Book review

CIVIL ENGINEERING PROJECT MANAGEMENT (4TH EDITION).
A. C. Twort and J. Gordon Rees. Elsevier Butterworth-
Heinemann, 2004. ISBN 07506 5731 6, £24.99, 288 pp.

This book gives very useful, practical guidance on the advantages and disadvantages of the ways in which a project can be commissioned. I found the table entitled 'Comparison of different methods of project promotion' particularly useful. It provides a comparison between the two most commonly used methods of developing a project—completing design first and letting a contract for construction, or adopting a design-and-build contract. A list of advantages and disadvantages is given, which will assist the project manager in advising the promoter.

There is an essential breakdown of contractual risks that arise in construction. For the more complex project a formal risk assessment may be necessary and the authors advise what should be considered. Cost estimates are discussed and are obviously vital to decisions a project manager has to make. It advises on how to obtain suitable cost estimates and the timing and frequency of obtaining such estimates at the various stages of a project. Another useful section refers to project cost control. This emphasises the fact that it is at the design stage that measures to keep the cost of a project within budget are most effective, plus the importance of completing the design, including reference to alternatives to the design, before starting construction. In addition the most common causes of extra cost are listed.

There are up-to-date references to the various contract conditions available for use in civil engineering. Reference is also given to preparation of contract documents, with detail of the various elements that comprise such documents. The process of tendering is then described, with a useful section on the tendering requirements under EC rules. A process for checking and comparing tenders is also given, with advice on the selection of a winning tender. Choosing the right tender is one of the most important decisions that a project manager has to make. He or she

may need to advise the client/promoter and needs to ensure that such advice is the best for the execution of the project and achievement of its targets.

Detail is given of the contractor's site organisation and the employer and his engineer. The duties of the resident engineer and his or her staff are also given. Another section on health and safety regulations, which includes the CDM Regulations 1994, is provided. Safety is a fundamental consideration of project execution and the project manager must be aware and have understanding of the regulations. To this end, good reference is made to the various regulations and their appropriate application.

Details of programming are given together with completion of progress charts. Responsibilities for programming and watching and recording progress are listed. A section on network diagrams and critical path planning is included. Reference is made to the use of computer applications, but I feel that this could have benefited from more detail, with perhaps more information/examples.

The book goes on to describe measurement, interim monthly payments, variations to contract and claims. It also makes particular reference to earthworks and pipelines, site concreting and reinforcement.

I consider this book would be a useful addition to a civil engineering project manager's reference library. It is also a very useful tool, particularly for graduate engineers and students preparing for their professional examinations.

I found the book interesting and packed with information and references, which will be useful to the practising civil engineer. It is a publication I will certainly keep close to hand for future reference.

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