According to the authors, the emphasis of the book has shifted to follow the major developments, which have taken place since the early 1980s. General cargo throughputs have decreased dramatically as many more commodities are now containerised. The increase in DWT sizes of crude oil tankers and dry bulk carriers seem to have stagnated, but the percentages of very large bulk carriers have continued to increase. Carrying capacities of container ships have continued to increase, and the beam of container ships is no longer governed by the width of the Panama Canal.

The authors have made a major effort to make the book as relevant as possible to the current conditions in the field. The book is very comprehensive and presents a very wide array of subjects, some of which are more detailed than one might think possible in a work of this size. The new sections on environment, dredging and MARPOL are particularly valuable and well presented. An appreciation of the nature and content is best shown by a summary of the contents. Chapters titles include:

- Facilities requirements;
- Determination of facilities requirements for container terminals by a hybrid approach;
- A brief outline of financial responsibility;
- A detailed analysis of the more important categories of the world fleet ships, based on statistical material acquired from Lloyd’s Register;
- High-speed ferry terminals;
- Fishing ports;
- Environmental considerations;
- Dredging and disposal of contaminated sediments;
- MARPOL;
- Mathematical models;
- Case studies concerned with new ports and port extension.

Clearly the authors have made a major improvement to the earlier edition and the present work reflects contemporary science and engineering aspects. Each of the chapters is followed by its own list of references, a valuable consideration in its own right. Examination of the references confirms the authors’ attempts to use current technology as well as the basic technology from the earlier edition.
terminal design in general; Storage facilities and cargo-handling systems; Berth and terminal structures design; Environmental considerations; Dredging and disposal of contaminated sediments; MARPOL; and two appendices Mathematical Models and Case studies concerned with new ports and port extensions.

Chapter 8 is particularly comprehensive in that it covers general cargo berths, container terminals, roll-on/roll-off terminals, ferry terminals, high-speed ferry terminals, liquid-bulk terminals, dry-bulk terminals and fishing ports, literally covering the waterfront. The two appendices are also valuable additions, mathematical models reflecting the state-of-the-art in considering the factors related to offshore waves, nearshore waves, wave disturbance, wave forces on structures, water levels, currents and sedimentation. Finally, case studies always play a particularly useful role in bringing the reality of actual projects into perspective.

In summary, this book is a worthwhile addition to the literature and should serve the readership that the authors intended very well.

Port Designer’s Handbook: Recommendations and Guidelines

The Foreword in the book, written by Øyvind Stene, Director General of the Norwegian Coastal Administration captures the essence of the book; namely, “to give colleagues around the world an opportunity to study Norwegian practices and solutions in the design and construction of ports, from traditional berth structures to complicated oil and gas berths.”

The author states that it his hope that the book will make a readable and useful handbook and a practical guide for port engineers for the design of port and harbour structures. The author has over 40 years of experience in practical engineering and research for more than 500 port and harbour projects, in Norway and other countries. This handbook updates and earlier edition by the same author published in 1988.

The organisation of the book is logical and is divided into 22 chapters. Each chapter is followed by a list of references and/or recommendations for further reading, a useful feature for those who wish to expand on the subjects presented in the handbook. The table of contents gives a sense of the scope and breadth of the material contained in the handbook. The Chapters include: 1) Port Planning; 2) Environmental forces; 3) Channels and harbour basins; 4) Berthing requirements; 5) Impact from ships; 6) Design considerations; 7) Safety considerations; 8) Types of berth structures; 9) Gravity-wall structures; 10) Sheet pile wall structures; 11) Open berth structures; 12) Berth details; 13) Container terminals; 14) Fenders; 15) Erosion protection; 16) Steel corrosion; 17) Underwater concreting; 18) Concrete deterioration; 19) Concrete repair; 20) Ship dimensions; 21) Definitions; and 22) Conversion factors.

Although the handbook is comprehensive and covers a wealth of information regarding port design, it was a little disappointing to have such important subjects as environmental impacts and mitigation in the design phase, and issues related to capital and maintenance dredging and the provision for long term disposal facilities for dredged material. These issues are especially troublesome when not properly addressed at the earliest phases of port design.

Nonetheless, the book does contain a substantial amount of relevant information that is vital to the port designers and their clients. The initial chapter on port planning is an excellent preview of the rest of the handbook and an effective listing of factors and aspects related to all phases of port development. It would seem that some of the chapters are quite specific with regards to the subject matter, but experience shows that failure to consider such specifics are often overlooked and result in costly failures in the life of a port facility.

The handbook is well written and reads easily, a feat not always met by technical authors. The table of contents and index are sufficiently detailed as to make the book an effective reference tool. The graphics and tables are well arranged and supplement the written material quite effectively. The handbook reflects the excellent quality of the publisher and is a valuable addition to the technical literature. Certainly anyone who has the slightest role in port design and operation should find this a worthwhile addition to their library.

Both these publications can be obtained from:

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In summary, this book is a worthwhile addition to the literature and should serve the readership that the authors intended very well.