Book review

PORT ENGINEERING: PLANNING, CONSTRUCTION, MAINTENANCE AND SECURITY

Edited by G. P. Tsinker. Wiley, 2004.

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A truly international list of contributors to this book leads to a slightly curious authoring style. However, delving into the clever spread of topics through the chapters, I came away with the feeling that this publication would lead me to the answers I was searching for.

What would happen if . . . ? Who has studied that effect of . . . ? Where can I find out about . . . ? What would be likely to occur if? How could we resolve . . . ? What effect on the design would this have?

These thoughts and deliberations for any aspect of the civil engineering work attached to the planning, construction, maintenance and security of any port at any location would either be answered within this book or most definitely the signposts to the solutions required would be found.

The 13 chapters carry nearly 800 references to papers, publications, articles, books, lectures, conferences and findings that have been published between 1924 and 2003. The authors have referenced findings, observations and comments from 23 separate countries in their search to provide the reader with an encyclopaedic but interestedly written account of the procedures and principles involved in the world of port engineering. After careful study and analysis we discover that over 57% of these reference articles have been published in the last 25 years, thus allowing comment and observations on the latest and most informed topics.

One of the pleasures within this book is that the authors have acknowledged that the world of port engineering is not limited only to the commercial world, as sections provide very useful and well-presented information as to the port requirements for pleasure craft.

The pure engineer will enjoy the detail that the port-related marine structures section is given and to the interested practitioner or constructor the layout and structure within the chapter makes logical and clear idea presentation.

Seismic design and analysis refreshes the memory as to the need for long-term stability of port structures and their locations within the tectonic activity zones of the world. Coupled with the careful analysis of creep-sensitive soils, there are two chapters

which remind designers as to the full effects that our environment can have on human activities. The revetment design chapter neatly ties some possible solutions to the questions raised in the preceding chapters.

In Chapter 6 the editor has produced a document, which by itself should form part of the essential compulsory reading for any port or maritime engineer. This describes the effects of maintenance, repair, rehabilitation and upgrading on water-front structures, which port owners have been known to ignore or defer until drastic remedial action is required. This topic has been well presented and clearly laid out with pertinent examples.

Chapters 7 and 8 deal with the details of floating terminals and offshore moorings and have managed to distil a volume of work into informative and opinionated sections that cover all of the salient points.

The thorny design issue of breakwaters have been given good coverage with a sensible range of design options, construction techniques, sketches and calculations. The references within this chapter cover a period of 65 years, which in reality reflects the level of debate and discussion that is appropriate for these aspects of port and coastal design.

As the reviewer, I found the detail and range covered in the design of navigation channel and the dredging methods opened a door on a sector of work I have personally never come across before. The authors have produced a well-presented and informative guide for the uninitiated to follow. The subject has been covered in an efficient and knowledgeable manner.

The penultimate chapter on the environmental factors could have been developed further but certainly the skeleton of good practice and well-related references leave the reader with a clear signpost to the way forward.

The final chapter on the subject of port security was a section that laid the ground rules to good practice and procedures. The author for this section certainly understood the full range of considerations to be undertaken in the designing, running and maintenance of ongoing port security, and helped present a well-rounded book which could well become an industry standard.

We are presented with a volume of work that will grace the bookshelves and reference sections of any engineer who has connections with the world of port engineering.

D. CRAFT