
CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM



CSEPP Lesson Learned: Reentry and
Recovery Guidance Development

This document was developed as part of the CSEPP History Project sponsored by the U.S. Army Chemical Materials Activity. The activity partners with the Federal Emergency Management Agency to ensure emergency preparedness in the communities surrounding the depots where stockpiled chemical weapons are stored. The Chemical Stockpile Emergency Preparedness Program works closely with communities adjacent to the Nation's remaining chemical weapons stockpiles. Its mission centers on enhancing emergency response plans and training, and identifying and securing response equipment and warning systems to meet each communities' emergency preparedness needs. For further information about this document, please contact Ken Lerner, klerner@anl.gov.

CSEPP Lesson Learned: Reentry and Recovery Guidance Development

CSEPP pioneered development of planning and guidance for reentry and recovery following an emergency.

1 Summary

As the CSEP Program matured, more attention was paid to post-emergency recovery issues and a working group was formed to develop guidance on reentry and recovery issues. The group developed a workbook containing a sample recovery plan, along with relevant background and reference information. The sample plan addresses topics such as hazard assessment, access to restricted areas, protection of food and water, medical services, relocation, social services, public information, financial assistance, and environmental remediation. It also lays out recovery responsibilities by Incident Command System (ICS) position. The approach and structure of the workbook can be adapted to planning for recovery from other hazards or all-hazard.

2 Background

Reentry and recovery was recognized as an element of chemical stockpile emergency preparedness early on in the program. However, recovery received relatively little emphasis compared with response-phase preparedness which was seen as more directly related to public health and safety.

Early CSEPP activities included a series of studies were performed by Oak Ridge National Laboratory to lay the technical groundwork for reentry and recovery decisions:

- A 1990 study provided information for emergency planners on the safety of reentry to areas affected by a chemical agent release, and on possible contamination of agricultural products, livestock, and water supplies.¹
- A 1992 study developed working estimates for control limits for media that offer the potential for human exposure, including drinking water, milk, soil, and unprocessed food.²
- Existing chemical agent exposure guidelines were compiled and presented in a 1997 paper.³

Technical studies and guidance regarding health effects of chemical agent exposure also have been conducted by the Army, U.S. EPA,⁴ OSHA,⁵ and CDC.⁶ The U.S. Army Center for Health

¹ See, e.g., Oak Ridge National Laboratory, *Reentry Planning: The Technical Basis for Offsite Recovery Following Warfare Agent Contamination*, ORNL-6628 (April 1990), and CDC, *Results of a Workshop Meeting to Discuss Protection of Public Health and Safety During Reentry into Areas Potentially Contaminated with a Lethal Chemical Agent (GB, VX, or Mustard Agent)*, (availability announced in Federal Register, 55 FR 28940, July 16, 1990).

² Watson, A.P., et al., *Estimated General Population Control Limits for Unitary Agents in Drinking Water, Milk, Soil, and Unprocessed Food Items*, ORNL/TM-12035 (1992).

³ Cheri Bandy Foust, *Compilation of Existing Chemical Agent Guidelines Table as of September 1997*, ORNL/TM-13649 (1998).

⁴ See *Acute Exposure Guideline Levels for Selected Airborne Chemicals, Volume 3*, National Academies Press (2003), available at <http://www.epa.gov/opptintr/aegl/pubs/tsd21.pdf>.

Promotion and Preventive Medicine (USACHPPM) (now the U.S. Army Public Health Command) at Aberdeen Proving Ground, Maryland, has had a continuing mission to determine safe levels of exposure to chemical agent for both military and civilian applications.⁷

As time went on and some of the more urgent response-phase issues were addressed to the satisfaction of those in the program, reentry and recovery gained attention. Recovery was identified as an area needing attention at the 2000 planning workshop, leading to formation of a working group that oversaw development of reentry and recovery guidance.

3 Issue

Reentry and recovery planning was lagging behind planning for other aspects of the program. Recovery planning was identified as a priority during a planning conference in December, 2000. Of particular concern was reentry decision making, which had been discussed in several national workshops without progressing toward resolution. Off-post communities wanted to know what monitoring data would be available and when, and the Army wanted to know what data the off-post communities were looking for. In addition, information was needed about other aspects of community recovery, including sources of assistance that would be available, and how to handle public information during recovery, among others. A reentry and recovery working group was formed under the leadership of Steve Douglas, Pueblo County, Colorado Emergency Director.

4 Solution

Recovery and reentry had been addressed in previous CSEPP planning guidance, in Appendix M to the 1996 CSEPP planning guidance. The appendix addressed recovery-phase decontamination, reentry and restoration. It incorporated a concept of phased reentry in which selective reentry by specially trained and equipped personnel might be needed, e.g., to perform a rescue operation or to repair critical infrastructure, followed later by public reentry. Topics suggested for reentry and recovery planning included assessment of residual hazards, controlling access to the affected area, collection of extensive data on land use in the affected area, public information needs during recovery, and provision for long term relocation including provision of social and medical services for displaced persons.

The recovery working group formed in 2000 expanded on previous guidance and developed a workbook that could serve as a template and reference recovery planning by CSEPP communities. The workbook went through several drafts and was issued in final form in May 2003. It recommended developing a community-wide CSEPP recovery plan, incorporating the installation and off-post jurisdictions, in advance of any emergency. It also described the conditions and concerns that could be expected in the wake of a chemical agent emergency. The

⁵ See the OSHA/NIOSH webpage on chemical, biological, and radiological standards, <http://www.osha.gov/SLTC/emergencypreparedness/cbrnmatrix/index.html#Introduction>.

⁶ For a recent overview of CDC activities in support of CSEPP, see *CDC Recommendations to the U.S. Army for Protecting Public Health During Chemical Weapons Elimination: Annual Report, Fiscal Year 2010* (March 2011). Available at www.cdc.gov/nceh/demil/pdfs/EPHRB_oversight_summary.pdf.

⁷ See, e.g., *Derivation of Health-based Environmental Screening Levels For Chemical Warfare Agents: A Technical Evaluation* (USACHPPM March 1999).

workbook's main component was a model recovery plan with chapters on hazard assessment, access control, food and water protection, medical services, relocation, social services, public information, claims and disaster assistance, and environmental remediation. The model plan was made available in a simple electronic format, accessible to the most common word-processing software, to enable planners to customize it for local application. The workbook also included appendices with background information on topics relevant to recovery planning including chemical agent exposure standards, listings of resources for sample analysis and other technical services, and discussions of legal procedures associated with environmental cleanup and disaster assistance. The workbook was used by multiple sites to develop local recovery plans.

5 Potential Application

The recovery workbook advocates advance planning for disaster recovery. Recent FEMA recovery doctrine agrees. The *National Disaster Recovery Framework* (FEMA, Sept. 2011) says, "Both pre- and post-disaster recovery planning are critical for communities to develop resilience and for successful and timely recovery."⁸

While the workbook was developed and designed specifically for CSEPP, there are aspects of it that could be adapted to recovery planning for other hazards or all-hazards. In particular:

- The basic design elements of an introduction, model recovery plan, and informational appendices.
- Including a recovery context description in the introduction. This section describes the situation that would be expected in the aftermath of the emergency, including elements such as what has occurred, what emergency response steps were taken, and some of the particular concerns and issues that the community would be facing after the situation has stabilized. It helps set the tone for model recovery plan.
- The first level structure of the model plan provides a reasonable starting point for developing other kinds of recovery plans. Topics include basic plan, hazard assessment, access to restricted areas, ingestion pathway protection (i.e. protection of food and water), medical services, relocation, social services, public information, disaster assistance, and environmental remediation. Arguably these or something similar to them would be applicable topics in many types of disaster.
- ICS responsibilities – the model plan contains general allocations of responsibility for various functions to particular ICS positions.
- Appendices with information and references. Appendix topics include health-based exposure standards, protective equipment, sources of external support, lists of volunteer organizations, and explanations of roles, responsibilities and procedures under applicable law. While relevant as of the time of publication, this material tends to be perishable as standards, guides, regulations, organizations, and practices change. Unless regular updates are anticipated, it might be better to have references to places to find the information, rather than summaries of the information itself.

⁸ FEMA, *National Disaster Recovery Framework* (2011), p. 63.

Thus the CSEPP recovery workbook may inform future efforts at recovery planning for various specific hazards or all-hazards.

6 References

Oak Ridge National Laboratory, *Reentry Planning: The Technical Basis for Offsite Recovery Following Warfare Agent Contamination*, ORNL-6628 (April 1990),

CDC, *Results of a Workshop Meeting to Discuss Protection of Public Health and Safety During Reentry into Areas Potentially Contaminated with a Lethal Chemical Agent (GB, VX, or Mustard Agent)*, (availability announced in Federal Register, 55 FR 28940, July 16, 1990).

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