Journal of Hazardous Materials, 8 (1984) 381—389
Elsevier Science Publishers B.V., Amsterdam — Printed in The Netherlands

Book Reviews

Remedial Action Technology for Waste Disposal Sites, by P. Rogoshweski, H. Bryson and K. Wagner, Noyes Data Corporation, Park Ridge, NJ, 1983, 497 pages, $36.00.

With the Environmental Protection Agency (US EPA) having now identified approximately 500 uncontrolled hazardous waste sites to be cleaned up under the "Superfund" program, this new book is a valuable addition to the remedial action engineer's library. The authors, all employed by JRB, a consulting firm, originally wrote this report for the US EPA who published it in June 1982, as Report No. EPA-625/6-82-006.

In the book, the authors describe remedial actions that can be taken to control, contain, treat or remove contaminants from uncontrolled hazardous waste sites. These remedial steps include surface, groundwater and leachate controls; direct treatment methods (such as excavation or solidification in situ); gas migration controls; techniques for cleaning, repairing leaks in and monitoring contaminated water and sewer lines; and methods for contaminated sediment removal. Indeed, there is not much of a remedial nature that could be accomplished at a site that is not discussed in the book.

Additionally, the authors give cost data for many of the contemplated actions. Those data should be useful to the design engineer initially estimating site remedial costs. However, since costs are normally site dependent, the engineer will have to consider his unique situation rather than just use averages. The authors recognize that and most cost data are given in ranges for each operation, rather than a single figure. Other useful aspects of the book are numerous diagrams of potential installations, graphs and tables of data, and a discussion of the advantages and disadvantages of many remedial action steps.

Finally, the report went through US EPA's rigid peer review process coordinated by WAPORA, another Washington-based consulting firm that was assisted by four other firms skilled in hazardous waste technology. Few text books receive such a thorough scrutiny.

GARY F. BENNETT

Spill Prevention and Fail-Safe Engineering for Petroleum and Related Products, by J.L. Goodier, R.J. Siclari and P.A. Garrity, Noyes Data Corporation, Park Ridge, NJ, 1983, 325 pages, $36.00.

About the most intelligent US government regulations ever promulgated (in my opinion) were the Spill Pollution Control and Countermeasure (SPCC) plan requirements which are designed to reduce oil spills from fixed facilities. The basic requirement of the SPCC regulations is to require an

engineer to inspect an oil storage or handling facility, make a determination on how oil can be spilled, where it will go if spilled, and to design a system to prevent that spill or impede the oil reaching a watercourse. Implementation of these rules in the United States over the last ten years has markedly reduced the number and severity of oil spills into the waters of the nation.

The foreword written by the authors gives an excellent overview of the book: "An attempt has been made to cover every facet of spill prevention. Special emphasis is given to fail-safe engineering as an approach as to preventing spills from the predominant cause — human failure (the authors note, later in the book, that 88% of all spills are a result of human error). The book addresses state-of-the-art spill prevention practices and automation techniques that can reduce spills caused by human error. Whenever practical implementation costs are provided to aid equipment acquisition and installation budgeting. To emphasize the need for spill prevention, historic spills are briefly described, after which remedial action is defined to an appropriate section of this manual. The section on plant security goes into considerable depth, since few security guidelines have been provided for industrial facilities that transfer, store, and process petroleum and related products."

The book was originally published by the authors as a US Department of Energy Report (DOE-TIC-11470) in 1981 under the title "Fuel Conservation by the Application of Spill Prevention and Fail Safe Engineering (A Guideline Manual)."

It is indeed a comprehensive book. Covered are spill prevention in tank storage areas (dikes, high level alarms, drainage are discussed), transfer during storage, wastewater treatment processes and personnel training (although this section is probably much too short for the 88% of the spills caused by human errors; in my opinion, this is one section that received too little attention of the authors). Thoroughly up-to-date concepts such as the Pollulert oil detector and Imbiber beads are included in the prevention discussion (although not noted in the book, Dow Chemical has sold off the Imbiber beads business to another firm).

The pollution control loss prevention engineer will find this a very practical, useful manual.

GARY F. BENNETT

Effects of Exposure to Toxic Gases — First Aid and Medical Treatment, by W. Braker, A.L. Mossman and D. Siegel, Matheson Co., Lyndhurst, NJ, 1983, 172 pages, $ 15.00.

If one is working with and is accidentally exposed to dangerous gases, one's safety depends on the quickness and appropriateness of the first aid response. This book is designed as a ready, practical, first aid reference guide for persons concerned with administering first aid to others engaged in working with dangerous gases.