

 EPA **Introducing . . .**

**How To Evaluate
Alternative Cleanup
Technologies For
Underground Storage
Tank Sites**

**A Guide For
Corrective Action Plan
Reviewers**

Purpose

The U.S. Environmental Protection Agency (EPA) has developed a guide to help state regulators efficiently and confidently evaluate corrective action plans (CAPs) that incorporate alternative technologies. ***How To Evaluate Alternative Cleanup Technologies For Underground Storage Tank Sites: A Guide For Corrective Action Plan Reviewers*** focuses solely on the technical aspects of CAP review. The guide enables state regulators to answer two basic questions:

- Has an appropriate cleanup technology been proposed?
- Does the CAP provide a technically sound approach to the cleanup?

EPA has distributed copies of this guide to its regional offices and to states and their regional offices in order to reach every state regulator who reviews CAPs. Others who might be interested in this guide are consultants, engineers, lenders, public health professionals, environmental education centers, and other people involved in the cleanup or remediation of a leaking underground storage tank site.

Background

Written in "plain English," the guide takes the reader through the many steps involved in reviewing a CAP. Technical information is supplemented with flow charts, instructions, checklists, illustrations, and tables. A glossary of technical terms is included.

The guide does not advocate the use of one technology over another; it focuses on the decision-making process. Each chapter discusses one technology and describes its soil and groundwater applications in detail. Chapters cover:

- Soil Vapor Extraction
- Bioventing
- Biopiles
- Land Farming
- Thermal Desorption
- Air Sparging
- Biosparging
- Natural Attenuation
- In-Situ Bioremediation (added June 1995)
- Dual-Phase Extraction (added June 1995)



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Format

This 420+-page Guide is both a reference and a handbook. The chapters, which are separated by printed tabs, each have a Contents page. The document is printed on 3-hole drilled paper for insertion into a 3-ring binder. While the price of the Guide does not include a binder, any binder with a 2-inch spine will accommodate all of the pages.

Customer Input

EPA's Office Of Underground Storage Tanks developed this Guide after in-depth discussions with state regulators in EPA Regions 2, 3, 4, 7, and 10. A group of peer reviewers (from two regions, four states, and EPA's Office of Research and Development) read each chapter and provided technical and editorial feedback.

Contractor teams of technical experts assisted EPA in creating each chapter. The writers have several years of experience designing and implementing CAPs for alternative technologies at leaking underground storage tank sites.

Organization

Each chapter includes:

- A comprehensive description of the technology, an explanation of how it works, and a flowchart illustrating the decision points in the process.
- Information to help a regulator evaluate whether a given technology will successfully clean up a given site. (Topics include technology limitations, attainable cleanup levels, site conditions, and site hydrogeology.)
- Discussion and instruction to help a regulator evaluate whether a CAP is technically sound. (Topics include system components, system design, and operation and monitoring plans.)
- A checklist to assist a regulator in determining whether or not the CAP contains all of the necessary steps.
- A list of references.

Ordering Information

This Guide is available for \$28.00 from the U.S. Government Printing Office (GPO), Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Order stock number 055-000-00499-4. An order form is included in this leaflet.

For additional information, please call EPA's RCRA/Superfund Hotline. The Hotline is open Monday through Friday from 8:30 a.m. to 7:30 p.m. EST. The toll-free number is 800 424-9346; for the hearing impaired, the number is TDD 800 553-7672.

In an effort to elicit feedback that will affect possible revisions and additions to this Guide, EPA is including an evaluation form with the package.