

Book review

PLANNING AND DESIGN OF PORTS AND MARINE TERMINALS (2ND EDN).

Edited by H. Agerschou. Thomas Telford, London, 2004. ISBN 0 7277 3224 2, £75, 446 pp.

This is an updated second edition of a book first published in 1983 and has been written by a number of contributors who have either collaborated on or written individual chapters personally. The book is not intended to cover all topics associated with ports such as the detailed design of structures and foundations, which can be found in specific publications. Rather it is intended as an up-to-date, state-of-the-art book which covers the fields of planning, design, construction and operation of ports from a broad perspective.

Chapters 1 and 2 are devoted to general considerations, including aspects of planning and design, choice of location and facility requirements, and include analytical solutions. Chapter 3 specifically covers the determination of facilities requirements for container terminals through use of computer simulation, analytical and empirical solutions. It also includes an approach to berth and quay assignments, ship arrivals and departures, box exchanges, container handling between quay and yard cranes, container storage yards and the requirements of major simulation outputs. A short dissertation on the general considerations required for economic and financial feasibility is provided in Chapter 4. The influence of ship dimensions and hull strengths on berth facilities, access channels and basins is examined in Chapters 5 and 6.

Chapter 7 is entirely devoted to all aspects of breakwaters including site selection, climatic considerations, construction materials, design considerations and types.

A general, comprehensive overview of berth and terminal design including general cargo berths, container, roll-on/roll-off, ferry, and liquid bulk terminals and fishing ports is provided in Chapter 8 and the general design considerations for berth and terminal structures, quay structures, piers and jetties are covered in Chapter 9. A notable omission from quay design is the current use of steel combi-pile quay walls but there is a specific section which deals with the design of fender systems.

Although dealing with environmental considerations, Chapter 10 provides only limited assistance in an area that has become extremely problematic in recent years to many ports, namely the increasing conflict between the commercial aspirations of ports and environmental legislation and considerations. Chapter 11 deals specifically with the increasing problem of the dredging and disposal of contaminated sediments. In Chapter 12 the aims, requirements and possible future development of the International Convention for the Prevention of Marine Pollution from Ships (MARPOL) are examined.

It is inevitable that any publication which attempts to cover such a wide topic range will exclude certain elements; however, this is an excellent handbook on the subject and benefits from the inclusion of numerous references at the end of each chapter.

G. STEELE