

*Managing the Nation's Commercial  
High-Level Radioactive Waste*

March 1985

NTIS order #PB86-116852

**Managing the Nation's  
Commercial High-Level  
Radioactive Waste**

Recommended Citation:

***Managing the Nation's Commercial High-Level Radioactive Waste*** (Washington, DC: U.S. Congress, Office of Technology Assessment, OTA-O-171, March 1985).

Library of Congress Catalog Card Number 84-601154

For sale by the Superintendent of Documents  
U.S. Government Printing Office, Washington, DC 20402

# Foreword

This report presents the findings and conclusions of OTA's analysis of Federal policy for the management of commercial high-level radioactive waste. It represents a major update and expansion of the analysis presented to Congress in our summary report, *Managing Commercial High-Level Radioactive Waste*, published in April of 1982 during the debate leading to passage of the Nuclear Waste Policy Act of 1982 (NWPA). This new report is intended to contribute to the implementation of NWPA, and in particular to congressional review of three major documents that DOE will submit to the 99th Congress:

- . Mission Plan for the waste management program;
- a monitored retrievable storage (MRS) proposal; and
- \* report on mechanisms for financing and managing the waste program.

The assessment was originally undertaken at the request of the House Committee on Merchant Marine and Fisheries and focused on the ocean disposal of nuclear waste. OTA later broadened the study to include all aspects of high-level waste disposal after expressions of interest and support by the Senate Committees on Energy and Natural Resources and on Commerce, Science, and Technology; by the Senate National Ocean Policy Study; and by the House Committees on Science and Technology and on Foreign Affairs. Additional requests for related analysis were later received from the Senate Committee on Environment and Public Works and from the House Committees on Interior and Insular Affairs and on Energy and Commerce. The major findings of the original analysis were published in OTA's 1982 summary report.

Following passage of NWPA, the House Committee on Rules asked OTA to analyze the Act from the perspective of the policy conclusions of our 1982 study. The major conclusion of that review, included as chapter 5 of this new report, is that NWPA ***provides sufficient authority for developing and operating a waste management system based on disposal in geologic repositories.*** Substantial new authority for other facilities will not be required unless major unexpected problems with geologic disposal are encountered.

In addition, the House Committees on Interior and Insular Affairs and on Energy and Commerce asked OTA to provide information on the Mission Plan required by NWPA. OTA concludes that DOE's Draft Mission Plan published in 1984 falls short of its potential for enhancing the credibility and acceptability of the waste management program. The summary of this report, included as chapter 1, presents the key findings and options concerning the Mission Plan and the other documents mentioned above.

OTA is grateful for the assistance of the advisory panel for this assessment, as well as the support and guidance received from many other people and organizations. OTA has also benefited from the full cooperation of the Department of Energy, the Nuclear Regulatory Commission, the Environmental Protection Agency, and other Federal agencies. OTA assumes full responsibility for the report.



JOHN H. GIBBONS  
*Director*

## Advisory Panel on Commercial High-Level Radioactive Waste

Hans Frauenfelder, *Chairman*  
Department of Physics, University of Illinois

Seymour Abrahamson  
Department of Zoology  
University of Wisconsin

Frank Collins  
Consultant

Floyd Culler  
President  
Electric Power Research Institute

J. William Futrell  
President  
Environmental Law Institute

Edward Goldberg  
Scripps Institution of Oceanography  
University of California

William W. Hambleton  
Director  
Kansas Geological Survey

Hon. Harriet Keyserling  
House of Representatives  
State of South Carolina

Terry Lash  
Director  
Illinois Department of Nuclear Safety

Kai Lee  
Institute for Environmental Studies  
University of Washington

Hon. Jeanne Malchon  
Senate  
State of Florida

Peter Montague  
Center for Environmental Studies  
Princeton University

Glenn Paulson  
Vice President for Science  
National Audubon Society

Howard Raiffa  
Harvard Business School

William A. Thomas  
Research Attorney  
American Bar Foundation

Mason Willrich  
Vice President—Corporate Planning  
Pacific Gas & Electric Co.

Donald Wodrich  
Rockwell International-Hanford Operations

John Yasinsky  
Advanced Power Systems Division  
Westinghouse Electric Corp.

NOTE: The Advisory Panel provided advice and comment throughout the assessment, but the members do not necessarily approve, disapprove, or endorse the report, for which OTA assumes full responsibility.

# OTA Commercial High-Level Radioactive Waste Project Staff

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

Robert Niblock, *Oceans and Environment Program Manager*

Thomas Cotton, *Project Director*

William Barnard, *Assistant Project Director*

John Burns, *Editor and Writer*

Daniel Kevin, *Analyst*

Kathryn Van Wyk, *Editor and Writer*

## *Administrative Staff*

Kathleen Beil

Jacquelynne Mulder

## *Contributing Staff*

Prudence Adler	Junior Bridge	Anne Fenn	Linda Garcia	
Emilia Govan	Barry Holt	Peter Johnson	Robert Leachman*	James Payne
Paul B. Phelps	Richard Raymond**	Ralph Smalley	Lucia Turnbull	

## *Contractors*

Academy for Contemporary Problems	Barbara Katz
American Planning Association	Todd LaPorte
Applied Decision Analysis	Daniel Metlay
Battelle Memorial Institute	Gene Rochlin
Human Affairs Research Centers	Sanford Strenger* *
David Carr	Teknekron Research, Inc.
William Colglazier	The George Washington University
David Deese	The MITRE Corp.
Forecast Systems, Inc.	Toner & Associates, Inc.
William Giese	Patrick Windham
Harvard University	David Zellner

## *Public Participation Working Group*

Susan Bistline	Alfred Carter, Jr.	Mildred Clark
Barbara Jackson	Janet Kramer	William Pounds
Barbara Ruff	Gregory Smith	James Stewart

● NR( (1(,111((  
\*\*in-h(mw ( (JIIII<1( (JII