



## WHAT WENT WRONG: CASE HISTORIES OF PROCESS PLANT DISASTERS AND HOW THEY COULD HAVE BEEN AVOIDED, 5TH EDITION

Trevor Kletz, Elsevier, Oxford, U.K., 704 pages, \$90, June 2009, ISBN 13: 978-1-85617-531-9



When it was first published in 1985, “What Went Wrong” woke up many people involved in process safety. This fifth edition updates earlier volumes with reports on recent incidents, and incorporates the author’s 1999 companion book, “Still Going Wrong,” to create a complete analysis of the design, operational, and managerial causes of process plant accidents.

In the introduction, the author points out that, in the history of safety in the process industries, many incidents are repeated. People move on. Lessons learned are forgotten. This book was written to keep the memories alive.

The author warns against the “can’t happen here” attitude, which is often based on the belief that the existence of safety systems and procedures is a guarantee of protection against failures. Indeed, many of the accidents described occurred in plants that had such systems. The author shows that accidents happened because of various management failures: failure to convince people that they should follow the systems, failure to detect previous problems, or deliberately turning a blind eye to avoid conflict or to get a job done quickly. (See the Dec. 2009 issue of *CEP*, pp. 22–26, for a related article.)

Human error is treated as a given, and an underlying principle behind the book is that whenever possible we should remove situations that are error-prone rather than expect people to never make mistakes.

Another through-line illustrated in almost every chapter is the way that lessons of past accidents are soon forgotten (or never learned), allowing accidents to happen again.

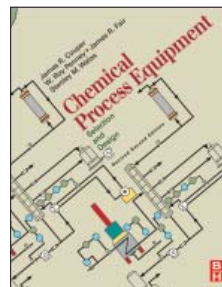
The first part of the book emphasizes the immediate technical causes of accidents and the changes in design and methods of working needed to prevent them from happening again. This includes a consideration of equipment and maintenance procedures. The book’s second part incorporates additional case studies, but also turns attention to the underlying causes of accidents, including a critique of the management styles and cultures that contribute to accidents, and the need to better educate people on the processes involved.

A high price has been paid for the information in the book, which is intended not just for safety professionals but for anyone who designs, operates or maintains plants. Lay people with an interest in industrial safety should also appreciate

the book, which can be read straight through, used as a desk reference, or presented as an educational tool for workers, students, managers, and policy makers.

## CHEMICAL PROCESS EQUIPMENT: SELECTION AND DESIGN, 2ND EDITION

James R. Couper, W. Roy Penney, James R. Fair, and Stanley M. Walas, Elsevier, Oxford, U.K., 832 pages, \$175, Aug. 2009, ISBN 13: 978-0-12372-506-6



Working from the premise that a facility is only as efficient and profitable as the equipment that is in it, the latest edition of this influential volume — first published in 1990 — is a comprehensive and practical resource for chemical, process, or plant engineers who need to select equipment, design, or configure a plant successfully and profitably.

This second edition has been updated to reflect current information and new technology, but it follows the philosophy and approach of the book’s original author, Stanley M. Walas, whose guidelines for the design and selection of chemical process equipment emphasized real-world applications. The volume retains much of the original text and format, since the methods presented in the first edition have stood the test of time.

Copious illustrations and examples of successful applications are presented throughout the chapters, with supporting schematics, graphs, line drawings and data to aid understanding of the functioning and performance of the equipment. The book is packed with practical resources, including worked examples, shortcut methods, rules of thumb, external sources of information, manufacturers’ data, and equipment rating forms to demonstrate and support the design process.

The authors have eliminated some outmoded material, and each chapter has been updated. In modernizing the book, an entirely new chapter has been devoted to membrane separation technology — an area that has gained considerable attention in the past decade. Other changes include a completely revised chapter on process control and mixing, and new information on liquid-solid and solid systems. Information on equipment costs has been updated using recent data from equipment suppliers and industrial sources.

In its emphasis on real-world process design and performance of equipment, the book remains a sturdy reference for day-to-day problem solving, and a valuable sourcebook for chemical engineers and other process industry engineers. Its broad scope and ample illustrations should also make it an informative text for engineering students.