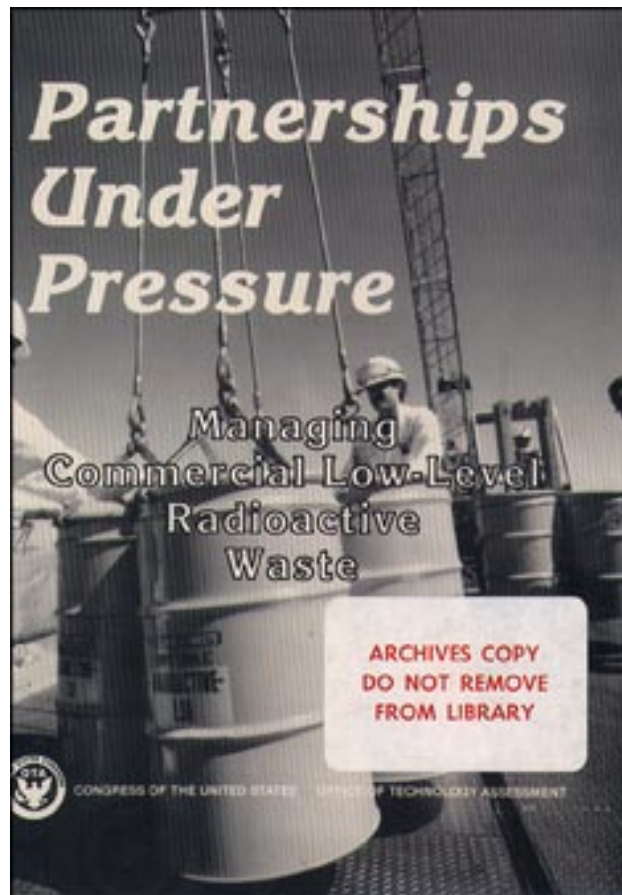


*Partnerships Under Pressure: Managing
Commercial Low-Level Radioactive Waste*

November 1989

NTIS order #PB90-159534



Recommended Citation:

U.S. Congress, Office of Technology Assessment, *Partnerships Under Pressure: Managing Commercial Low-Level Radioactive Waste, OTA-O-426* (Washington, DC: U.S. Government Printing Office, November 1989).

Library of Congress Catalog Card Number 89-600772

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, DC 20402-9325
(order form can be found in the back of this report)

Foreword

Almost 5 years have passed since the Low-Level Radioactive Waste Policy Amendments Act was enacted. The law establishes milestones and deadlines for States to develop disposal facilities for their low-level radioactive waste (LLW). Partnerships between States, called compacts, are encouraged to develop these facilities because of the small national volume of LLW. While most States and compacts are on track for developing facilities for most of their LLW, few States are far along in developing disposal capacity for mixtures of low-level and hazardous waste—so-called “mixed LLW.”

OTA’s study on managing LLW, including mixed LLW, was undertaken at the request of the Senate Committee on Environment and Public Works. The Committee asked OTA to analyze States’ progress in developing disposal facilities for LLW and mixed LLW and to evaluate any existing problems in managing mixed LLW.

This report provides an overview of progress made by nine compacts and the remaining unaffiliated States in developing disposal facilities. Disposal costs have more than tripled while LLW volumes have dropped by more than half over the last decade. Since many costs associated with developing and operating a disposal facility are fixed, unit disposal costs will increase substantially as new facilities open. This may lead States to consider the economics of cooperative arrangements, which would permit them to trade waste services and construct fewer full-service disposal facilities.

A small percent of LLW is labeled mixed LLW because it also contains components classified as hazardous under the Resource Conservation and Recovery Act. Jurisdiction over mixed LLW disposal falls jointly to the Nuclear Regulatory Commission and the Environmental Protection Agency. Unfortunately, some regulations aimed at mixed LLW are unattainable, inconsistent, or duplicative. Unless current regulations are revised, generators of mixed LLW (e.g., industries, hospitals, nuclear power plants, and laboratories) are left with three options: stop producing the waste (which can mean going out of business), illegally store the waste, or illegally dispose of the waste. Our report presents options on, how this dilemma may be addressed.

Substantial assistance was received from many organizations and individuals during the course of this study. We would like to express our thanks to our advisory panel, contractors, workshop participants, and reviewers who provided advice and information throughout the course of this study. As with all OTA studies, **OTA** remains solely responsible for the contents of this report.



JOHN H. GIBBONS
Director

Partnerships Under Pressure: Managing Commercial Low-Level Radioactive Waste Review Panel

Mary R. English, *Chairperson*
Energy, Environment, and Resources Center
University of Tennessee

Ruben Alvarado
Texas Low-Level Radioactive
Waste Disposal Authority

Tom Baer
US Ecology, Inc.

Leland Cooley
Radiation Safety Office
University of Maryland

Norman Dudey
Quadrex Recycling Center

David Ebenhack
Chem-Nuclear Systems, Inc.

Lynne Fairbent
Nuclear Management and
Resources Council

Brian Farrell
Edison Electric Institute

John Hsu
E.I. DuPont de Nemours &
Co. (Inc.)

Carolyn Kobrynski
New York State Low-Level
Radioactive Waste Disposal
Advisory Committee

Dan Reicher
Natural Resources Defense
Council

Jay Ringenberg
Nebraska Department of
Environmental Control

Contributors

Bud Arrowsmith
Scientific Ecology Group, Inc.

David Bennett
U.S. Army Corps of Engineers,
Waterways Experiment Station

Robert Blickwedehl
Dames & Moore

Francis Bowie
District of Columbia Department of Consumer
and Regulatory Affairs

Elaine Carlin
Northwest Low-Level Radioactive Waste Compact
Commission

Philip Garon
U.S. Department of Energy

Ronald Gingerich
Connecticut Hazardous Waste Management Service

Gregg Larson
Midwest Low-Level Radioactive Waste
Compact Commission

Terry Lash
Illinois Department of Nuclear Safety

Paul Mayo
New York State Low-Level Radioactive Waste
Siting Commission

William Newberry
U.S. Department of Energy

Alan Pastemak
California Radioactive Materials
Management Forum

Samual Penza
New Jersey Low-Level Radioactive Waste Disposal
Facility Siting Board

Robert Poling
Congressional Research Service

Stephen Roop
Massachusetts Executive Office of Environmental
Affairs

Matthew Scott
Maine Low-Level Radioactive Waste Authority

Leonard Slosky
Rocky Mountain Low-Level Radioactive Waste
Compact Commission

Kathryn Visocki
Southeast Low-Level Radioactive Waste Compact
Commission

Don Womeldorf
California Department of Health Services

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

OTA Project Staff-Partnerships Under Pressure: Managing Commercial Low-Level Radioactive Waste

John Andelin, *Assistant Director, OTA
Science, Information, and Natural Resources*

Robert Niblock, *Program Manager
Oceans and Environment*

Gretchen H. McCabe, *Project Director*

William Barnard, *Senior Analyst*

Andrew MacDonald, *Analyst*

Administrative Staff

Kathleen A. Beil

Sally W. Van Aller

Contractors

Afton Associates, Inc.

EG&G Idaho, Inc.

Rogers & Associates Engineering Corp.

**Workshop on Mixed Low-Level Radioactive Waste
December 15 & 16, 1988**

Ruben Alvarado
Texas Low-Level Radioactive Waste
Disposal Authority

Leland Cooley
Radiation Safety Office
University of Maryland

Robert Dodge
Reynolds Electric Engineering Corp.

William Dornsife
Pennsylvania Department of Environmental
Resources

Norman Dudey
Quadrex Recycling Center

Larry Evans
Duke Power Co.

Glen Galen
U.S. Environmental Protection Agency

John Greeves
U.S. Nuclear Regulatory Commission

John Hsu
E.I. DuPont de Nemours & Co. (Inc.)

Timothy Johnson
U.S. Nuclear Regulatory Commission

Daniel Martin
U.S. Nuclear Regulatory Commission

Alessi Otte
U.S. Environmental Protection Agency

Dan Reicher
Natural Resources Defense Council

Jay Ringenberg
Nebraska Department of Environmental Control

Betty Shackelford
U.S. Environmental Protection Agency

John Tekin
Radiac Corp.

George Vander Velde
Chemical Waste Management, Inc.

Steve Weil
U.S. Environmental Protection Agency

Tom Zidow
Westinghouse Electric Corp.

**Workshop on Recoverability of Low-Level Radioactive Waste
in Salt Lake City, Utah
March 6, 1989**

Robert Baird
Rogers & Associates Engineering Corp.

Barry Boyer
State University of New York at Buffalo

Edward Jennrich
Rogers & Associates Engineering Corp.

John Musacchio
Paul C. Rizzo Associates, Inc.

Michael Sabbe
Bechtel National, Inc.

Art Sutherland
Rogers & Associates Engineering Corp.