

Summaries for Older (Pre-1998) Chemical Agent Documents (available at USACHPPM)

FM 8-285 Treatment of Chemical Agent Casualties and Conventional Military Chemical Injuries (2/90)

This manual serves trained members of the Armed Forces Medical Services and other medically qualified personnel as a guide and a reference on the recognition and treatment of chemical agent casualties and conventional military chemical injuries. Additionally, this manual provides basic self-aid and buddy aid information on the recognition and treatment of these casualties.

FM 8-9 NATO Handbook on the Medical Aspects of NBC Operations (2/96)

This manual provides a guide for medical officers on the medical aspects of NBC. It provides the basic philosophy for the development of concepts of operations and in the management, including evacuation and treatment, of NBC casualties as well as conventional battle casualties in a NBC environment.

TG 218 (USACHPPM Publication) Detailed and General Facts About Chemical Agents

The fact sheets in this technical guide are intended to provide a summary of information on 24 chemical warfare materials related to Chemical Stockpile and Non-Stockpile Activities. These are brief abstracts of data contained in Material Safety Data Sheets and other technical references relevant to these substances.

AR 40-5 Preventive Medicine (10/90)

This regulation explains the Army preventive medicine program and prescribes a comprehensive disease prevention and environmental enhancement plan of action for the U.S. Army at fixed installations and in support of field forces. It also establishes military occupational and environmental health standards.

Reentry Planning: The Technical Basis for Offsite Recovery Following Warfare Agent Contamination (ORNL-6628) (4/91)

The purpose of this technical support study is to provide information and analyses that can be used by federal, state, and local emergency planners in determining the safety of reentry to as well as the potential for recovery of, contaminated or suspect areas beyond the installation boundary. Guidelines for disposition of livestock, agricultural crops, and personal/real property are summarized. This document does not address potential adverse effects to, or agent contamination of, wild species of plants or animals.

Risk Communication and the Chemical Stockpile Emergency Preparedness Program (ORNL-6824) (9/94)

The purpose of this document is to provide fairly comprehensive source book on risk, risk management, risk communication research and recommended risk communication practices. It does not merely summarize each publication in the risk communication literature, but attempts to synthesize them along the lines of a set of organizing principles. The source book was developed for the CSEPP in support of the training module on risk communication.

Evaluating Protective Actions for Chemical Agent Emergencies (ORNL-6615) (4/90)

This document develops a method of evaluation for the principle protective action alternatives- evacuation, in-place shelter, and respiratory protection. In addition, this document examines these alternatives for a limited set of scenarios to both "validate" the method's utility, and make some preliminary program recommendations regarding protective action strategies.

Estimated Control Limits, Technologies and Regulatory Requirements for Remediating Sites Potentially Contaminated With Non-stockpile Chemical Materials (ORNL/TM-12412) (11/94)

The focus of this report is on the mustard agents HD, HT, and HN2, the organic arsenical vesicant Lewisite (agent L); the blood agent cyanogen chloride (CK) and the nerve agents GA, GB, and VX. Also included in this report is an analysis of civilian and military regulatory requirements and implications for remediating Non-stockpile Chemical Material and a survey of commercially available, prototype and experimental technologies suitable for remediation.

Analytical Methods for Environmental Sampling of Chemical Warfare Agents and Their Degradation Products (ORNL/M-4315) (6/95)

Standardization of analytical protocols to reliably detect chemical warfare agents and their degradation products in soil, water, and other complex environmental media is needed to support the various chemical weapons disposal and emergency preparedness programs, Chemical Weapons Convention Treaty (CWC) compliance, installation restoration and base closure decisions. The principal purpose of the Conference was to foster exchange among investigators and end users of these issues. The principal purpose of this document is to list the published papers organized by session, and in the order they were presented.

AR 385-61 The Army Chemical Agent Safety Program (2/97)

This regulation provides new Army policy on the management of the Chemical Agent Safety Program. It provides procedures for requesting waivers and exemptions to these standards. This regulation assigns responsibility for safety studies and reviews of chemical agents and associated weapon systems, and prescribes general safety precautions and procedures for both the Department of the Army and contractor operations.

Chemical Agent Identification Sets (CAIS) Information Package (11/95)

The purpose of this information package is to provide data on CAIS to military services, Government contractors, and state and local authorities as required. Three major varieties including 17 different types of CAIS were produced over three years. These sets were used by the military to train soldiers to identify chemical agents in the field.

Chemical Stockpile Emergency Preparedness Program (CSEPP) Glossary (2/96)

This glossary contains definitions for the 334 terms and 202 acronyms that are commonly used in the CSEPP.

Recovery Plan Workbook (2/92)

The Recovery Plan Workbook is designed to aid state and local jurisdictions in preparing plans for recovery and restoration activities following a chemical accident or incident associated with the storage or disposal of chemical weapons.

Recovery from a Chemical Weapons Accident or Incident: A Concept Paper on Planning (ANL/DIS/TM-14) (4/94)

This report provides an overview of the role of recovery, reentry, and restoration planning in the Chemical Stockpile Emergency Preparedness Program (CSEPP), describes the transition from immediate emergency response to restoration, and analyzes the legal framework that would govern restoration activities.

CSEPP Recovery Objective (2/97)

This document contains a proposed objective, sub-objectives, evaluation elements, and points of review to be used in evaluation CSEPP recovery exercises. These will be used as appropriate, for both the military and civilian recovery activities. The purpose of this objective is to provide a framework for evaluating: organizational plans; organizational structure and operating procedures; integration of federal, state, and local recovery organizations; coordination of site reentry and restoration actions; management of the recovery efforts to a successful conclusion.

Reentry/Restoration Technical Planning Guide for the Chemical Stockpile Emergency Preparedness Program (1/93)

This document has been developed to provide experience-based guidance to assist community and installation planners in developing Reentry/Restoration Plans. This document is not a set of standards or a cookbook. It does contain technical planning advice, some helpful decision logic, lists of written and human resources that should prove useful, and suggested outlines to follow in preparing your community's reentry/restoration plan.

Recovery, Reentry, and Restoration from a Chemical Weapons Accident or Incident: A Concept Paper on Planning and Preparedness (9/93)

This report recommends that extensive pre-accident planning be undertaken for the recovery, reentry, and restoration stage and outlines several key issues that should be considered in that planning. The need for interagency cooperation and coordination at all levels of the planning process is emphasized.

Planning Guidance for the Chemical Stockpile Emergency Preparedness Program (4/93)

This is a joint FEMA/Army document which was produced to assist state, local, and Army installation planners in formulating and coordinating plans for chemical events that may occur at the chemical agent stockpile storage locations in the continental United States. This document provides broad planning guidance for use by both on-post and off-post agencies and organizations in the development of a coordinated plan for responding to chemical events.

Colorado CSEPP Team Integrated Emergency Recovery Management Plan (3/97)

The purpose of this plan is to provide a framework for developing a comprehensive recovery plan to include a sampling strategy; organization plans; organizing personnel; integrating federal, state, and local recovery organizations; coordinating site restoration actions; and managing the recovery efforts to a successful conclusion.

Planning for a Veterinarian Exercise (5/97)

This is a presentation given at the 1997 CSEPP Annual Conference in Colorado. It includes information of the planning phase of a veterinarian's field exercise.

Disposal of Chemical Agents and Munitions Stored at Umatilla Depot Activity, Hermiston, Oregon-Final Environmental Impact Statement (5/95)

This document describes the existing UMDA and the existing environment that could be impacted by the proposed action and alternatives considered in the EIS.

AR 40-13 Medical Support-Nuclear/Chemical Accidents & Incidents (2/85)

This document prescribes medical support procedures in nuclear/chemical accidents and incidents. It also identifies the chemical accident and incident response and assistance requirements; the functions of the 7th Medical Command and the Letterman Army Medical Center for the US Army Radiological Advisory Medical Team; and the use of laboratory services and the list of required equipment.

EPA Region VIII Emergency Response Branch Quality Assurance Project Plan (1/90)

This Emergency Response Branch QA Project Plan specifies the policies and all other essential elements of a QAPP for Removal program with the Region. In the case of emergency response, this plan will be used as a generic plan.

Airborne Standards for Mustard "Gas" (Draft Report) (10/95)

The toxicological data for this report have been amassed from human and animal exposures dating from the present back to about 1918. Emphasis has been placed on human data, when possible. Mustard is a threat to our combat troops, and standards are necessary for battlefield exposure scenarios. Additionally, it is imperative to determine acceptable exposure limits for personnel involved in the destruction process and for the general population.

Interim Survey and Analysis Report- PM Non-stockpile (4/93)

This report includes the available non-stockpile chemical materiel (NSCM) information gathered from documentation surveys, interviews, and site visits. The report includes separate sections which summarize each of the five NSCM categories. This interim report does not contain cost and schedule information.

Environmental Fate of Chemical Agents, Simulants, and Other Chemicals (presentation)

This is a presentation which discusses the steps for environmental fate assessments, gives specific chemical examples, and discusses the significance of Environmental fate data. This was presented by Dr. Philip Howard of the Chemical Hazards Assessment Division, Syracuse Research Corporation.

Environmental Chemistry and Fate of Chemical Warfare Agents (SwRI-01-5864) (3/94)

This document briefly describes the chemistry of the chemical warfare agents and their hydrolysis products. It covers biodegradation and environmental fate. It also has calculations for environmental transport indices for agents and agent decomposition products.

Agent/Decontamination Chemistry Technical Report (10/95)

This document's objective is to provide a comprehensive review of chemical agent chemistry, and the chemistry of decontamination processes for the agents H/HD, GB, GD, and VX. The document presents a review of the available literature, and identifies relevant information on agent and decontaminant by-products, additives, and breakdown products. It also addresses the ability of agents to reform following decontamination (referred to as toxic rebound), and discusses fate and transport of agents in the environment. Finally, the document presents a discussion on adsorption and desorption from various types of materials.

Behavior of Chemical Agents in Seawater (EATR 4417) (8/70)

The purpose of this work was to obtain data needed in assessments of the potential hazards to sea life posed by chemical agent contamination. Specifically, the rates of solution in seawater of solid mustard gas (HD) at low temperatures and rate-temperature relationships for the seawater hydrolysis of isopropyl methylphosphonofluoridate (GB), VX, and *o*-chlorobenzyl-idene malononitrile (CS) were determined.

Site Monitoring Plan for the Rapid Response System Test at Tooele Army Depot (3/96)

This document provides the site monitoring plan (SMP) for Rapid Response System (RRS) test operations, conducted under the Non-Stockpile Chemical Materiel Project at Tooele Army Depot-South Area, Utah. Included in this SMP are the technical and administrative requirements for chemical warfare materiel monitoring during RRS treatment, repackaging, and closure of the RRS trailer operations. The monitoring program presented here includes sampling and analytical methods, monitoring system and alarm information, and the site-specific laboratory quality control plan, which have been designed to ensure that the data collected are accurate and defensible.

FM 3-3 Chemical and Biological Contamination Avoidance (11/92)

This manual, FM 3-3, defines and clarifies the entire process of CB contamination avoidance. It details the NBC Warning and Reporting System, how to locate and identify CB contamination, and how to operate in and around NBC contamination. This manual is designed and intended to be an easy-to-read, step-by-step manual depicting the manual method of calculating CB contamination avoidance procedures for chemical officers and NCOs. The proponent of this manual is the U.S. Army Chemical School.

FM 3-3 Chemical and Biological Contamination Avoidance (9/94)

This document (change 1) contains the changes to the FM 3-3 dated 16 November 1992.

FM 3-4 NBC Protection (85)

This manual is the US Army's primary doctrinal reference on nuclear, biological, and chemical (NBC) protection and individual, collective, and force protection against NBC hazards. This manual is for use by personnel in SC 74A and MOS 54B, NBC defense officers and NCOs, and unit leaders down to squad level. The proponent for this publication is the U.S. Army Chemical School.

FM 3-5 NBC Decontamination (86)

FM 3-5 provides the doctrinal approach for NBC decontamination (decon). This manual provides detailed guidance on conducting decon operations for chemical and nonchemical personnel. This manual integrates NBC fundamentals published in FM 3-100, NBC Defense, Chemical Warfare, Smoke and Flame Operations. It implements STANAG 2426 NATO Contamination Control Policy for NATO Forces. Name changes in the levels/types of decon will standardize decon terminology throughout NATO. These NBC fundamentals are integrated into the decon doctrinal concepts. The extent and timing of decon depends on the tactical situation, the mission, the extent of contamination, and the decon resources available. Reducing the effect of any chemical threat and survivability is the ultimate goal of FM 3-5.

FM 3-6 Field Behavior of NBC Agents (11/86)

FM 3-6 implements International Standardization Agreement (STANAG) 2103, Reporting Nuclear Detonations, Radioactive Fallout, and Biological and Chemical Attacks and Predicting Associated Hazards.

This manual explains how weather and terrain influence nuclear, biological, and chemical operations and smoke. This manual contains general information and the basic principles on how to get the best results.

FM 3-7 NBC Field Handbook (9/94)

This manual is a guide to help the chemical soldier at battalion level and below in NBC defense. It details the NBC warning and reporting system, how to locate, identify, and operate in and around NBC contamination. This manual is designed to be an easy-to-read, step-by-step manual depicting the manual method of calculating NBC defense procedures useful for the field soldier.

FM 3-9 Potential Military Chemical/Biological Agents and Compounds (90)

This field manual provides commanders and staffs with general information and technical data concerning chemical and biological agents and other compounds of military interest. It discusses the use; the classification; and the physical, chemical, and physiological properties of these agents and compounds. It also discusses protection and decontamination of these agents, and the symptoms and treatment of this symptoms. The proponent for this publication is Headquarters, TRADOC.

FM 3-10 Employment of Chemical Agents (3/66)

This manual provides doctrinal guidance for the employment of anti-personnel chemical agents. With its classified supplement, FM 3-10B, it provides data and guidance for planning the employment of chemical munitions with available weapon systems.

FM 3-21 Chemical Accident Contamination Control (2/78)

This manual provides guidance for training, equipping, and utilizing teams for contamination control during accidents/incidents involving chemical surety material. Specific guidance is provided for nuclear, biological, chemical (NBC) teams and decontamination teams, but the general principles presented apply to all special teams and personnel concerned with chemical accident/incident control.

FM 3-50 Smoke Operations (12/90)

This manual provides U.S. Army units with doctrine, tactics, techniques, and procedures to use smoke and obscurants to attack and defeat specific enemy targets, sensors, target acquisition systems, weapon guidance systems, and other enemy electro-optical devices.

FM 3-100 Chemical Operations Principles And Fundamentals (5/96)

This manual is the Chemical Corps capstone manual. It describes the principles and fundamentals of chemical operations in support of Army operations. It applies to operations during war- combat operations under nuclear, biological, and chemical (NBC) conditions- and operations other than war. It also describes the principles and fundamentals of the chemical mission areas- NBC defense, smoke, non-lethal, and flame operations. It provides general guidance for the employment of chemical units and chemical personnel on the modern battlefield.

Field Management of Chemical Casualties Handbook (7/96)

The purpose of this handbook is to serve as a small and concise manual for field medical personnel to carry in their BDU pocket as a guide to medical prophylaxis and management of chemical casualties.

Medical Management of Chemical Casualties Handbook (9/95)

The purpose of this handbook is to serve as a small and concise manual for medical personnel to carry in their BDU pocket as a guide to medical prophylaxis and management of chemical casualties.

TG 204 Glossary Of Terms for Chemical Agents & Chemical Defense Equipment (12/94)

This document was developed to serve as a tool in standardizing terminology and providing insight into the technical subtleties associated with any discussion of chemical agents and chemical defense equipment.

US Army Materiel Command Chemical Service Response Force Plan (7/97)

Preplanning guidance and actions to be taken prior to and upon implementation of this plan are provided. Internal supporting plans and standing operating procedures will be developed by agencies in accordance with the policies, responsibilities and procedures established by this plan. This plan is effective for planning and coordination. The proponent for this plan is CBDCOM.

Performance Degrading Effects from Exposure to G Nerve Agents (TR-1605-10B) (12/97)

The purpose of this document is to present, in unclassified form, the most reliable, quantitatively-based information on the performance degrading effects of G nerve agents. It is intended to assist combat developers, modelers, doctrine writers and commanders by providing a better understanding of the effects of various agent dosages on military units in operational scenarios. This document focuses on acute effects in the context of operational scenarios rather than on chronic exposures with long-term and delayed effects of G-nerve agent exposures.

Performance Degrading Effects from Exposure to Mustard Agent (TR-1605-10C) (12/97)

The purpose of this document is to present, in unclassified form, the most reliable, quantitatively-based information on the performance degrading effects of mustard agent. It is intended to assist combat developers, modelers, doctrine writers and commanders by providing a better understanding of the effects of various agent dosages on military units in operational scenarios. This document focuses on acute effects in the context of operational scenarios rather than on chronic exposures.

Performance Degrading Effects from Exposure to VX (TR-1605-11B) (12/97)

The purpose of this document is to present, in unclassified form, the most reliable, quantitatively-based information on the performance degrading effects of VX. It is intended to assist combat developers, modelers, doctrine writers and commanders by providing a better understanding of the effects of various agent dosages on military units in operational scenarios. This document presents a comprehensive review of information judged to be the best predictor of the health and performance effects from exposure to VX and focuses on acute effects in the context of operational scenarios rather than on chronic exposures.

CSEPP Reentry/Restoration Plan Workbook (6/94)

The purpose of this document is to help planners create a site specific Reentry/Restoration Plan. It is a template for planners to use to create their documents.

Sourcebook Appendices for the Reentry/Restoration Plan Workbook (6/94)

The purpose of this document is to provide reference source material for individuals establishing Reentry/Restoration Plans using the accompanying workbook.

Environmental Sample Design Research Facilitating Reentry/Restoration Decisions After Chemical Warfare Agents Release (ORNL/TM-12461) (3/94)

This report documents the development of a theoretical approach that improves sampling success and can aid planners in allocating scarce monitoring resources in the time period following agent release. This report is intended for eventual use as source material in the preparation of field sample design guidelines. At present, it is in the form of research documentation.

Cooperative Program on Research, Development, Production and Procurement of Chemical & Biological Defensive Materiel- Hazard from Industrial Compounds (3/96)

This report documents the reviews and findings of the ITF-25. To determine whether releases of industrial chemicals pose hazards to CANUKUS forces in military situations; develop assessment criteria; list chemicals of concern; review existing toxicological data and develop an agreed set of values; determine adequacy of current protective equipment against expected challenge levels; and review commercially available detection methods and equipment.

Interim Survey and Analysis Report (4/93)

This document was written to describe the magnitude of the work required by the Department of Defense (DOD) and to fulfill in part the Congressional requirement. This report includes the available Non-stockpile chemical materiel (NSCM) information gathered from documentation surveys, interviews, and site visits. The report includes separate sections which summarize each of the five NSCM categories. Because of incomplete data and the need for future study on the destruction processes to be used, this interim report does not contain cost and schedule information.

Soldiers Manual Chemical Operations Specialist MOS 54B (STP 3-54B1-SM) (7/97)

This publication is for skill level 1 soldiers holding MOS 54B and their trainers/first-line supervisors. It contains standardized training objectives, in the form of task summaries, which can be used to train and evaluate soldiers on critical tasks that support unit missions during wartime.

Chemical Stockpile Disposal Program Final Environmental Impact Statement (1/88)

This programmatic EIS was prepared to evaluate the environmental impacts of alternative approaches to disposing of lethal chemical weapons stockpiles of chemical agents and munitions.

Agricultural Impact Assessment Plan for the Environmental Monitoring Baseline Study Tooele Chemical Demilitarization Facility (TOCDF) (10/96)

This document was prepared to address concerns expressed by the Colorado Chemical Demilitarization Citizens' Advisory Committee (CAC) in Pueblo, Colorado, regarding the impacts of emissions from a proposed demilitarization facility on agricultural products grown in the vicinity. As a result of discussions between CAC and the chairman of the chemical demilitarization oversight committee of the National Research Council, recommendations were made to institute an environmental monitoring program to establish a background concentration profile of plant emission parameters in the environment surrounding TOCDF and to assess the potential impacts of TOCDF emissions on agricultural products.

Sodium Cyanide (NIH Publication 94-3386) (11/93)

The purpose of this study is to address effects of subchronic exposure to cyanide concentrations that are not acutely toxic. The 13-week study on cyanide was conducted with male and female mice administered low doses of sodium cyanide in drinking water. Animals were evaluated for histopathology, clinical chemistry, hematology, urine chemistry, and reproductive toxicity.

Future Use Structures Sampling and Analysis Protocol- version 1.2 (12/92)

The US Army Program Manager for Rocky Mountain Arsenal (PMRMA) initiated the development of a sampling and analysis protocol for future use structures on the Rocky Mountain Arsenal (RMA) to provide sufficient quantitative analytical data in support of the Structures Feasibility Study Detailed Analysis of Alternatives. This document presents the revised draft protocol, based on Panel comments relating to the draft protocol, analytical results and field observation from a pilot-scale study which tested the draft protocol, and information supplied by the PMRMA regarding revisions to remedial programs at RMA.

Future Use Structures Sampling and Analysis Work Plan RMA (2/91)

This addresses sample collection methodologies, chemical analyses, program QA/QC, and data management activities following established Program Manager Rocky Mountain Arsenal (PMRMA) guidelines. A pilot-scale study is presented, in which five structures will be sampled and the data assessed to ensure the developed protocol are effective and efficient. This information will then be incorporated into the draft final version of this report and the methodology revised, if necessary.

Submittal of POI and Lot Reports for POI 07 Surficial Soil Samples, Spring Valley Operation Safe Removal (4/94)

This report was created to support the Remedial Investigation (RI) being performed for Spring Valley Operation Safe Removal. It summarizes the sample collection, sample analysis, and analytical results for the samples collected in February 1994 from Point of Interest (POI) 07. Also included is a preliminary evaluation of the risk to human health and the environment. This evaluation is an initial summary of the risk that the site may present to local residents based on chemical contaminants detected in site soils.

Submittal of POI and Lot Reports for POI 10/11 Surficial Soil Samples, Spring Valley Operation Safe Removal (4/94)

This report was created to support the Remedial Investigation (RI) being performed for Spring Valley Operation Safe Removal. It summarizes the sample collection, sample analysis, and analytical results for the samples collected in January 1994 from Point of Interests (POIs) 10/11. Also included is a preliminary evaluation of the risk to human health and the environment. This evaluation is an initial summary of the risk that the site may present to local residents based on chemical contaminants detected in site soils.

Submittal of POI and Lot Reports for POI 16 Surficial Soil Samples, Spring Valley Operation Safe Removal (4/94)

This report was created to support the Remedial Investigation (RI) being performed for Spring Valley Operation Safe Removal. It summarizes the sample collection, sample analysis, and analytical results for the samples collected in February 1994 from Point of Interest (POI) 16. Also included is a preliminary evaluation of the risk to human health and the environment. This evaluation is an initial summary of the risk that the site may present to local residents based on chemical contaminants detected in site soils.

Chemical/Biological Incident Handbook (6/95)

This handbook is intended to supply information to first responders for use in making a preliminary assessment of a situation that they suspect involves a possible chemical or biological agent. A concise list of observable indicators of the use and/or presence of a CB agent is included to aid in the assessment.

FM 3-8 Chemical Reference Handbook (1/67)

This manual provides statistical information and data for use in planning and providing chemical support. While it is primarily intended as a guide and reference handbook for chemical staff officers, it will be useful for personnel at all levels. The manual contains a compilation of logistical and technical information pertaining to chemical materiel, services, operations, and units.

Vapor/Liquid Hazards Associated with Persistent Liquid Drops on Nonporous Surfaces (6/83)

This report documents the findings of phase I of a multiphase program being conducted under Chemical Systems Laboratory Technical Area 3-1. This laboratory study is concerned with quantifying the rate and quantity of vapor that become airborne from the evaporation of a uniform array of thickened persistent chemical agent simulant droplets deposited on non-absorbing surfaces. This study also attempts to quantify the liquid contact hazard posed by deposited drops of two persistent chemical agent simulants diethylmalonate and methyl salicylate thickened with the polymer additive K125.

FM 3-87 Nuclear, Biological, Chemical Reconnaissance and Decontamination Operations (2/80)

This manual describes how NBC units operate on the modern battlefield. NBC units conduct NBC reconnaissance operations to locate contaminated areas and to find suitable decontamination sites. Additionally, they conduct decontamination operations to lessen the effects of NBC attacks.

TM 3-250 Storage, Shipment Handling and Disposal of Chemical Agents and Hazardous Chemicals (3/69)

This manual is published for the guidance of personnel in handling, storing, shipping, and disposing of chemical agents and hazardous chemicals. This manual covers end item chemical agents and hazardous chemicals handled by depots and other storage installations.

DA PAM 385-61 Toxic Chemical Agent Safety Program (11/92)

This pamphlet explains the minimum safety criteria and standards for use in processing, handling, storage, transportation, disposal and decontamination of blister agents H, HD, L, and HT, nerve agents GB, GA, and VX.

Removal of Toxic Chemicals from Water by Reverse Osmosis (EATR 4356) (3/70)

The main objectives of this study were to evaluate the reverse osmosis process for its ability to remove chemical agents from turbid fresh water and brackish water, for its ability to withstand prolonged use in the field, for its ability to purify turbid fresh water, brackish water, and sea water and for the possibility of its being used as a universal means of water purification, regardless of source.

Summary of Operator Knowledge of Rocky Mountain Arsenal Structures -version 1.2 (12/92)

This publication is intended to provide information for use in their remediation through implementation of the feasibility Study (FS) Detailed Analysis of Alternatives or as part of the interim Response Actions. Operator knowledge will be used to assess the preliminary hazardous nature of each structure, and to determine sampling and demolition strategies for future use and no future use structures.

Evaluation of Military Field-Water Quality; Constituents of Military Concern from Natural and Anthropogenic Sources (1/88)

These documents focus on the identification and analysis of organic water contaminants that could degrade the performance of military personnel that drink field water.

Army's Guide to Community Outreach at Pine Bluff (7/96)

The purpose of this document is to serve as a communications "tool box" for the Chemical Activity Public Affairs Officers. It is specifically written for Army personnel, and provides suggestions for conducting site-specific and overall program community outreach activities. The procedures in the guide identify steps that could be taken by the Chemical Activity Public Affairs Officer to respond to site-specific perceptions of public safety risk from the demilitarization program or plans, and specific positive measures to improve public understanding and acceptance of the chemical demilitarization program.

Chemical Agent Mini-Chapters (10/96)

This document supports the activities of the Material/Chemical Risk Assessment Working Group of the Environmental Risk Assessment Program, a cooperative endeavor of the Department of Defense, Department of Energy, and the EPA. This working group is developing toxicity values for selected chemicals of concern at federal facilities.

No Effects Doses for Twenty-One Non-Stockpile Chemical Materiel (3/95)

This report presents the results of a comprehensive literature review to delineate no observable significant effects (NOSE) parameters for 21 non-stockpile chemical materiel substances. Most of these substances are acute eye, mucous membrane, and respiratory tract irritants at low concentrations. The technical approach for this study was to define the human thresholds for sensory irritation, and adjust these values to protect more susceptible members of the general population using the standard EPA Superfund uncertainty factor methodology, which is employed in the calculation of reference doses (RfDs).

Scientific Conference on Chemical and Biological Defense Research (11/97)

This document is a summary of the papers on chemical and biological defense research presented at the annual conference at the Edgewood Area Conference Center.