot size is approximately 33 square miles, with 600 acres dedicated to the storage of chemical weapons.

The PCD chemical stockpile consists of a single type of chemical agent, a blister agent (mustard). Additional information, including: physical and chemical properties of the blister agent, and exposure and symptoms can be found in *Appendix B: Technical Background*.

Storage of the blister agent (mustard) began in the 1950s. The stockpile is stored in 102 concrete structures (igloos) inside a secure, restricted area. Igloos store approximately 2,611 tons of chemical agent within approximately 780,000 cartridges and projectiles. The chemical agent will be destroyed on-site at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP), which borders the chemical storage area. As of September 2017, PCAPP operations had destroyed more than 40,000 of the original stock of munitions.

Figure 45: Pueblo Chemical Depot Entrance

Storage and Destruction

The PCD mission is the safe storage of its stockpile of chemical weapons. Igloos are located near PCD's northern boundary in an area of approximately 1 square mile. Destruction of the chemical stockpile is managed by the Program Executive Office, Assembled Chemical Weapons Alternatives and PCD. The Bechtel Pueblo Team is the systems contractor responsible for designing, constructing, and operating PCAPP. The chemical agent will be destroyed onsite by chemical neutralization followed by bio-treatment. After bio-treatment, the hydrolysate is shipped to Veolia Remediation Facility in Port Arthur, Texas.

Vulnerability

PCD is located in a lightly populated section of Pueblo County, which has an estimated population of 151,600 residents. Pueblo County has been designated as an immediate response zone county for planning purposes. Parts of parcels of PCD are currently being transitioned from federal land to private-sector land. This transition will change the areas demographic and public risk, and this risk snapshot.

Maximum Credible Event Planning

The Army assigns risk to categories in a Risk Assessment Code (RAC), accounting for the hazard probability (ranging from frequent to unlikely) and the hazard severity (ranging from negligible to catastrophic). PCD uses the RAC in daily planning for all chemical operations.

For each chemical operation, PCD plans for a potential chemical accident or incident called the Maximum Credible Event (MCE). Using current meteorological conditions, the PCD projects a hypothetical chemical plume assuming a MCE occurs using WebPuff™. If the Acute Exposure Guideline Levels (AEGLs)-3 chemical threshold level is projected to exceed the PCD boundary (and hence reach the general population), the operation is prohibited from being conducted. MCEs are typically either a spill of chemical agent or an explosion of a chemical munition (shown in Figure 46). These hypothetical MCE plumes generally do not exceed the PCD Chemical Limited Area and are not expected to reach the PCD boundary. Accidents that threaten the general public have a lower probability than MCEs.

Figure 46: Mustard 155mm Munitions in Storage at Pueblo Chemical Depot

Risk Description

The U.S. Department of Homeland Security defines risk as the "potential for an unwanted outcome resulting from an incident, event, or occurrence, as determined by its likelihood and the associated consequences." For the Chemical Stockpile Emergency Preparedness Program (CSEPP), risk is primarily a function of the chemical stockpile characteristics (i.e., physical and toxicological properties of chemical agent) combined with the probability of an accident release and the community emergency response characteristics (e.g., ability to evacuate and effectiveness of shelters). The risk results combine all possible chemical stockpile accidents with all possible weather conditions.

Due to the nature of potential accidents involving the chemical munitions, the physical properties of the chemical agents, and the distance to the PCD boundary, chemical agent in liquid or droplet form is not expected to reach the PCD boundary. The risk to the general public is limited to exposure to potential chemical agent vapors.

The largest contributors to public risk from the PCD chemical stockpile are external events that involve a large number of munitions (e.g., airplane crashes and seismic events).

The risk from the chemical stockpile can be expressed in a number of ways. The two common methods used within CSEPP are risk of fatality and exceedance of an exposure threshold (e.g., AEGL-2).

Select risk results include the following:

- For the public closest to the stockpile, the individual risk of fatality is an estimated 1 in 100 million per year. This risk is much less than the common 'acceptable' risk measure of 1 in 1 million per year. The risk decreases with increased distance from the stockpile.

- The estimated frequency of occurrence for the AEGL-3 (threshold for severe symptoms) at the nearest PCD boundary is one event every 1 million years. The frequency of the AEGL-2 (threshold for mile-moderate symptoms) is one event every 200,000 years.

- Although the PCD chemical stockpile poses a very real risk to the surrounding general public, the results indicate that the risk is very low.

Appendix E: Planning, Programming, Budgeting, and Execution

An understanding of the U.S. Department of Defense's (DoD) Planning, Programming, Budgeting, and Execution (PPBE) financial process is necessary because it affects all Chemical Stockpile Emergency Preparedness Program (CSEPP) whole community partners. It is also the only process by which partners request and obtain CSEPP funding. This appendix describes the preparation of an annual budget and life-cycle cost estimate (LCCE) and subsequent obtainment and distribution of funds.

Planning

Because the Chemical Demilitarization Program has been designated a Major Defense Acquisition Program within DoD, a baseline LCCE was established and must be maintained for the Chemical Demilitarization Program. This, in turn, requires a CSEPP LCCE that estimates financial requirements for each year the program is scheduled to exist, which can be beyond the Future Years Defense Program (FYDP) time span. To be effective, these estimates must be based on well thought out operational plans and sound cost estimating methodologies.

For CSEPP, the off-post planning phase of the PPBE process is used to maintain and enhance coordinated CSEPP plans for installations, state and local governments, and organizations. The underlying planning process involves identifying and assessing risk and the capabilities needed to address these risks. Plans describe how the whole community will meet and sustain full compliance with CSEPP National Benchmarks defined by the community-profile process.

Applying for a CSEPP cooperative agreement (CA) requires developing individual narrative items with a plan of action including results or benefits expected for each of the benchmarks. Work plans for CSEPP–funded employees are also required to describe the work they will perform. Through this process, CSEPP state and local governments include in their respective LCCEs any additional resources needed to develop and support the capabilities described in their plans. Installations must similarly evaluate the needs of their plans to include requirements in their respective LCCEs.

Programming

During this phase of the PPBE process, LCCE spreadsheets document CSEPP funding requirements for Army and FEMA support, state and local governments, and installations. Spreadsheets list requirements as line-item entries organized by CSEPP benchmarks for each year that chemical demilitarization operations are scheduled. The LCCE expresses funding amounts in base-year dollars for the year the LCCE is being developed or updated. For example, LCCEs updated in 2017 used Base Year 2017 dollars (i.e., what an item costs in 2017) for estimating the cost of all items for all years in the LCCE by a qualified estimator, with the basis and methodology for estimation documented and supported for each line item. This eliminates the need for developers of LCCEs to estimate the inflated cost of an item for the future years. Inflation, based on

indices developed by the Office of Management and Budget (OMB) and used by all executive departments and agencies of the federal government, is added by the Army to the future year estimates before the FYDP and budget estimates are submitted to Congress.

CSEPP uses two different types of appropriated funds—Operations and Maintenance (O&M) and Procurement—when programming its requirements. Most CSEPP programmed funds are for O&M and are used for recurring expenses such as salaries, supplies and materials, maintenance of equipment and real property, equipment rental, and fuel. O&M funds should also be programmed to purchase investment items such as equipment costing less than $250,000 and minor construction projects. Procurement funding should be programmed for investment items such as equipment costing more than $250,000.

Estimating future costs of existing and new requirements requires a cost estimating methodology. Cost methodologies commonly used in DoD acquisition programs are analogy, statistical (parametric), engineering (bottoms up), and actual costs.

- The analogy method subjectively compares a new requirement with one or more existing similar requirements for which there is accurate cost data.

- The parametric method is a statistical method based on design characteristics that uses a database of elements from similar systems and makes statistical inferences about the cost estimating relationships.

- The engineering method is a bottom-up approach where each work breakdown structure element is priced to build the cost estimate for the entire system or service.

- The actual cost method is extrapolation from actual costs contracted for or actually incurred on a system or service during an earlier event. Given the maturity of CSEPP, the actual cost method should be used to the maximum extent possible.

Each year, state and local governments update their respective CSEPP LCCEs and enter into discussions with FEMA to determine requirements that the agency will validate and submit to the Army. The FEMA CSEPP Office also develops its own support requirements for the CSEPP LCCE, as do Army CSEPP installations and the Army's CMA CSEPP Office. The CMA CSEPP Office consolidates all of these requirements into the CSEPP LCCE for inclusion in chemical demilitarization programming and/or budgeting documents. Following that action, the CMA Business Operations Directorate develops the Program Office Estimate (POE), which is a consolidation of the LCCEs for all Chemical Demilitarization Program projects, including CSEPP. After approval by the CMA Director, the POE is used as the basis for the Chemical Demilitarization Program, Program Objective Memorandum (POM), which becomes part of the overall Army POM.

Each DoD department and agency develops a POM. The Army POM describes the proposed Army budget (program requirements and funding) for the next 5 years in detail. The Army can, as needed, move program-year resources between appropriations and Army program elements but not between years. Total program-year funding must stay within the total obligation authority set by DoD. The Office of the Secretary of Defense

(OSD) Defense Resources Board reviews department and agency POMs, and the Board documents the results of its review in Program Decision Memorandums. These reviews can direct adjustment of a POM by increasing or decreasing approved funding for program years based on DoD funding limits and overall priorities within DoD. After DoD makes adjustments, DoD incorporates all of its department and agency POMs into the approved DoD FYDP.

Budgeting

The first program year of the Chemical Demilitarization Program POM becomes the budget estimate that will be prepared for eventual submission to Congress. The CMA Business Operations Directorate develops the Department of Defense Chemical Agents and Munitions Destruction Budget Estimate Submission document which consists of a detailed description of the budget being requested along with justification. CSEPP funding requirements and justification are included in this document. OSD and OMB budget analysts review the document to ensure that program funding matches current program guidance and that justifications are sound. After the Department of Defense Chemical Agents and Munitions Destruction Budget Estimate Submission is approved it becomes part of the overall DoD budget which is included in the President's Budget request to Congress in February of each year.
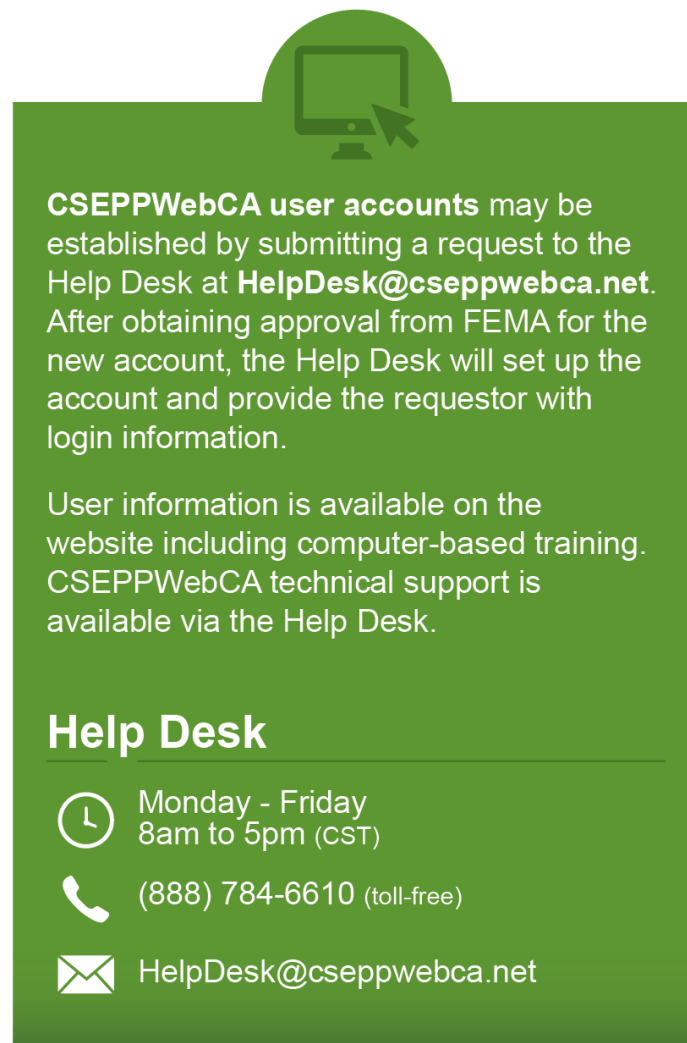
Funding requests that were not in the POM can be difficult to get into the Budget Estimate Submission if offset funds are not available to keep the Chemical Demilitarization Program from exceeding its total funding allocation for the Budget Estimate Submission Fiscal Year (FY). This highlights the importance of the LCCE part of the process to ensure that the planning and programming phase of the PPBE reflects the best projection of funding needs. Funding requirements identified and validated in the planning and programming phase of the PPBE establish precedence and have more credibility than requirements that are not identified until the budgeting phase.

Each year while Congress is deliberating CSEPP funding requests in Department of Defense Chemical Agents and Munitions Destruction budget submissions, state and local governments prepare their budget requests using the budget year in their respective LCCEs as their starting point. In preparing their budget requests, state and local governments follow the CSEPP Notice of Funding Opportunity (NOFO). FEMA CSEPP Headquarters develops the NOFO in accordance with 2 CFR 200.203 and issues the document to eligible recipients through Grants.gov. This guidance addresses the period of performance, available funding, cost sharing, funding restrictions, allowable and unallowable costs, indirect costs, and other federal and program-specific requirements.

CSEPP budgeting is a bottom-up process initiated as local governments prepare their requests and submit them to their respective state agency responsible for CSEPP. The state, after developing a budget for its own operations, rolls the local government requests into the state's request. Prior to submitting state CSEPP requirements to FEMA, federal, state, tribal, territorial, and local participants in the process meet to discuss the purpose and justification for specific projects. The goal is to have CSEPP state budget requests ready for submittal at the time the President signs the Defense Appropriations

Bill. Ultimately, FEMA awards CSEPP funds to the states through CAs. FEMA has chosen to use a CA because it is substantially involved, beyond the typical stewardship of taxpayer funds, in directing or controlling the actions or decisions of the recipients while the recipients expend the award.

To expedite and standardize the budget preparation, review, submittal and approval, all CA applicants use the software provided on CSEPPWebCA. This software automates the application process as well as the subsequent management of the CA including quarterly reporting, reallocations and amendments, and closeout. Information related to CSEPPWebCA technical support is listed in Figure 47.

CSEPPWebCA user accounts may be established by submitting a request to the Help Desk at **HelpDesk@cseppwebca.net**. After obtaining approval from FEMA for the new account, the Help Desk will set up the account and provide the requestor with login information.

User information is available on the website including computer-based training. CSEPPWebCA technical support is available via the Help Desk.

Help Desk

Monday - Friday
8am to 5pm (CST)

(888) 784-6610 (toll-free)

HelpDesk@cseppwebca.net

Figure 47: CSEPPWebCA Help Desk Information

The Army installations perform a similar analysis of their CSEPP requirements, using their latest LCCE as their starting point. The CMA CSEPP Office reviews its respective budgets and submits them to the CMA Resource Allocation Committee, which meets each spring to approve the CMA budgets for the next FY.

Ideally, Congress passes and the President signs the Defense Appropriations Bill prior to the beginning of the new FY in October. However, if the Defense Appropriations Bill is not law by October 1, Congress usually passes a Continuing Resolution (CR) Bill that is signed by the President. A CR Bill keeps DoD operating at the same level of effort as the last FY until the Defense Appropriations Bill is enacted into law. If a CR Bill is required, a portion of the CSEPP budget necessary to pay salaries and keep vital operations functioning will be advanced to CSEPP States and installations. The amount provided will depend on the need of the organization and the length of the continuing resolution. The CA award will be reduced by the advanced CR amount after the Defense Appropriations Bill becomes law and the balance of funding is available to award.

Execution

Budget execution begins on October 1 of each year, assuming the Defense Appropriations Bill has been signed into law by then. During the execution phase, off-post recipients and sub-recipients apportion, allocate, issue, obligate, and expend appropriated funds to accomplish the CSEPP mission. After Congress approves and the President signs the Defense Appropriation Bill, the OMB must apportion the appropriations providing obligation and budget authority to DoD. The apportionment process is a fiscal management tool used by OMB to achieve the most effective and economical use of appropriations and prevent agencies from obligating funds in a manner that would result in a deficiency or require a supplemental appropriation. After receiving the obligation and budget authority from OMB, the Under Secretary of Defense (Comptroller) makes appropriations available to the Army so that it can issue Funding Authorization Documents (FADs). The Office of the Assistant Secretary of the Army for Financial Management and Comptroller to CMA issues FADs for CSEPP off-post O&M funding, on-post O&M funding, and any Procurement funding for off-post or on-post through the Army Materiel Command. After receiving the FAD, CMA sends off-post funding to FEMA.

FEMA must follow a series of steps to comply with federal statutory, regulatory, and policy requirements before it can make an award. Upon receipt of funds from CMA, FEMA must apply for and receive apportionment authority from OMB for distributing these funds. Next, as required by 2 CFR 200.203, FEMA prepares a NOFO that includes a program description and information on the award; applicant eligibility; application preparation and submission, and review; and federal award administration. Following DHS and OMB approval of the NOFO, FEMA posts this notice on Grants.gov to provide greater visibility on the use of federal funds, as required by OMB policy. Applicants review the NOFO for eligibility and other conditions and requirements, and then prepare and submit a CA application package through CSEPPWebCA that includes sub-recipient information. FEMA reviews each application for eligibility and completeness before making an award determination in consideration of the funding requested and available. More detailed information on this process is included in the CSEPP NOFO.

Once FEMA has determined the recipient-specific award amounts, FEMA prepares a legal notification to Congress announcing the intended awards, as required by the DHS

Appropriations Act. After a waiting period to allow Congressional representatives to alert their constituents, FEMA can enter into a CSEPP CA with the selected recipients and make the associated funding awards. Recipients then finalize their agreement with sub-recipients and make sub-awards in accordance with state and local requirements. Finally, after the sub-recipients take appropriate action to receive local spending authority, they can begin to expend CSEPP funds.

FEMA can award two different types of appropriated funds to the states through their respective CAs depending on type of CSEPP appropriations in the Defense Appropriations Bill. Each type of appropriation has a defined obligation period, also known as the period of availability. CSEPP O&M appropriations may be 1 or 2 years. The obligation period or period of availability for Procurement funds will usually be 3 years. These obligation periods or periods of availability are important to the states because they define the period of time the states have to change the scope of their requirements if it should become necessary. Once the obligation period or period of availability expires, the state must obligate the awarded funding for the stated requirement in the CA or return the funding to FEMA as un-liquidated obligations.

The period of time available to expend the obligated funds is determined by the CA performance period, which the FEMA Region Assistance Officer can adjust. If recipients need additional time to expend their funds they should apply for an extension of their performance period before the current performance period expires. Recipients can also request amendments to their CAs to reallocate funding or to change the scope of their requirements. Recipients must account for their expenditures to FEMA by entering outlays by budget line-item and benchmark status information into CSEPPWebCA. The software will automatically generate the required quarterly financial status and performance reports in accordance with 2 CFR 200.327.

If a CSEPP state or local installation is not able to obligate all of its awarded funds by the end of the obligation period or period of availability, FEMA may approve reallocation of these funds to address unfunded requirements if the recipient returns the unusable funding before the end of this period. This does not guarantee that the budget will accommodate all unexpected funding needs that arise. However, the Army and FEMA will work together to address unfunded requirements as best they can, given the availability of funding.

Appendix F: Assessments

Assessment is a critical part of the *National Preparedness System* that examines threats, desired outcomes in response to the threat, capabilities required for the response, and gaps in meeting the desired outcomes. Regular assessment and validation of requirements and capabilities to respond to the ever-changing environment is imperative.

While the Chemical Stockpile Emergency Preparedness Program (CSEPP) hazard remains fairly constant, personnel turnover, emerging technologies, equipment life-cycle, community demographics, and infrastructure changes all pose challenges to provide protection to the whole community. This appendix describes the various assessment tools available to the CSEPP whole community.

Community Profile Assessment

CSEPP communities have historically assessed their capabilities using the 12 CSEPP National Benchmarks and the Community Profile self-assessment process and provided these assessments during the Program Management Team meetings.

CSEPP communities evaluate and assess their capabilities against actions required and performance indicators described in the CSEPP Strategic Plan for each benchmark (shown in Table 6). Communities assess themselves as capable (C), partially capable (PC), and not capable (NC). These assessment ratings are informed by exercise results, equipment tests, training opportunities, procurement actions, and other engineering or construction project completion.

Table 6: 12 CSEPP National Benchmarks and the Community Profile Self-Assessment Process

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
Administrative Support	• Support the Chemical Stockpile Emergency Preparedness Program by developing staff work plans, purchasing supplies, maintaining equipment inventory, administering contracts, and monitoring projects. • Create and negotiate a budget within the Federal Emergency Management Agency regions for the next fiscal year by creating and executing a budget package using CSEPPWebCA software in accordance with the annual Chemical Stockpile Emergency Preparedness Program cooperative agreement guidance. • Implement the current fiscal year budget award by maintaining current readiness and initiate new projects as specified within the current budget award. • Monitor program progress; request budget amendments and extensions, as required; and create and submit timely quarterly reports on financial and program progress. • Submit closeout documentation for prior-year cooperative agreements.	• The on-post and off-post communities' ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Timely programming and budgeting actions and release of annual funding to the grantees addressing all validated requirements	
Alert and Notification	• Develop and maintain alert and notification procedures addressing specific roles and responsibilities, including initial activation of warning systems, selection of warning messages, confirmation of activation, repetition of warnings, and issuance of all-clear messages. • Ensure Chemical Stockpile Emergency Preparedness Program personnel coordinate chemical event notifications and other relevant information between installation and community emergency operation centers in compliance with Army procedures and local memorandums of understanding.	• Results of regular system testing and the frequency and duration of service interruptions. • Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program and quarterly Chemical Accident or Incident Response and	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	• Develop and maintain scripted, system-specific warning messages based on the site's chemical event emergency classification system and a predetermined protective action strategy. • Maintain the ability to control the alert and notification from two systems. • Maintain a 24-hour operational capability for both initial and ongoing alert and notification activities. • Maintain a current program of regular preventive maintenance for all elements of the primary and alternate alert and notification systems. • Ensure alert and notification systems function as designed through periodic testing. • Evaluate the effectiveness of the alert and notification system periodically to ensure that alert signals and notification messages in each area of the immediate response zone are of sufficient volume to be heard above ambient noise levels.	Assistance exercises and real-world emergency situations.	
Automation	• Adopt an integrated automation system that supports the accredited Chemical Stockpile Emergency Preparedness Program hazard modeling software, the installation's and community's protective action recommendation, determination and alert and notification protocols, and event notification and management to meet specific community needs. • Ensure that the automation systems are compatible with jurisdictional emergency management software for hazard prediction, hazard communication, and protective action recommendations. • Ensure that the automation systems meet Army, state, and local information technology standards and requirements for hardware and software and incorporate appropriate security features.	• Results of regular system testing and the frequency and duration of service interruptions. • Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations.	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	• Maintain the automation network and associated instrumentation, providing the maximum practical reliability when used among the installation emergency operations center, the state, and all off-post local jurisdictions.		
Communications Systems	• Maintain primary and alternative direct communications systems, providing the maximum practical reliability when used among the installation emergency operations center, the state, and all off-post local jurisdictions. • Use the communication systems to provide public alert and notification and the delivery of other emergency-related public information. • Ensure the availability of backup power for its communications systems and maintain 24-hour operational capability for its communications links. • Develop, maintain, and adhere to standard operating procedures for sending, receiving, recording, disseminating, and validating communications. • Develop and implement a program of regular preventive maintenance of all communications equipment, including a program of regular testing of all communications links.	• Results of regular system testing and the frequency and duration of service interruptions. • Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations.	
Coordinated Plans	• Identify assignments for primary and support roles and responsibilities for all key emergency functions. • Develop procedures for implementing responses to a chemical accident or incident for all emergency officials in public, private, and not-for-profit-sector organizations. • Develop procedures for local implementation of the joint information center/joint information system concept for emergency public information.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	• Describe the standard chemical event emergency notification systems being used, as well as appropriate response actions based on each notification level. • Develop policies for the local implementation of public alert and notification system, in accordance with the local protective action strategy. • Specify the relevant emergency personnel, units, and organizations and list associated equipment/systems assigned to support response operations. • Maintain letters of agreement, mutual aid plans, and any memorandums of agreement or memorandums of understanding between local officials and other public, private, and not-for-profit organizations as needed to provide or direct resources to support a response. • Conduct regular community review of plans and procedures to ensure synchronization.	exercises and real-world emergency situations.	
Emergency Operations Centers	• Provide adequate office furniture, equipment, and supplies to support operations and provide adequate storage space for medicines, food, additional office supplies, and any other equipment needed. • Provide sanitary facilities and, if required, sleeping accommodations adequate for half the total assigned staff at a time. • Provide an emergency power source with an independent fuel supply, adequate for operating all necessary equipment. • Provide a potable water supply that is adequate to support the fully staffed emergency operations centers and not dependent on commercial power or susceptible to disruption by disaster conditions. • Provide a food supply adequate to feed the full staff for several days, which may be delivered from outside and/or stocked within the emergency operations centers.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations.	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	• Provide a regular schedule for testing and maintaining the emergency operations centers equipment.		
CSEPP Exercises	• Prepare and submit an annual exercise date 2 years in advance of the current year to the Chemical Stockpile Emergency Preparedness Program Training and Exercise Working Group. • Assign adequate installation, state, and county representatives to serve on the exercise planning teams for each exercise. Develop appropriate ground rules and extent of play agreements to ensure robust exercise activity and demonstration of exercise objectives. • Develop an extent of play agreement for each exercise to provide the basis for scenario development and document commitments to exercise participation. The extent of play agreements begins with the assumption that the community will fully respond according to their plans and will describe any deviations, such as simulations, out-of-sequence play, or non-participating organizations. • Ensure that installation commanders and community officials support all exercises with reliable and qualified evaluators.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Annual Chemical Stockpile Emergency Preparedness Program exercise, after-action report, and corrective action plan executed in accordance with Program Guidance and CSEPP Exercise Implementation Guidance.	
Medical Preparedness	• Develop regular training for first responders and first receivers to perform specified patient care activities, such as screening, triage, treatment, decontamination, transport, disposition, and patient tracking. • Develop medical emergency operations that are in accordance with Chemical Stockpile Emergency Preparedness Program guidance and federal, state, local, and generally accepted standards for patient care and worker protection. • Coordinate medical plans and procedures, as appropriate, with the Chemical Stockpile Emergency	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations.	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	Preparedness Program alert and notification system, joint information center, and joint information system. • Ensure that medical personnel participate in community response and recovery planning and community-based exercise and evaluation programs.		
Qualified Personnel	• Establish an administrative system for performing day-to-day operations. • Ensure employee job descriptions are developed as needed, detailing each position's specific assignments in the event of an emergency or disaster. • Develop and update employee work plans yearly as part of the cooperative agreement package for program funding. • Ensure that vacancies occurring in Chemical Stockpile Emergency Preparedness Program-funded positions are promptly filled with qualified personnel.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Quarterly performance reports for off-post jurisdiction personnel (derived from annual work plans) and completed and submitted within the CSEPPWebCA software.	
Protective Action Strategies	• Develop a coordinated, local decision-making process for selecting and implementing protective actions that can be rapidly implemented on a 24-hour basis. • Ensure the strategy is based on scientifically sound risk assessment methodology for chemical warfare agents. • Address the selection and implementation of access and traffic control points; criteria for combining evacuation and/or in-place sheltering as public protection measures; and protective measures for populations with access and functional needs. • Identify procedures for the safety and protection of emergency workers and measures to address potential impacts on domesticated animals, crops, food and water supplies. • Regular review and adjustment as needed of protective action strategies, in light of changes in risk,	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations.	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	infrastructure, standards, or other factors that may affect choice of protective measures.		
Public Outreach/Education	• Develop and implement a joint information system that will function as an information sharing and mutual support network for public affairs officers. • Develop a joint information center plan that will help participating jurisdictions to coordinate and disseminate rapid and accurate information during an emergency from a central facility to media outlets and the public. • Develop and implement a public education program to increase the public's knowledge of stockpile hazards, sources of emergency information, and emergency protective actions.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Performance at the annual Chemical Stockpile Emergency Preparedness Program exercise and, as applicable, quarterly Chemical Accident or Incident Response and Assistance exercises and real-world emergency situations. • Ongoing assessments of community awareness of the Chemical Stockpile Emergency Preparedness Program, the nature and risks associated with the chemical stockpile, how to obtain emergency information, and potential actions to take in a chemical emergency.	
Training Programs	• Conduct training needs assessments to inventory and track the needs and skill levels of Chemical Stockpile Emergency Preparedness Program staff requiring specific training or specialized skills. • Identify training coordinators for each installation, state, and county to ensure annual training is available as required, that appropriate training materials and measurement tools are used, and that appropriate training records are maintained. • Employ competent training instructors based on the needs assessment, ensuring that all training is job-specific and documented.	• Each state's and installation's ability to meet and sustain full compliance to this benchmark's standards, as measured by the Community Profile process. • Availability and quality of training materials for installation, state, and county responders.	

Benchmark	Action Required	Performance Indicators	Assessment (C, PC, NC)
	• Assess the effectiveness of each training course and each trainee's performance and ability to meet course objectives.		

Threat and Hazard Identification and Risk Assessment

In addition to benchmark assessments, communities are encouraged to use the Federal Emergency Management Agency's (FEMA) Threat and Hazard Identification and Risk Assessment (THIRA) process to further assess their capabilities. The use of THIRA allows communities to examine threats and hazards within the context of their community against the five mission areas and 32 core capabilities outlined in the *National Preparedness Goal*. Jurisdictions also determine the standards for the capability (capability target) and identify the resources required to reach that capability target.

Comprehensive Planning Guidance (CPG) 201 describes the THIRA process; this process consists of four key steps:

- **Identify the Threats and Hazards of Concern.** Based on a combination of experience, forecasting, subject matter expertise, and other available resources, identify a list of the threats and hazards of primary concern to the community.

- **Give Threats and Hazards Context.** Describe the threats and hazards of concern, showing how they may affect the community.

- **Establish Capability Targets.** Assess each threat and hazard in context to develop a specific capability target for each core capability identified in the *National Preparedness Goal*. The capability target defines success for the capability.

- **Apply the Results.** For each core capability, estimate the resources required to achieve the capability targets through the use of community assets and mutual aid, while also considering preparedness activities, including mitigation opportunities.

These four steps are illustrated in Figure 48 and are adaptable to the needs and resources of any jurisdiction. The THIRA process can be employed by a small, one-person department as well as a larger organization with greater needs and resources.

Figure 48: Four-step Threat and Hazard Identification and Risk Assessment (THIRA) Process

Figure 49 illustrates a possible method for organizing THIRA information that follows the THIRA process and provides a record of requirements to address threats and hazards to aid in capability assessment.

Threat/Hazard	CBRNE Incident	Chemical Release
CONTEXT DESCRIPTION	A shipment of radioactive pharmaceuticals is being transported by a carrier service in a delivery van to a local hospital. The van driver loses control of the vehicle on the highway and the van crashes and rolls Five Type A packages have been ejected from the rear of the van. Two of the five Type A packages have been crushed or damaged as a result of the accident. The delivery driver never regains consciousness and dies at the scene before EMS arrives.	An explosion occurred at one of the military depot's storage facilities, called igloos. A small number of munitions filled with a mustard agent were damaged. As a result of this and weather predictions 1000 residents were told to evacuate and 6500 residents were told to shelter in place – using duct tape and plastic sheeting to keep the chemical out of their homes. Schools, hospitals, and nursing homes are also told to shelter in place. A correctional facility and the local mental hospital are within the evacuation zone. 90 on-post personnel require medical attention. Residents that are evacuating are to proceed to CSUPueblo in Pueblo County. Evacuees drive to a decontamination area run by HazMat and 2 fire departments.
CAPABILITY TARGET	• Within 2 hours of an incident, conduct health and safety hazard assessments and disseminate guidance and resources, to include deploying hazardous materials teams, to support environmental health and safety actions for all response personnel and the affected population. • During the first 6 hours of an incident, conduct health and safety hazard assessments on a 2 square mile area and complete cleanup actions.	

Resource Requirement			
RESOURCES	**TYPE**	**NUMBER REQUIRED**	**CURRENT AVAILABILITY**
Rapid Needs Assessment Team	I	5 (1 per county)	0
IMT Team	III	1	0
Emergency Medical Task Force	N/A	1	1
HazMat Entry Team	III	1	0
Ambulance Strike Team	III	1	0
Rapid Needs Assessment Training	Local/Regional	5 (1 per county)	0
Position Specific Training	Training	As Needed	-
Exercise Series for each Team/Function	Exercise	1	-
Environmental Response/ H&S Development Committees	Organization/ Planning	1	-
Department of Agriculture Training for Reentry and Reuse of Potentially Contaminated Areas	Training	As Needed	0
Hazard Communications Training	Training	As Needed	0

Figure 49: Sample Threat and Hazard Identification and Risk Assessment (THIRA) for a Particular Hazard and Core Capability

Core Capability Development Sheets

A useful resource that can aid in conducting THIRA analyses are Core Capability Development Sheets. These help jurisdictions identify capability requirements and

integrate training courses, THIRA capability targets, nationally typed resources, partners that support capability development, exercise support and guidance for capability validation, and assistance from FEMA National Preparedness Directorate subject-matter experts.

Core Capability Development Sheets are available by mission area and core capability. They are useful resources to help jurisdictions build or sustain a capability by integrating: training courses, THIRA capability targets, nationally typed resources, partners that support capability development, exercise support and guidance for capability validation, and assistance from FEMA National Preparedness Directorate subject-matter experts.

Planning, Organization, Equipment, Training, and Exercises

Another key element of the assessment process is a **P**lanning, **O**rganization, **E**quipment, **T**raining, and **E**xercises (POETE [pronounced Po–etti]) analysis. These are the five elements by which each jurisdiction should examine its own capabilities. By examining capabilities through each of these elements, a jurisdiction can better define its strengths and areas for improvement against threats and hazards and other identified requirements.

When a jurisdiction's stakeholders conduct a POETE analysis, each element is rated on a scale of 1 to 5—a rating of 5 indicating that the jurisdiction has all the resources needed and has accomplished all activities necessary for that element within that capability area (shown in Figure 50).

	0	1	2	3	4	5
	No Capability	Limited Capability		Moderate Capability		Fully Capable
PLANNING	No plans/ annexes exist	Some plans/ annexes are in development	Some plans/ annexes exist	Plans/annexes are complete but require update	Plans/annexes are complete and have been updated within 5 years	Plans/annexes are complete, up to date, and verified through either exercises or real-world events
ORGANIZATION	No required organization/ personnel exists	0-20% of required organization/ personnel exists	20-40% of required organization/ personnel exists	40-60% of required organization/ personnel exists	60-80% of required organization/ personnel exists	80-100% of required organization/ personnel exists
EQUIPMENT	No required equipment exists	0-20% of required equipment exists	20-40% of required equipment exists	40-60% of required equipment exists	60-80% of required equipment exists	80-100% of required equipment exists
TRAINING	No required Training exists	0-20% of required training exists	20-40% of required training exists	40-60% of required training exists	60-80% of required training exists	80-100% of required training exists
EXERCISE	No exercises/ real-world demonstration have occurred in the jurisdiction	No exercises/ real-world demonstration have occurred in the last 5 years	Exercises/real-world demonstration have occurred; many missions critical findings exist	Exercises/real-world demonstration have occurred; few missions critical findings exist	Exercises/real-world demonstration have occurred; some areas for improvement exist	Exercises/real-world demonstration have occurred; no areas for improvement exist

Figure 50: Planning, Organization, Equipment, Training, and Exercises (POETE) Analysis

The POETE analysis, in combination with THIRA, provides information and assessment to compose the Stakeholder Preparedness Review (SPR). The SPR provides useful data and information to identify trends and gaps across the state. The data in this report also integrates with other state reports to provide insights into capabilities, gaps, and trends throughout the nation.

Comprehensive Strategy

The Community Profile provides a broad, general assessment of a community's capabilities within the confines of the 12 CSEPP National Benchmarks. THIRA offers a more detailed and specific process that supports identification of a communities' specific requirements to meet the benchmarks, while POETE provides the structure and scale for measuring the ability to meet those requirements. State and local jurisdictions can leverage these tools and processes to develop a holistic, complete picture of community preparedness.

All of these assessments support and inform one another and provide analysis and information needed for the SPR—a comprehensive preparedness snapshot for the entire state. SPRs are collected, analyzed, and compiled to form the National Preparedness Report. The National Preparedness Report provides a current, national preparedness picture and gap and capability trends nationwide. Figure 51 illustrates the supporting and

informational roles each assessment plays in assessing preparedness for the whole community.
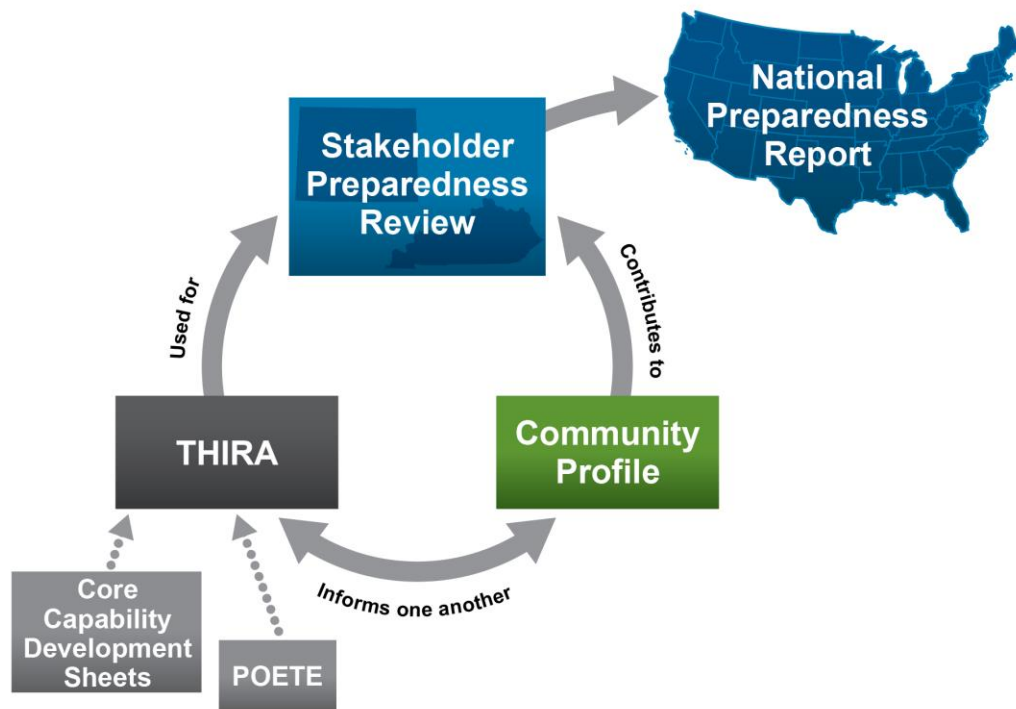
Figure 51: Comprehensive Strategy to Assess Whole Community Preparedness

Appendix G: Communication Systems and Equipment

A host of communication systems are used to support the Chemical Stockpile Emergency Preparedness Program. This appendix includes a comprehensive list of emergency communication systems and key features (Table 7).

These systems include both one-way and two-way communication. One-way communications systems do not allow for immediate feedback and require very careful message development. Emergency information provided by one-way messaging must be easily understood by the recipient; one-way communications should always state who, what, where, when, and why using clear simple language. Two-way communications systems allow for immediate feedback, enabling communicators to validate whether the intended audience understood the message.

Table 7: List of Emergency Communication Systems

System	Primary (P)/ Secondary (S)	Intended User/ Audience	Timeframe	Description
Alert Sirens	P	Public	Immediate	One-way system for alerting the public of emergencies. Limited information available and must be followed up with where to get detailed info. Visitors may not know the intended meaning of messages.
Amateur Radio	S	EOC, Shelters	Immediate	Two-way system operated by specially trained volunteers. Usually operators have good technical skills but may not understand the environment or operational impact.
Commercial Mobile-Telephone Alert System	P	Public	Near-term	One-way system for alerting the public and providing a limited amount of information. Is constrained by the available types of messages the system allows. This uses text messages to wireless phones and as such may reach visitors easier.
Email	S	EOC, Shelters, Responders	Delayed	One-way system that can be used to send long messages or detailed information such as lists or photos. Is best-effort delivery and relies on the receiver to take an action to see the information.
Emergency Alert System	P	Public	Near-term	One-way system for alerting the public and providing a limited amount of information. Is constrained by the available types of messages the system allows.
Emergency Calling Systems	P or S	EOC, Public	Near-term	One-way system that can be used to notify users of actions needed. These systems are often best-effort delivery and have some latency based on the system and

System	Primary (P)/ Secondary (S)	Intended User/ Audience	Timeframe	Description
				usage levels at the time of use. Transmission of TTY signals is required for equal access.
Facsimile	S	EOC, Shelters, Fixed Locations	Near-term	One-way system that relies on the telephone system.
Highway Traffic Radios	S	Public	Near-term	One-way system for alerting the public and allows more detailed information. Is constrained by the available transmitters in the area and the public to tune to these stations.
Hot Lines	P	EOC, Fixed Locations	Immediate	Two-way system can operate from fixed locations. These systems are stand-alone communication systems that do not utilize the public phone system.
Integrated Public Alert and Warning System	P	Public	Near-term	One-way system for inputting messages to other systems used for alerting the public and providing a limited amount of information. Is constrained by the available types of messages the system allows. Can be used to transmit warnings by several systems simultaneously.
Message Boards	S	Public	Near-term	One-way system for alerting the public and providing a limited amount of information. Is constrained by the size of the sign and the ability of a driver to read the sign.
News Conference	P	Public, Media	Delayed	Two-way system that will allow the media to give feedback and expand their understanding of the situation. Not all of the information from the press conference may get to the public.
News Release	S	Public, Media	Delayed	One-way system that allows for information to be sent to the media. Although information is sent, that does not mean it will be relayed to the public.
Pagers	P or S	EOC, Shelter, Responders	Near-term	One-way system that can be used to notify users of actions needed. These systems are often best-effort delivery and have some latency based on the system and usage levels at the time of use.
Public Safety Radio System	P	EOC, Dispatch, Responders	Immediate	Two-way system used by field users. This has the benefit of being familiar to the users but may be impacted by interference and failure.
Social Media	S	Public	Near-term/ Delayed	One-way or two-way systems that can be used to provide information to the public and receive feedback. Monitoring social media can help identify and address local concerns and rumors.

System	Primary (P)/ Secondary (S)	Intended User/ Audience	Timeframe	Description
Teleconference	S	EOC, Shelters, Responders	Near-term	Two-way systems that allow multiple users to communicate at the same time.
Telephones (landline)	P	EOC, Shelters, Fixed Locations	Immediate	Two-way system that can be used at many locations. Is open to the public and can congest quickly. Use of Government Emergency Telecommunications Service is recommended.
Telephones (satellite)	S	EOC, Shelters, Responders	Immediate	Two-way system that can be used at many locations but requires coverage from provider's infrastructure. Usually there are a limited number of devices in key locations as back-up communications.
Telephones (wireless)	S	EOC, Shelters, Responders	Immediate	Two-way system that can be used at many locations but requires coverage from provider's infrastructure. Is open to the public and can congest quickly. Use of Wireless Priority Service is recommended.
Tone Alert Radios	P	Public	Immediate	One-way system that can be used to alert the public and provide some additional information of actions required. Limited to fixed sites that have these devices.
Web-Based Software	P or S	EOC	Near-term	One-way or two-way system that can be used to gather information from various locations to store in a central location and displayed in many locations.
WebPuff™	P	EOC	Immediate	Two-way system used to share plume-modeling data, scenario information, protective action recommendations and decisions, and other critical event information. May also be used as an event notification system if followed up by a human in the loop confirmation. Limited to fixed sites with access to the appropriate server.

Emergency operations centers (EOCs) are the central command and control facilities and are responsible for carrying out emergency management functions. In addition to communications systems, these facilities require a variety of equipment and technology. Table 8 lists different equipment and technology that can be useful in an EOC.

Table 8: List of Emergency Operations Center Equipment

Application	Sub-components and Description
Audio Visual	• **Television Display Walls**: Large walls with multiple screen capability • **LED Projectors**: Small or large wall displays • **Smart Boards**: Interactive display boards • **Television**: Single displays • **Video Teleconference**: Supports remote video meetings • **Video Matrix**: Format and provide consolidated control of the video ins and outs for the AV systems • **Audio Systems**: Support audio need of the video system and paging
Telecommunications	• **911 Phone System**: Support emergency call taking, act as warning point for the public • **Administrative Telephone System**: Main phone system for the EOC, act as warning point and general communications • **Direct Phone Lines**: Phone line circuits connecting directly between facilities • **Satellite Phone**: Redundant phone device that does not rely on land-based infrastructure for communication between phones
Radios	• **Amateur Communications System**: Amateur Radio systems act as backup for main radio systems and may include UHV, VHF and HF systems • **Radio Systems**: Main radio systems for communications with first responders, emergency and support personnel
Time Systems	• **GPS time system** for accurate time. Required by 911 systems
Furniture	• **911/Radio Dispatch**: Custom Consoles to allow for ADA requirements and allow system to lift to adjust to the personnel utilizing them • **EOC/Conference Rooms**: Furniture designed to meet the needs of the EOC design including built in power and network connections for easy access

Appendix H: Program Closeout Planning

The Chemical Stockpile Emergency Preparedness Program (CSEPP) is a unique partnership between federal, state, tribal, territorial, and local governments created to protect the public in communities where chemical weapons continue to be stored during the destruction of the national stockpile. Once the stockpile has been destroyed, the program's next challenge will be to transition these communities to a non-CSEPP–funded emergency management infrastructure. This appendix describes program closeout planning and associated tasks.

Closeout Planning

Congress established parameters for ending CSEPP as demilitarization is completed at each site. In 2008, the National Defense Authorization Act amended 50 U.S.C. 1521(c)(5) to state that "assistance may be provided to State and local governments in developing capabilities to respond to emergencies involving the storage and destruction of lethal chemical agents and munitions until the earlier of the following:

- The date of the completion of all grants and cooperative agreements (CAs) with respect to the installation or facility for purposes of this paragraph between the Federal Emergency Management Agency and the state and local governments concerned.

- The date that is 180 days after the date of the completion of the destruction of lethal chemical agents and munitions at the installation or facility."

Closeout should be a regular part of every meeting and Integrated Process Team meeting for both Colorado and Kentucky. The Closeout IPT page on the CSEPP Portal has numerous tools and resources for use in understanding, planning, and executing the closeout process.

The most comprehensive reference is the *CSEPP Closeout Guidebook (August 2010)*. It covers closeout topics, including plan development, personnel transition, public information, life-cycle considerations, roles and responsibilities, and contract closeout. It provides closeout task checklists for grantees (updated as Table 9 through Table 18) and sub-grantees (updated as Table 19 through Table 28), examples of past successes, and recommendations for successfully completing closeout activities, including associated public messaging.

Demilitarization operations are underway at Pueblo Chemical Agent-Destruction Pilot Plant. The Blue Grass Chemical Agent-Destruction Pilot Plant is currently in the systemization phase and preparations are underway for pilot testing.

Table 9: List of Financial and Planning Closeout Tasks by Grantee

Planning Phase Activities	Federal Regulation[2]	2010 Guidebook	CSEPP Benchmark(s)
Begin formal closeout planning prior to last equipment replacement cycles	—	Page 8	Admin, Coord Plans
Coordinate community-wide approach to closeout planning	—	Page 11	Admin, Coord Plans
Identify closeout activities requiring multi-jurisdictional coordination	—	Page 11	Admin, Coord Plans
Participate in community closeout planning workgroup	—	Page 12	Admin, Coord Plans
Develop timeline with administrative and preparedness milestones through closeout	—	Page 10	Admin, Coord Plans
Coordinate closeout decision-making with state officials	—	Annex A	Admin, Pub Outrch/Ed
Reassess closeout planning based on latest demilitarization program projections	—	—	Admin, Coord Plans
Identify closeout projects that may extend up to 180 days after demilitarization completion	—	—	Admin
Seek advance approval from FEMA as to whether closeout-related expenses are allowable	2 CFR 200.403	Page 23	Admin
Coordinate resolution of financial and planning issues with FEMA	—	—	All Benchmarks
Reflect results of closeout planning in annual life cycle cost estimate update	—	Page 18	Admin
Coordinate sub-grantee input to annual community life cycle cost estimate update	—	—	Admin
Provide best estimate for closeout expenses in life cycle cost estimate at least 2 years in advance	—	Page 18	Admin
Incorporate closeout and post-CSEPP decisions in state budgetary planning	—	—	Admin
Assess post-CSEPP requirements for benchmark capabilities	—	Page 38	All Benchmarks
Identify alternative funding sources for desired benchmark capabilities	—	Annex B	All Benchmarks

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[2] For these tables, consult FEMA and the annual CSEPP Notice of Funding Opportunity for more information on regulatory requirements and the use of CSEPPWebCA.

Table 10: List of Communications Closeout Tasks by Grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate closeout decisions to CSEPP staff and partner agencies	—	Annex A	Pub Outrch/Ed
Participate in development of closeout communications plan	—	Annex A	Pub Outrch/Ed

Table 11: List of Contracts and Agreements Closeout Tasks by Grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Identify contracts, leases, licenses, and service agreements funded by CSEPP	—	Page 36	All Benchmarks
Identify contractual and other support requirements for closeout activities	—	—	All Benchmarks
Review state contracting policies and identify closeout implications	—	—	All Benchmarks
Advise sub-grantees of applicable state contracting requirements	—	—	All Benchmarks
Determine post-CSEPP support requirements and coordinate funding options	—	—	All Benchmarks
Negotiate flexibility into contracts and agreements as appropriate	—	Page 36	All Benchmarks
Identify and resolve issues associated with copyrights and licenses as appropriate	2 CFR 200.315	—	All Benchmarks

Table 12: List of Personnel Closeout Tasks by Grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Identify CSEPP staffing requirements for closeout activities	—	Page 30	Med, Personnel
Coordinate sub-grantee CSEPP staffing requirements for closeout activities	—	—	Med, Personnel
Determine post-CSEPP personnel requirements and coordinate funding options	—	—	Admin, Med, Personnel
Consider approaches to retain necessary CSEPP personnel through closeout	—	Page 31	Med, Personnel
Review state personnel policies and identify closeout implications	—	Page 30	Admin, Med, Personnel
Advise sub-grantees of applicable state personnel requirements	—	—	Admin, Med, Personnel

Table 13: List of Property Closeout Tasks by Grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Maintain inventory of grant-acquired and federal CSEPP property	2 CFR 200.313(d)	Page 49	All Benchmarks
Distinguish supplies, equipment, and real property within inventory	2 CFR 200.33, 200.85, and 200.94	Page 47	Admin
Identify any prior year disposition instructions or agreements	—	—	Admin
Coordinate with FEMA on format and content of requests for disposition	—	—	Admin
Determine desired post-CSEPP disposition and retention of property	—	Page 49	All Benchmarks
Review state property management policies and identify closeout implications	2 CFR 200.313(b)	Page 48	All Benchmarks
Advise sub-grantees of state property management requirements where applicable	—	—	All Benchmarks
Consider requesting disposition of property prior to closeout where appropriate	—	—	Admin
Coordinate proposed requests for grant-acquired property with FEMA Region	—	Page 54	Admin
Coordinate proposed requests for federal property with FEMA Region and Headquarters	—	Page 51	Admin
Determine need to conduct transfer of property ownership to end users	—	—	All Benchmarks
Coordinate and support sub-grantee planning for Army Corps of Engineers-maintained facilities	—	Page 51	Pro Act Strat

Table 14: List of Financial and Planning Closeout Tasks by Grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Assess ongoing ability to participate in national Integrated Process Teams and exercise evaluation	—	—	Autom, Exer, Med, Pub Outrch/Ed
Incorporate actual dates and milestones into closeout timeline as soon as possible	—	—	Admin, Coord Plans
Coordinate request for final performance period based on closeout timeline	—	Page 62	Admin
Submit final indirect cost agreement or cost allocation plans to FEMA	—	—	Admin
Revise program narrative to reflect closeout activities	—	—	All Benchmarks

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Review and submit final year budget including remaining operations and closeout expenses	—	Page 25	All Benchmarks
Coordinate issuance of funding for final year operational and closeout expenses	—	—	Admin
Identify any additional financial and programmatic closeout requirements as soon as possible	—	—	Admin
Request amendments and changes in scope/personnel from FEMA Region as necessary	2 CFR 200.308	—	Admin
Request performance period extensions from FEMA Region as necessary	—	—	Admin
Compile and submit quarterly financial reports for open cooperative agreements	2 CFR 200.327	—	All Benchmarks
Compile and submit quarterly performance reports for open cooperative agreements	2 CFR 200.328	—	All Benchmarks
Request extension of deadline to complete final reports from FEMA as necessary	2 CFR 200.343(a)	—	Admin
Compile and submit final financial reports for open cooperative agreements	2 CFR 200.343(a)	—	All Benchmarks
Compile and submit final performance reports for open cooperative agreements	2 CFR 200.343(a)	—	All Benchmarks
Complete obligation of authorized funds by the end of performance period	2 CFR 200.309	—	Admin
Complete liquidation of obligated funds by the end of liquidation period	2 CFR 200.343(b)	—	Admin
Support final reconciliation and closeout of cooperative agreement	2 CFR 200.343	—	Admin
Oversee obligation, liquidation, and reconciliation of sub-grantee funding	2 CFR 200.331	—	Admin
Participate in local, state, and federal audit activities as necessary	2 CFR 200.508	—	Admin
Review state records retention policies and identify closeout implications	—	Page 63	Admin
Coordinate record retention plan with sub-grantees to meet federal and other requirements	2 CFR 200.333	Page 63	Admin
Ensure final documentation is uploaded into WebCA as necessary	—	—	Admin

Table 15: List of Communications Closeout Tasks by Grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate implications of closeout to public as appropriate	—	Annex A	Pub Outrch/Ed
Participate in CSEPP closeout ceremony and recognition efforts	—	Annex A	Pub Outrch/Ed

Table 16: List of Contracts and Agreements Closeout Tasks by Grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Coordinate final end terms for contracts and other agreements	—	Page 36	All Benchmarks

Table 17: List of Personnel Closeout Tasks by Grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate employment status to CSEPP personnel	—	Page 30	Med, Personnel
Provide formal separation notice to CSEPP personnel as necessary	—	—	Admin, Med, Personnel
Incorporate closeout duties into final CSEPP work plans	—	Page 65	Admin, Med, Personnel
Oversee sub-grantee revision of final CSEPP work plans	—	Page 65	Admin, Med, Personnel

Table 18: List of Property Closeout Tasks by Grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Conduct transfer of property ownership to end users as necessary			
Compile and review sub-grantee requests to FEMA for desired disposition of property			
Submit requests to FEMA for desired disposition of supplies			
Submit requests to FEMA for desired disposition of grant-acquired equipment			
Submit requests to FEMA for desired disposition of grant-acquired real property			
Submit requests to FEMA for desired disposition of federal property			

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Oversee implementation of demobilization plan for Army Corps of Engineers-maintained facilities			

Table 19: List of Financial and Planning Closeout Tasks by Sub-grantee

Planning Phase Activities	Federal Regulation[3]	2010 Guidebook	CSEPP Benchmark(s)
Begin formal closeout planning prior to last equipment replacement cycles	—	Page 8	ADM, COP
Identify closeout activities requiring multi-jurisdictional coordination	—	Page 11	ADM, COP
Participate in community closeout planning workgroup	—	Page 12	ADM, COP
Develop timeline with administrative and preparedness milestones through closeout	—	—	ADM, COP
Coordinate closeout decision-making with local officials	—	Annex A	ADM, POE
Reassess closeout planning based on latest demilitarization program projections	—	—	ADM, COP
Identify closeout projects that may extend up to 180 days after demilitarization completion	—	—	ADM
Seek advance approval from FEMA as to whether closeout-related expenses are allowable	2 CFR 200.403	Page 23	ADM
Reflect results of closeout planning in annual life cycle cost estimate update	—	Page 18	ADM
Provide best estimate for closeout expenses in life cycle cost estimate at least 2 years in advance	—	Page 18	ADM
Incorporate closeout and post-CSEPP decisions in local budgetary planning	—	—	ADM
Assess post-CSEPP requirements for benchmark capabilities	—	Page 38	All Benchmarks
Identify alternative funding sources for desired benchmark capabilities	—	Annex B	All Benchmarks

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[3] For these tables, consult FEMA and the annual CSEPP Notice of Funding Opportunity for more information on regulatory requirements and the use of CSEPPWebCA.

Table 20: List of Communications Closeout Tasks by Sub-grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate closeout decisions to CSEPP staff and partner agencies	—	Annex A	POE
Participate in development of closeout communications plan	—	Annex A	POE

Table 21: List of Contracts and Agreements Closeout Tasks by Sub-grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Identify contracts, leases, licenses, and service agreements funded by CSEPP	—	Page 36	All Benchmarks
Identify contractual and other support requirements for closeout activities	—	—	All Benchmarks
Review local contracting policies and identify closeout implications	—	—	All Benchmarks
Determine post-CSEPP support requirements and coordinate funding options	—	—	All Benchmarks
Negotiate flexibility into contracts and agreements as appropriate	—	Page 36	All Benchmarks
Identify and resolve issues associated with copyrights and licenses as appropriate	2 CFR 200.315	—	All Benchmarks

Table 22: List of Personnel Closeout Tasks by Sub-grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Identify CSEPP staffing requirements for closeout activities	—	Page 30	MED, PER
Determine post-CSEPP personnel requirements and coordinate funding options	—	—	ADM, MED, PER
Consider approaches to retain necessary CSEPP personnel through closeout	—	Page 31	MED, PER
Review local personnel policies and identify closeout implications	—	Page 30	ADM, MED, PER

Table 23: List of Property Closeout Tasks by Sub-grantee

Planning Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Maintain inventory of grant-acquired and federal CSEPP property	2 CFR 200.313(d)	Page 49	All Benchmarks
Distinguish supplies, equipment, and real property within inventory	2 CFR 200.33, 200.85, and 200.94	Page 47	ADM
Identify any prior year disposition instructions or agreements	—	—	ADM
Determine desired post-CSEPP disposition and retention of property	—	Page 49	All Benchmarks
Review local property management policies and identify closeout implications	—	Page 48	All Benchmarks
Consider requesting disposition of property prior to closeout where appropriate	—	—	ADM
Coordinate requests for grant-acquired property with grantee and FEMA Region	—	Page 54	ADM
Coordinate requests for federal property with grantee and FEMA Region and Headquarters	—	Page 51	ADM
Determine need to conduct transfer of property ownership to end users	—	—	All Benchmarks
Identify desired future of Army Corps of Engineers-maintained facilities with property owners and Army Corps of Engineers	—	Page 51	PRO

Table 24: List of Financial and Planning Closeout Tasks by Sub-grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Assess ongoing ability to participate in national Integrated Process Teams and exercise evaluation	—	—	ADP, EX, MED, POE
Incorporate actual dates and milestones into closeout timeline as soon as possible	—	—	ADM, COP
Submit request for final performance period to grantee based on closeout timeline	—	Page 62	ADM
Submit any final indirect cost agreement or cost allocation plan to grantee	—	—	ADM
Submit final year CSEPP budget including remaining operations and closeout expenses	—	Page 25	All Benchmarks
Identify any additional financial or programmatic closeout requirements as soon as possible	—	—	ADM
Submit request for amendments and changes in scope/personnel to grantee as necessary	2 CFR 200.308	—	ADM

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Submit request for performance period extensions to grantee as necessary	—	—	ADM
Submit quarterly financial information to grantee for open cooperative agreements	—	—	All Benchmarks
Submit quarterly performance information to grantee for open cooperative agreements	—	—	All Benchmarks
Submit final financial information to grantee for open cooperative agreements	—	—	All Benchmarks
Submit final performance information to grantee for open cooperative agreements	—	—	All Benchmarks
Complete obligation of authorized funds by the end of performance period	2 CFR 200.309	—	ADM
Complete liquidation of obligated funds by the end of liquidation period	2 CFR 200.343(b)	—	ADM
Support final reconciliation and closeout of cooperative agreement	2 CFR 200.343	—	ADM
Participate in local, state, and federal audit activities as necessary	2 CFR 200.508	—	ADM
Review local records retention policies and identify closeout implications	—	Page 63	ADM
Coordinate record retention plan with grantee to meet federal and other requirements	2 CFR 200.333	Page 63	ADM
Ensure final documentation is uploaded into WebCA as necessary	—	—	ADM

Table 25: List of Communications Closeout Tasks by Sub-grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate implications of closeout to public as appropriate	—	Annex A	POE
Participate in CSEPP closeout ceremony and recognition efforts	—	Annex A	POE

Table 26: List of Contracts and Agreements Closeout Tasks by Sub-grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Coordinate final end terms for contracts and other agreements	—	Page 36	All Benchmarks

Table 27: List of Personnel Closeout Tasks by Sub-grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Communicate employment status to CSEPP personnel	—	Page 30	MED, PER
Provide formal separation notice to CSEPP personnel as necessary	—	—	ADM, MED, PER
Incorporate closeout duties into final CSEPP work plans	—	Page 65	ADM, MED, PER

Table 28: List of Property Closeout Tasks by Sub-grantee

Implementation Phase Activities	Federal Regulation	2010 Guidebook	CSEPP Benchmark(s)
Conduct transfer of property ownership to end users as necessary	—	—	All Benchmarks
Submit request to grantee for desired disposition of supplies	2 CFR 200.314	Page 58	ADM
Submit request to grantee for desired disposition of grant-acquired equipment	2 CFR 200.313	Page 55	ADM
Submit request to grantee for desired disposition of grant-acquired real property	2 CFR 200.311	Page 54	ADM
Submit request to grantee for desired disposition of federal property	2 CFR 200.312(a)	Page 51	ADM
Oversee implementation of demobilization plan for Army Corps of Engineers-maintained facilities	—	—	PRO

Appendix I: Program Policy Papers

This appendix incorporates and replaces the Chemical Stockpile Emergency Preparedness policy papers developed prior to 2005 and represents updates and modifications to approved Army/Federal Emergency Management Agency policy papers. Table 29 identifies where the policy papers still in effect in 2005 have been incorporated into this document.

Table 29: Program Policy Papers Number, Title, and Reference Page Number of Location

Policy Paper Number	Paper Title	Referenced at Page Number or in Other Guidance Document
1	**Definition of Maximum Protection:** Policy Paper 1 defined the Congressional "Maximum Protection" mandate under Public Law 99-145.	3, A-2
2	**Environmental Sampling to Determine Chemical Agent Contamination:** Policy Paper 2 established the CSEPP policy on environmental monitoring and sampling in the event that lethal chemical agents are released to the environment.	47, 54
3	Not issued	N/A
4	**Roles and Responsibilities of Joint Steering Committee Subcommittees**	N/A
5	**County Public Information Officers for CSEPP**	N/A
6	Not issued	N/A
7	**Interim Policy Regarding Off-Post Meteorological Towers for CSEPP:** Policy Paper 7 established an interim policy regarding off-post meteorological towers ("met towers") for the states participating in CSEPP.	34, 38–41
8	**Review of CSEPP Exercise Initiating Events**	N/A
9	**Public Information in Connection with CSEPP Exercises:** Policy Paper 9 stated that, "It is the position of the CSEPP Public Affairs and Exercise Subcommittee that a proactive public information program be conducted in connection with CSEPP Exercises."	103 and CSEPP Public Affairs Program Guidance Compendium Workbook
10	Not issued	N/A
11	**Compensation for Volunteer CSEPP Exercise Participants:** Policy Paper 11 relocated the description of allowable compensation for exercise volunteers to the table addressing allowable and unallowable costs in the CSEPP Cooperative Agreement Guidance.	Cooperative Agreement Guidance
12	**CSEPP Exercises**	N/A
13	**Elimination of Dual Exercise Types**	N/A
14	**Designation of Public Affairs as Core Objective**	N/A

Policy Paper Number	Paper Title	Referenced at Page Number or in Other Guidance Document
15	**Off-Post Medical Preparedness Capability:** Policy Paper 15 provided guidance for civilian communities that might be exposed to chemical agents during the incineration or storage process.	CSEPP Medical Resource Guide; Cooperative Agreement Guidance
16	**CSEPP Modified Exercise Schedule**	N/A
17	**Protocols for Communication with Army SBCCOM CSEPP Technical Support Staff:** Policy Paper 17 established protocols for the Army to provide information support to the offsite community.	12
18	**CSEPP National Benchmarks:** Policy Paper 18 established the 12 CSEPP National Benchmarks.	2–10 and CSEPP Strategic Plan
19	**Community Profile:** Policy Paper 19 represented an "interim measure" that led toward a change in the exercise program; subsequently, exercises focused on community assessment.	CSEPP Exercise Implementation Guidance
20	**Adoption of Acute Exposure Guideline Levels (AEGLs):** Policy Paper 20 noted that CSEPP adopted AEGLs for chemical warfare agents as published in the Federal Register.	B-4–B-5 and Acute Exposure Guideline Levels
N/A	**Army Policy for Terminating CSEPP**	N/A
N/A	**Joint Memorandum on Integrated Process Teams:** This memorandum discussed the use of Integrated Process Teams as a vehicle for Army/FEMA collaborative decision-making.	11 and CSEPP Strategic Plan

Appendix J: Program Training Resources

The Chemical Stockpile Emergency Preparedness Program recognizes the value of professional development and importance of regular training as indicated in *Benchmark 12: Training Programs*. This appendix lists relevant training resources by benchmark but is by no means all-inclusive. Many other training resources are available through the Federal Emergency Management Agency's Emergency Management Institute and Center for Domestic Preparedness and through other nationally recognize training providers.

Table 30: Program Training Resources

Benchmark	Resource
1. Administrative Support	CSEPPWebCA User Guide E705: Fundamentals of Grants Management
2. Alert and Notifications	IS-247.A: Integrated Public Alert and Warning System (IPAWS) IS-251: Integrated Public Alert and Warning System (IPAWS) for Alerting Authorities
3. Automation	210W: Cyber Security Industrial Control Systems DETech 23: Introductory Chemical Hazard Prediction Using WebPuff DETech 36: Scenario-Based Chemical Hazard Prediction Training IS-546.A: Continuity of Operations Awareness Course IS-547.A: Introduction to Continuity of Operations Professional Continuity Practitioner, Level 1 & 2 WebPuff™
4. Communications Systems	N/A
5. Coordinated Plans	CSEPP Training: Comprehensive Planning for Technological Emergencies E930: Integrated Emergency Management Course/Community-Specific G358: Evacuation and Re-entry Planning IS-235.C: Emergency Planning IS-453: Introduction to Homeland Security Planning IS-801: Emergency Support Functions (ESF) #1 - Transportation IS-802: Emergency Support Functions (ESF) #2 - Communications IS-803: Emergency Support Functions (ESF) #3 - Public Works and Engineering IS-804: Emergency Support Functions (ESF) #4 - Firefighting IS-806: Emergency Support Functions (ESF) #6 - Mass Care, Emergency Assistance, Housing, and Human Services IS-807: Emergency Support Functions (ESF) #7 - Logistic Management and Resource Support Annex IS-808: Emergency Support Functions (ESF) #8 - Public Health and Medical Services IS-809: Emergency Support Functions (ESF) #9 - Search and Rescue IS-810: Emergency Support Functions (ESF) #10 - Oil and Hazardous Materials Response Annex IS-811: Emergency Support Functions (ESF) #11 - Agriculture and Natural Resources Annex

Benchmark	Resource
	IS-812: Emergency Support Functions (ESF) #12 - Energy
	IS-813: Emergency Support Functions (ESF) #13 - Public Safety and Security Annex
	PC101: Fundamentals of Planning
6. Emergency Operations Centers	E947: Emergency Operation Center Incident Management Team Interface
	G191: Incident Command System/ Emergency Operations Center Interface
	IS-253.A: Overview of FEMA's Environmental and Historic Preservation Review
	IS-346: An Orientation to Hazardous Materials for Medical Personnel
	IS-775: EOC Management and Operations
	IS-801: Emergency Support Functions (ESF) #1 - Transportation
	IS-802: Emergency Support Functions (ESF) #2 - Communications
	IS-803: Emergency Support Functions (ESF) #3 - Public Works and Engineering
	IS-804: Emergency Support Functions (ESF) #4 - Firefighting
	IS-806: Emergency Support Functions (ESF) #6 - Mass Care, Emergency Assistance, Housing, and Human Services
	IS-807: Emergency Support Functions (ESF) #7 - Logistic Management and Resource Support Annex
	IS-808: Emergency Support Functions (ESF) #8 - Public Health and Medical Services
	IS-809: Emergency Support Functions (ESF) #9 - Search and Rescue
	IS-810: Emergency Support Functions (ESF) #10 - Oil and Hazardous Materials Response Annex
	IS-811: Emergency Support Functions (ESF) #11 - Agriculture and Natural Resources Annex
	IS-812: Emergency Support Functions (ESF) #12 - Energy
	IS-813: Emergency Support Functions (ESF) #13 - Public Safety and Security Annex
7. CSEPP Exercises	E237: National Preparedness Symposium
	Master Exercise Practitioner Program (MEPP)
	Required Prerequisites for MEPP:
	E/L/K146: Homeland Security Exercise and Evaluation Program
	IS-100.b, Introduction to Incident Command System (ICS)
	IS-120.a, An Introduction to Exercises
	IS-130, Exercise Evaluation and Improvement Planning
	IS-200.b, ICS for Single Resources and Initial Action Incidents
	IS-230.d, Fundamentals of Emergency Management
	IS-235.c, Emergency Planning
	IS-700.a, National Incident Management System, An Introduction
	IS-775, Emergency Operations Center Management and Operations
	IS-800.b, National Response Framework, An Introduction
	Recommended for MEPP:
	E131: Exercise Evaluation and Improvement Planning

Benchmark	Resource
8. Medical Preparedness	CSEPP Training: Don't be a Victim Medical Management of Patients Contaminated with Chemical Agents CSEPP Training: Exposure and Contamination Factors Affecting the Toxicology of Chemical, Biological and Radiological Agents U.S. Army Public Health Medical Curriculum
9. Qualified Personnel	N/A
10. Protective Action Strategies	CSEPP Training: Animals in Emergencies for Planners CSEPP Training: Business Shelter-in-Place CSEPP Training: Comprehensive Planning for Technological Emergencies CSEPP Training: Emergency Planning for People with Access and Functional Needs CSEPP Training: Evacuation Planning CSEPP Training: Operations Level Training—A Refresher for Responders CSEPP Training: Residential Shelter-in-Place E197: Integrating Access and Functional Needs into Emergency Planning IS-5.A: An Introduction to Hazardous Materials IS-11.A: Animals in Disasters: Community Planning IS-111.A: Livestock in Disasters IS-362.A: Multi-Hazard Emergency Planning for Schools IS-368: Including People with Disabilities and Others with Access and Functional Needs in Disaster Operations

Benchmark	Resource
11. Public Outreach/Education	CSEPP Training: Communicating Public Information in Emergencies
	E105: Public Information and Warning
	E388: Advanced Public Information Officer
	G290: Public Information Officer (PIO) – Basic
	G291/E-L0387: Joint Information System/Joint Information Center Planning for Tribal, State and Local PIOs
	IS-250.A: Emergency Support Function 15 (ESF15) External Affairs: A New Approach to Emergency Communication and Information Distribution
	IS-29: Public Information Officer Awareness
	IS-42: Social Media in Emergency Management
	MR50: Intense Spokesperson
	MR500: Spokesperson for Public Affairs Professionals
	MR501: Spokesperson for Leadership and Subject Matter Experts
	PAA100: Public Information for the On-Scene Coordinator
	PAA101: Public Affairs Awareness for Leadership
	PITC400: Basic Public Information Technology for Smartphones and Tablets
	PITC401: Advanced Public Information Technology for Smartphones and Tablets
	PITC402: Go Live "Now You see Me Too"
	RC200: Risk & Crisis Communication Methodology and Strategy
	RC201: Joint Information System (JIS) & Joint Information Center (JIC) Operations and Strategy
	SMDC300: Basic Social Media Technology and Communication
	SMDC301: Advanced Social Media Technology and Communication
	SMDC302: Advanced Social Media Strategy and Analytics
	SMDC303: Creating a Digital News Room "Show & Tell"
	SMDC304: The Social JIS/JIC
12. Training Programs	E141: Instructional Presentation and Evaluation Skills
	E237: National Preparedness Symposium
	E449: Incident Command System Train-the-Trainer

Appendix K: Program Guidance and References

This appendix contains the guidance and references cited in the base document. The guidance and reference titles are provided below, and listed in order by associated section, benchmark, and appendix within each table. Each of the three tables below—Chemical Stockpile Emergency Preparedness Program (CSEPP) Portal (Table 31), WebCA (Table 32), and External Links (Table 33)—contains the documents located within the particular repository or resource.

Table 31: CSEPP Portal Guidance References

Associated Section, Benchmark, and Appendix	Guidance or Reference Title
Preface, Introduction, Appendix F	*CSEPP Strategic Plan*
Preface, Introduction, Benchmark 4, Benchmark 5, Benchmark 7	*CSEPP Exercise Implementation Guidance* (formerly *CSEPP Exercise Policy & Guidance, December 2012*)
Preface, Benchmark 1, Benchmark 4, Benchmark 9, Appendix E	*FY 2016 CSEPP Cooperative Agreement Budget Development Guidance, May 2015*
Preface, Benchmark 8	*CSEPP Medical Resource Guide, May 2012*
Preface, Benchmark 11	*CSEPP Public Affairs Program Guidance Compendium Workbook, June 2005*
Introduction, Benchmark 5, Benchmark 7, Appendix A	*Memorandum of Understanding Between FEMA and the Army, March 2004*
Introduction, Benchmark 1, Appendix A, Appendix H	*CSEPP Closeout Guidebook, August 2010*
Introduction, Benchmark 3, Appendix B, Appendix C	WebPuff v5.0
Benchmark 2, Benchmark 4, Benchmark 11	*Guide to Implementing the Integrated Public Alert and Warning System, October 2015*
Benchmark 3, Benchmark 5	*CSEPP Emergency Operations Planning Template*
Benchmark 5	*Colorado CSEPP Community Recovery Plan, January 2004*
Benchmark 5	*Community Recovery Plan Exercise Series After Action Report, October 2015*
Benchmark 5	*CSEPP Guide for Assistance and Compensation Following a Chemical Event, June 2009*
Benchmark 5	*CSEPP MOA/MOU Guide, May 1999*
Benchmark 5	*CSEPP Recovery Plan Workbook, April 2003*
Benchmark 5	*CSEPP Recovery Sampling and Analysis Plan Protocol for Chemical Warfare Agents Accidents/Incidents, April 2008*
Benchmark 8	*CSEPP Medical Capabilities Review, 2016—2017*
Benchmark 8	*CSEPP Medical Evaluation Guides, December 2016*
Benchmark 10	*CSEPP Shelter-in-Place Protective Action Guide Book, May 2006*

Associated Section, Benchmark, and Appendix	Guidance or Reference Title
Appendix A	*History of CSEPP, May 2012*
Appendix B	*Technical Analysis for AEGL Adoption, Blue Grass Army Depot Site, September 2003*

Table 32: WebCA Guidance References

Associated Benchmark	Guidance Reference Title
Benchmark 1	*Annual Award Memo from FEMA Regional Office*
Benchmark 1, Benchmark 9, Appendix E	*CSEPPWebCA User Guide*
Benchmark 1	*FY17 Budget Submission*
Benchmark 8, Benchmark 9, Appendix E	*Annual CSEPP Notice of Funding Opportunity*

Table 33: External Links Portal Guidance References

Associated Benchmark	Guidance Reference Title
Preface, Introduction, Benchmark 5, Appendix B, Appendix F	*Comprehensive Preparedness Guide 201, August 2013*
Preface, Introduction, Benchmark 5, Benchmark 7, Appendix F, Appendix M	*National Preparedness Goal, September 2015*
Preface, Introduction, Benchmark 5, Appendix F, Appendix M	*National Preparedness System, November 2011*
Introduction	*Public Law 104–201, National Defense Authorization Act for Fiscal Year 1997, September 1996*
Introduction, Benchmark 5	*40 CFR 300*
Introduction, Benchmark 5	*Presidential Policy Directive 8, March 2011*
Introduction, Appendix A, Appendix H	*50 U.S.C. § 1521*
Benchmark 1, Appendix A	*2 CFR 200.343*
Benchmark 1	*44 CFR 13*
Benchmark 1, Appendix E	*Army Regulation 1–1, May 2016*
Benchmark 1	*H.R.1301, March 2017*
Benchmark 1	*Public Law 114–328, December 2016*
Benchmark 2	*47 CFR 11*
Benchmark 2, Benchmark 10, Appendix B, Appendix C, Appendix D	*Acute Exposure Guideline Levels for Airborne Chemicals*
Benchmark 2	*Army Regulation 360–1, September 2000*

Associated Benchmark	Guidance Reference Title
Benchmark 3, Benchmark 5	*Army Regulation 50–6, July 2008*
Benchmark 3	*Department of Defense Instruction 8510.01, March 2014*
Benchmark 3, Appendix C, Appendix D	*Department of the Army Pamphlet 385–61, November 2012*
Benchmark 4	*Department of Homeland Security SAFECOM Guidance*
Benchmark 4	*Project 25 Standards*
Benchmark 5, Benchmark 10	*Accommodating Individuals with Disabilities in the Provision of Disaster Mass Care, Housing, And Human Services Reference Guide, May 2007*
Benchmark 5, Benchmark 10	*ADA Best Practices Tool Kit for State and Local Governments*
Benchmark 5	*An ADA Guide for Local Governments Making Community Emergency Preparedness and Response Programs Accessible to People with Disabilities*
Benchmark 5	*Army Regulation 200–1, December 2007*
Benchmark 5	*Army Regulation 50–6, Chemical Surety, July 2008*
Benchmark 5	*Army Regulation 525–27, Army Emergency Management Program, March 2009*
Benchmark 5	*Army Regulation 525–27, December 2008*
Benchmark 5	*Best Practices for Protecting EMS Responders during Treatment and Transport of Victims of Hazardous Substance Releases, 2009*
Benchmark 5	*California Foundation for Independent Living Centers, et al. v. City of Oakland, et al.*
Benchmark 5	*Colorado Disaster Emergency Act, C.R.S Sec. 24-33.5-701 et seq.*
Benchmark 5	*Colorado Emergency Management Program Guide, May 2016*
Benchmark 5	*Community Recovery Management Toolkit*
Benchmark 5	*Comprehensive Environmental Response, Compensation, and Liability Act and Federal Facilities*
Benchmark 5, Benchmark 10	*Comprehensive Preparedness Guide 101, November 2010*
Benchmark 5	*Executive Order 12580*
Benchmark 5, Benchmark 10	*Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters, November 2010*
Benchmark 5, Benchmark 10	*Individuals with Disabilities*
Benchmark 5	*Kentucky Revised Statutes (K.R.S. Chapter 39A, section 39A.100*
Benchmark 5	*National Disaster Recovery Framework, June 2016*
Benchmark 5, Benchmark 6	*National Incident Management System, December 2008*
Benchmark 5	*National Organization on Disability Functional Needs of People With Disabilities A Guide for Emergency Managers, Planners, and Responders, 2009*
Benchmark 5	*National Response Framework, May 2013*
Benchmark 5, Benchmark 8	*OSHA Best Practices for Hospital-Based First Receivers of Victims from Mass Casualty Incidents Involving the Release of Hazardous Substances*

Associated Benchmark	Guidance Reference Title
Benchmark 5	*Pre-Disaster Recovery Planning Guide for Local Governments, February 2017*
Benchmark 5	*Pre-Disaster Recovery Planning Guide for State Governments, November 2016*
Benchmark 5	*Robert T. Stafford Disaster Relief and Emergency Assistance Act*
Benchmark 5	*Title VII of the Civil Rights Act of 1964*
Benchmark 6	*44 CFR 10*
Benchmark 6	*American National Standards Institute*
Benchmark 6	*Emergency Operations Center Assessment Checklist*
Benchmark 6	*Grant Programs Directorate Environmental Planning and Historic Preservation Policy Guidance, March 2017*
Benchmark 6	*Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks, May 2002*
Benchmark 6	*NFPA 110 Standard for Emergency and Standby Power Systems*
Benchmark 6	*NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communication Systems*
Benchmark 6	*NFPA 1561 Standard on Emergency Services Incident Management System*
Benchmark 6	*NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs*
Benchmark 6	*NFPA 220 Standard on Types of Building Construction*
Benchmark 6	*NFPA 5000 Building Construction and Safety Code*
Benchmark 6	*NFPA 90A Standard for the Installation of Air-Conditioning and Ventilating Systems*
Benchmark 6	*NFPA 90B Standard for the Installation of Warm Air Heating and Air Conditioning Systems*
Benchmark 6	*Risk Assessment A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings, January 2015*
Benchmark 6	*Safe Rooms for Tornadoes and Hurricanes Guidance for Community and Residential Safe Rooms, March 2015*
Benchmark 6	*Standard Guide for Emergency Operations Center (EOC) Development, September 2010*
Benchmark 6	*Standards and Guidelines for Communication Sites, September 2005*
Benchmark 6	*UFC 4-010-01 DoD Minimum Antiterrorism Standards for Buildings, February 2012*
Benchmark 6	*UFC 4-141-04 Emergency Operations Center Planning and Design, July 2008*
Benchmark 7	*Homeland Security Exercise and Evaluation Program, April 2013*
Benchmark 7, Appendix F	Stakeholder *Preparedness Review*
Benchmark 8	*CDC Recommendations for Civilian Communities Near Chemical Weapons Depots: Guidelines for Medical Preparedness, July 1994*
Benchmark 8	*Emergency Medical Treatment and Labor Act*

Associated Benchmark	Guidance Reference Title
Benchmark 8	*Guidance for Surveyors, Providers and Suppliers Regarding the New Emergency Preparedness Rule, November 2016*
Benchmark 8	*Homeland Security Presidential Directive 5, February 2003*
Benchmark 8	*NFPA 472 Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*
Benchmark 8	*NFPA 473 Standard for Competencies for EMS Personnel Responding to Hazardous Materials/Weapons of Mass Destruction Incidents*
Benchmark 8	*Public Health Preparedness Capabilities: National Standards for State and Local Planning, March 2011*
Benchmark 8, Benchmark 10	*Summary of the Health Insurance Portability and Accountability Act Privacy Rule*
Benchmark 10	*29 CFR §1910.120*
Benchmark 10	*29 CFR §1910.134*
Benchmark 10	*40 CFR 311*
Benchmark 10	*American Red Cross Shelter Forms*
Benchmark 10	*FEMA Disaster Assistance Policy 9523.19 Eligible Costs Related to Pet Evacuations and Sheltering, October 2007*
Benchmark 10	*Guidance on Emergency Responder Personal Protective Equipment for Response to CBRN Terrorism Incidents, June 2008*
Benchmark 10	*Pets and Animals*
Benchmark 10	*Public Law 109-308, Pets Evacuation and Transportation Standards Act of 2006, October 2006*
Benchmark 10	*Report of the Shelter-in-Place Work Group, December 2001*
Benchmark 10	*The National Institute for Occupational Safety and Health Certified Equipment List*
Appendix A	*Chemical Stockpile Disposal Program Final Programmatic Environmental Impact Statement, January 1988*
Appendix A	*Public Law 105-261 Section 141, October 1998*
Appendix B	*Fact Sheet 64-015-0711 Basic Facts Regarding Chemical Exposure Standards and Guidelines*
Appendix B	*PHN No. 0711-02 Chemical Agent Health-Based Standards and Guidelines Summary Table 1: Criteria for Airborne Exposures, July 2011*
Appendix C	*Blue Grass Chemical Agent-Destruction Pilot Plant*
Appendix D, Appendix H	*Pueblo Chemical Agent-Destruction Pilot Plant*
Appendix E	*2 CFR § 200.203*
Appendix E	*2 CFR §200.327*
Appendix F	*Core Capability Development Sheets*

Appendix L: Acronyms

AAR	After-Action Report
ACP	Access Control Point
ADA	Americans with Disabilities Act
AEGL	Acute Exposure Guideline Level
AIS	Automated Information System
ANSI	American National Standards Institute
Army	Department of the Army
BGAD	Blue Grass Army Depot
BGCA	Blue Grass Chemical Activity
BGCAPP	Blue Grass Chemical Agent-Destruction Pilot Plant
CA	Cooperative Agreement
CAI	Chemical Accident or Incident
CAIRA	Chemical Accident or Incident Response and Assistance
CENL	Chemical Event Notification Level
CEO	Chief Executive Officer
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMA	U.S. Army Chemical Materials Activity
CONOPS	Concept of Operations
CPG	Comprehensive Preparedness Guide
CR	Continuing Resolution
CSEPP	Chemical Stockpile Emergency Preparedness Program
CSWAN	Chemical Stockpile Wide Area Network
DHS	U.S. Department of Homeland Security
DIACAP	DoD Information Assurance Certification and Accreditation Process
DoD	U.S. Department of Defense
DOJ	U.S. Department of Justice
DPEIS	Draft Programmatic Environmental Impact Statement
EAS	Emergency Alert System
EEG	Emergency Evaluation Guide
EHP	Environmental and Historic Preservation
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EOPT	Emergency Operations Planning Template
EPA	U.S. Environmental Protection Agency
ERCP	Emergency Response Concept Plan
ERO	Emergency Response Outcome
ERPS	Emergency Response Planning Scenario
ESF	Emergency Support Function
FAD	Funding Authorization Document
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency

FY	Fiscal Year
FYDP	Future Years Defense Program
GAO	Government Accountability Office
HSEEP	Homeland Security Exercise and Evaluation Program
IA	Information Assurance
IPAWS	Integrated Public Alert and Warning System
IPT	Integrated Planning Team
IPT	Integrated Process Team
IRZ	Immediate Response Zone
JIC	Joint Information Center
JIS	Joint Information System
km	kilometer
LCCE	Life-cycle Cost Estimate
LEP	Limited English Proficiency
MCE	Maximum Credible Event
MEG	Medical Evaluation Guide
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MWG	Medical Work Group
NCP	National Contingency Plan
NOFO	Notification of Funding Opportunity
NRF	National Response Framework
O&M	Operations and Maintenance
OMB	Office of Management and Budget
ORNL	Oak Ridge National Laboratory
OSC	On-Scene Coordinator
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
PAD	Protective Action Decision
PAO	Public Affairs Officer
PAR	Protective Action Recommendation
PAZ	Protective Action Zone
PCAPP	Pueblo Chemical Agent-Destruction Pilot Plant
PCD	Pueblo Chemical Depot
PETS	Pet Evacuation and Transportation Standards
PIO	Public Information Officer
PIV	Personal Identity Verification
PMT	Program Management Team
POE	Program Office Estimate
POETE	Planning, Organization, Equipment, Training, and Exercises
POM	Program Objective Memorandum
PPBE	Planning, Programming, Budgeting, and Execution
PPD	Presidential Policy Directive
PPE	Personal Protective Equipment
QRA	Quantitative Risk Assessment
RAC	Risk Assessment Code

RMF	Risk Management Framework
SimCell	Simulation Cell
SIP	Shelter in Place
SPR	Stakeholder Preparedness Review
TCP	Traffic Control Point
THIRA	Threat and Hazard Identification and Risk Assessment
TIA	Telecommunications Industry Association
XPA	Extent of Play Agreement

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Appendix M: Program Alignment to the *National Preparedness System*

The Chemical Stockpile Emergency Preparedness Program measures progress towards realizing its vision through an assessment of 12 benchmarks. These benchmarks ensure a unified approach across the five mission areas and 32 core capabilities outlined in the *National Preparedness Goal* and all components of the *National Preparedness System*. This appendix illustrates CSEPP's alignment to the *National Preparedness System* (shown in Figure 52). It is important to note that, in some instances, benchmarks align with many core capabilities and components while others align with only a few. This does not imply a prioritization of one benchmark over another but serves as a means to aid in the development of target capabilities and gap analyses.
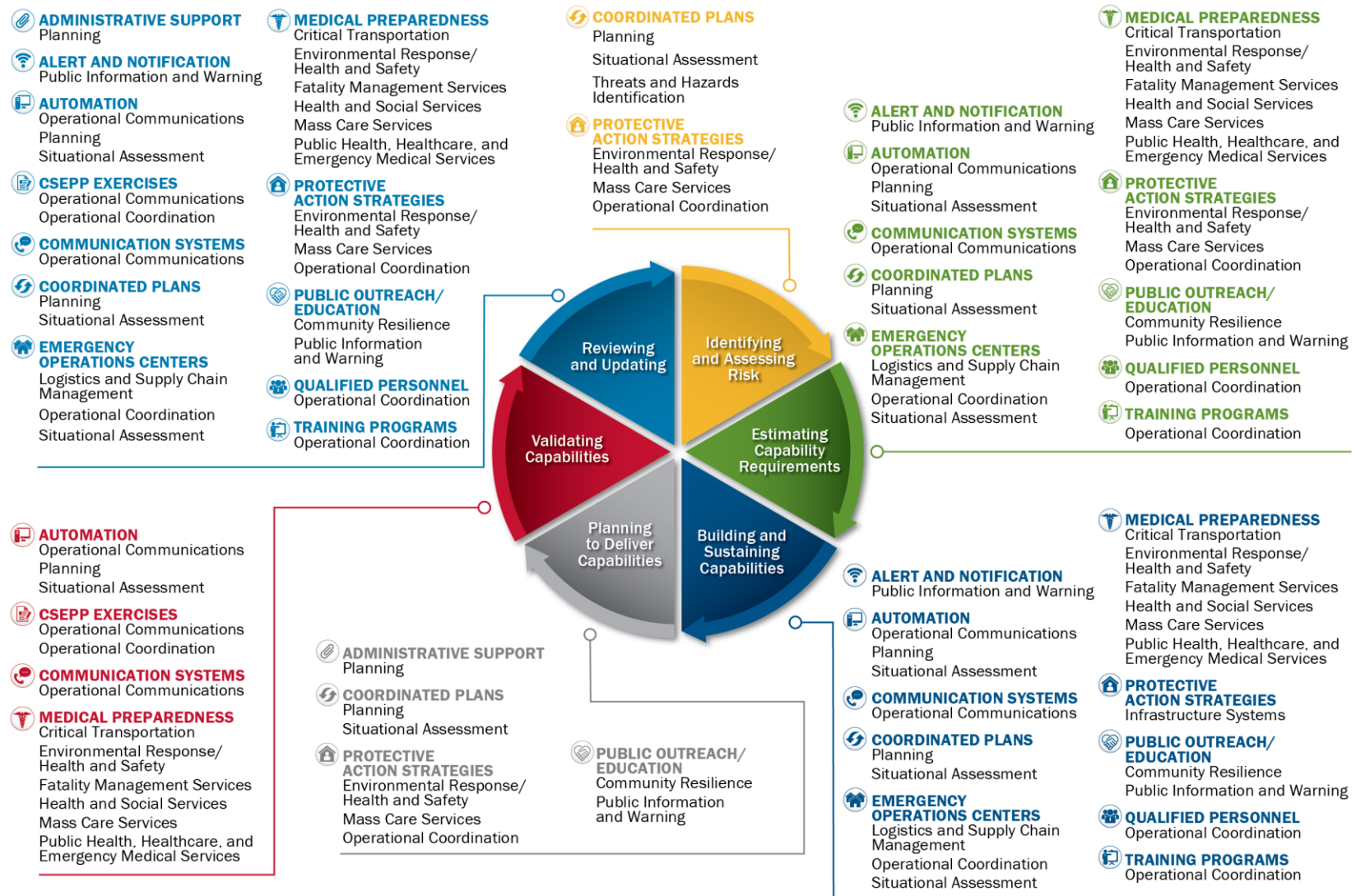
Figure 52: CSEPP National Benchmarks, *National Preparedness System* **Components, and** *National Preparedness Goal*
Core Capabilities Alignment