

management for acute, as well as chronic exposure, are suggested, as is a reading list of references, and a post test which can be returned to Atlanta for verification.

As with the other studies in this series, the information would be invaluable for chemists, industrial hygienists, physicians, and anyone working with or concerned with this or related compounds.

HOWARD H. FAWCETT

*Innovative Site Remediation Technology: Thermal Desorption*, edited by W.C. Anderson, American Academy of Environmental Engineers, Annapolis, MD, 1993, 148 pages, price US\$ 49.95, ISBN 1-883767-06-7

*Thermal Desorption* is the first in a set of eight monographs on innovative site remediation technology being prepared by the WASTECH® project. Other volumes are to follow on bioremediation, chemical treatment, soil washing/soil flushing, solvent/chemical extraction, stabilization/solidification, thermal destruction, and vacuum vapor extraction. The book has five distinguished principal authors (from academia, industry, consulting and government). More impressive, however, was the extensive list of reviewers — the list exceeds 20. Actually the introduction says that over 100 experts were involved over a two-year period in the production of this volume.

The book has seven chapters (and six appendices). The contents of each chapter are discussed (briefly) below.

1. Introduction — Background; objectives and scope of the process.
2. Process summary — The chapter begins with an excellent description of the process. "Thermal desorption is an ex situ means for physically separating organics from soils, sediments, sludge, filter cakes and other solid media." Four types of units, their design, pretreatment and posttreatment requirement are discussed. These four units are (1) direct-fired rotary desorbers; (2) indirect-fired rotary desorbers; (3) direct- or indirect-heated conveyor systems; and (4) the SoilTech system.
3. Process identification description — This chapter provides a comprehensive scientific discussion of each technology, discusses the status of technology development, health and safety considerations, design and operation, data post-treatment requirement (if soil or gas), environmental impact, and comparative costs (cost data though extremely useful are often very difficult to find in the literature, and the amount of cost data given here is, however, fairly limited).
4. Potential applications — Topics covered in this chapter are how to determine the applicability of thermal desorption via treatability testing and the quality of the residuals to be expected from thermal desorption processes. I found the book's list of 28 thermal desorption projects of real interest; VOCs and PCBs were the key contaminants addressed (removed).
5. Process evaluation — Given that past experience teaches many lessons, this chapter reviews case studies of full-scale treatment systems as well as

pilot-and-bench-scale units. I was pleased to see real life application data bases and more real data on operation: temperature, flow rate, concentration, etc.

6. Limitations — Or how to decide whether or not waste can be treated by thermal desorption.

7. Technology prognosis — A short segment which identifies other processes or elements of process that require future research and demonstration before full-scale application can be considered.

8. Appendix — Seven in number discussing other treatment alternatives, list of vendors' acronyms, references and discussion of the Waukegan Harbor Project.

My overall assessment is that this first book in the series is an excellent start on a remediation series. I hope the other books in the series are equal to this one.

GARY F. BENNETT

*Waste-to-Energy in the United States: A Social and Economic Assessment*, by T.R. Curlee, S.M. Schexnayder, D.P. Vogt, A.K. Wolfe, M.P. Kelsay and D.L. Feldman, Quorum Books, Westport, CT, 1994, 260 pages, price US\$ 65, ISBN 0-89930-844-9

In recent years, the public has become increasingly aware that the United States has a problem with municipal solid waste (MSW) disposal. According to the authors, recent events involving bargeloads and trainloads of unwanted garbage wandering the country's waterways and railroads for disposal sites along with the usual media coverage have compounded the arguments and discussions concerning MSW. Recent and projected increases in MSW quantity are made more problematic by recent trends in the number and costs of landfills, which have been, historically, the primary means of managing MSW in the United States. Other sources of waste management have been and are recycling, composting, and source reduction; however, each of these alternative means of managing MSW are becoming more limited because of cost or lack of a definite improvement in the waste problem. The authors discuss an alternative waste management tool that has been used in the past — incineration, typically without heat recovery. However, the technology of waste-to-energy (WTE) or incineration with heat recovery has recently been on the rise as a means of managing MSW and was expected to see tremendous growth in this country well into the next century. According to the authors, this growth has not occurred due to a variety of factors such as disagreements about potential environmental damages, legislative and regulatory uncertainties, the future cost and availability of alternative management methods, constraints and uncertainties about financing methods, questions about the reliability and applicability of existing technologies, and failures in local decision-making processes.

To examine the effects of these barriers on the use of WTE, the authors used a three-pronged approach to collect and assess information on WTE: (1) aggregate socioeconomic analysis, (2) financial issue focus, and (3) case studies. In the course of the book, four case studies are used to discuss the use of WTE in counties across the United States — two case studies directed at communities that have accepted WTE