

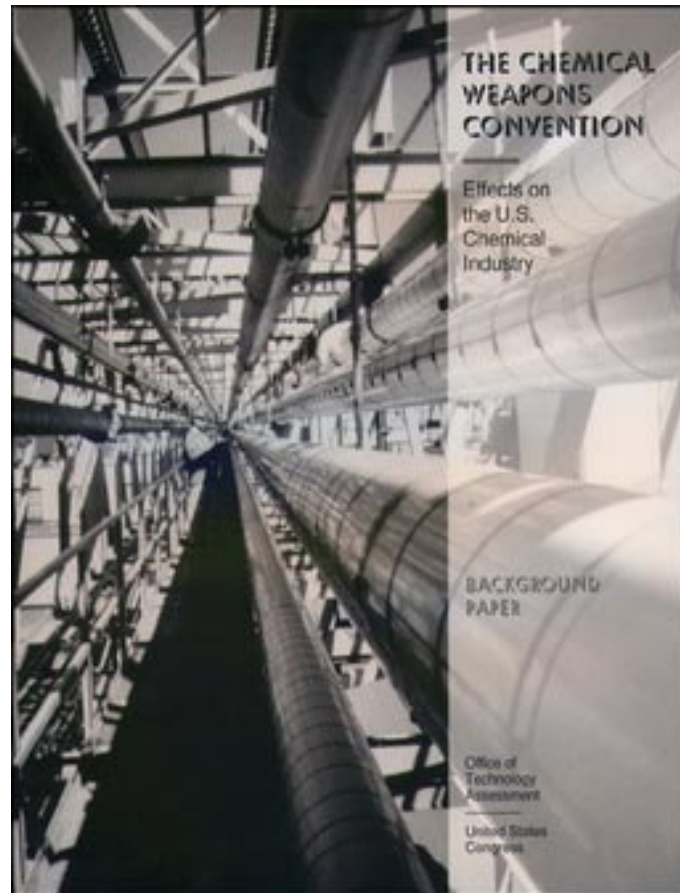
*The Chemical Weapons Convention: Effects
on the U.S. Chemical Industry*

August 1993

OTA-BP-ISC-106

NTIS order #PB93-218873

GPO stock #052-003-01331-2



Recommended Citation:

U.S. Congress, Office of Technology Assessment, *The Chemical Weapons Convention: Effects on the U.S. Chemical Industry, OTA-BP-ISC-106* (Washington, DC: U.S. Government Printing Office, August 1993).

Foreword

Historically, arms control treaties have had little direct impact on private industry. With a few rare exceptions--such as the onsite inspections of missile-production plants mandated by the Intermediate-range Nuclear Forces (INF) Treaty—such agreements have not covered manufacturing facilities but have sought to limit the numbers of deployed weapon systems. For this reason, the impending implementation of the Chemical Weapons Convention (CWC) will bring about a fundamental change in the practice of arms control.

The Convention, which is expected to enter into force in early 1995, bans the development, production, and use of chemical weapons. Since these activities are hard to detect with national technical means of verification such as reconnaissance satellites, the CWC is unprecedented in its requirement for intrusive onsite inspections of commercial production facilities, particularly those manufacturing “dual-use” chemicals that have legitimate commercial applications but can also be converted into chemical-warfare agents. Indeed, the ability to conduct onsite inspections at any one of tens of thousands of chemical plants worldwide will be essential to maintain confidence that all parties to the treaty are complying with its provisions,

This background paper explores the multifaceted challenge of integrating a private, primarily civil industry into the global arms-control regime established by the CWC. The interaction between industry and arms control raises new and challenging issues, such as reconciling the intrusive verification provisions of the treaty with the privacy protections of the U.S. Constitution, and addressing the concern that CWC-mandated declarations and inspections of chemical plants could provide opportunities for industrial espionage. Implementation of the Convention will entail an unavoidable tradeoff between the need to gather enough information to verify treaty compliance and the risk that intrusive inspections could jeopardize valuable trade secrets. The background paper concludes, however, that advance preparation by industry can mitigate such concerns.

The Senate Select Committee on Intelligence and the House Permanent Select Committee on Intelligence requested this background paper. It is one product of a larger OTA assessment, requested by several congressional committees, of the proliferation of weapons of mass destruction.



Roger C. Herdman, Director

Advisory Panel

James E. Goodby, chair¹

Distinguished Service Professor
Carnegie-Mellon University

James F. Leonard, chair²

Executive Director
Washington Council on
Non-Proliferation

George Anzelon

Associate Division Leader
Lawrence Livermore National
Laboratory

Will D. Carpenter

Chemical Industry Consultant

Lewis A. Dunn

Assistant Vice President
Science Applications
International Corp.

Randall Forsberg

Executive Director
Institute for Defense and
Disarmament Studies

Thomas R. Fox

Director
Office of National Security
Technology
Pacific Northwest Laboratories

Alan R. Goldhammer

Director of Technical Affairs
Industrial Biotechnology
Association

John M. Googin

Senior Staff Consultant
Martin Marietta Energy
Systems, Inc.

Robert G. Gough

Senior Member, Technical Staff
Sandia National Laboratories

Elisa D. Harris³

Senior Research Analyst
The Brookings Institution

Geoffrey Kemp

Senior Associate
Carnegie Endowment for
International Peace

Joshua Lederberg⁴

Rockefeller University

John W. Lewis

Center for International
Security and Arms Control
Stanford University

Lee W. Mercer

Corporate Export Manager
Digital Equipment Corp.

Matthew S. Meselson

Department of Biochemistry
and Molecular Biology
Harvard University

Stephen M. Meyer

Center for International Studies
Massachusetts Institute of
Technology

Gary Milhollin

Director
Wisconsin Project on Nuclear
Arms Control

Marvin M. Miller

Senior Research Scientist
Department of Nuclear Engineering
Massachusetts Institute of Technology

Janne E. Nolan

Senior Fellow in Foreign Policy
The Brookings Institution

William C. Potter

Director
Center for Russian and Soviet Studies
Monterey Institute of
International Studies

Barbara Hatch Rosenberg

Division of Natural Sciences
State University of
New York at Purchase

Lawrence Scheinman

Associate Director
Peace Studies Program
Cornell University

Leonard S. Spector

Senior Associate
Carnegie Endowment for
International Peace

Sergio C. Trindade

President
SEI International, Ltd.

¹Resigned Mar. 22, 1993.

²Panel member until June 1, 1993;
Panel chair after June 1, 1993.

³Resigned Jan. 29, 1993.

⁴Ex-officio; Member of Technology
Assessment Advisory Council.

NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the background paper and the accuracy of its contents.

Project Staff

Peter Blair

Assistant Director, OTA
Energy, Materials, and International
Security Division

Alan Shaw

Program Manager
International Security and
Commerce Program

Gerald L. Epstein

Project Director

PROJECT STAFF**JONATHAN B. TUCKER****Thomas Karas****CONTRACTOR****Dan Fenstermacher****ADMINISTRATIVE STAFF****Jacqueline Robinson Boykin**
Office Administrator**Louise Staley**
Administrative Secretary**Madeline Gross**
Contractor

Expert Reviewers

Calissa W. Brown

Counsel, Legal Department
E.I. Du Pont de Nemours & Co.
Wilmington, DE

Gordon M. Burck

Senior Policy Analyst
EAI Corp.
Alexandria, VA

Sigmund R. Eckhaus

Consultant, Bureau of Multilateral
Affairs
U.S. Arms Control &
Disarmament Agency
Washington, DC

Barry Kellman

Professor of Law
DePaul University College of Law
Chicago, IL

Kyle B. Olson

Director, Industry and Arms Control
chemical and Biological Arms
Control Institute
Alexandria, VA

Richard M. Patterson

Government Relations Manager
Dow Chemical Co.
Washington, DC

Susan D. Leibbrandt

Special Assistant
Assistant to the Secretary of
Defense for Atomic Energy
(Chemical Matters)
Pentagon

Raymond R. McGuire

Treaty Verification Office
Lawrence Livermore National
Laboratory
Livermore, CA

Michael H. McMillan

Chief, Security Office
On-Site Inspection Agency
Washington, DC

Dominic Pastore

Attorney-Advisor
Office of Intelligence Policy
& Review
U.S. Department of Justice
Washington, DC

Brad Roberts

Senior Research Fellow
Center for Strategic and
International Studies
Washington, DC

Dawn Shiley

Assistant Manager, Government
Affairs
Synthetic Organic Chemical
Manufacturers Association
Washington, DC

Jessica Stern

Special Projects Program
Lawrence Livermore National
Laboratory
Livermore, CA

Edward A. Tanzman

Manager, Economics and
Law Section
Argonne National Laboratory
Argonne, IL

Michael P. Walls

Senior Assistant General Counsel
Chemical Manufacturers
Association
Washington, DC

Leo ZefTel

Chemical Industry Consultant
Wilmington, DE

NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by outside reviewers. These individuals do not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the background paper and the accuracy of its contents.