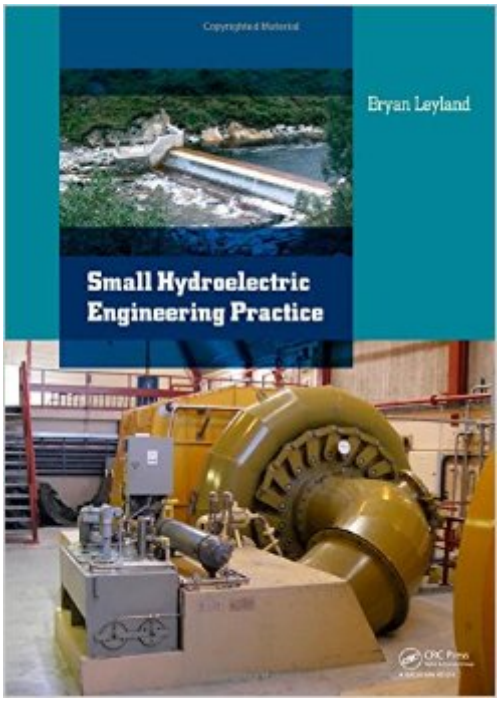
Small Hydroelectric Engineering Practice



Synopsis

Small Hydroelectric Engineering Practice is a comprehensive reference book covering all aspects of identifying, building, and operating hydroelectric schemes between 500 kW and 50 MW. In this range of outputs there are many options for all aspects of the scheme and it is very important that the best options are chosen. As small hydroelectric schemes are usually built against a limited budget it is extremely important that the concept design is optimum and every component is designed to maximise the benefi t and minimise the cost. As operating costs are often a high proportion of the income it is very important to make sure that everything is designed to be simple, reliable and long lasting. The book is based on the experience gained over 45 years on the overall and detailed design, construction and commissioning of more than 30 small hydropower schemes. It includes contributions from experts in the field of intakes, water diversion structures, geology, canals, painting and other aspects of hydropower development. It is intensely practical with many drawings and photographs of schemes designed and commissioned by Leyland Consultants and others. There are also sections on preparing specifi cations, tender assessment and operation and maintenance. The book includes a CD with spreadsheet programs for analysing aspects of small hydropower development and many arrangement drawings and detail designs for gates, penstocks, electrical systems and control systems. Typical specifi cations for generating plant are also included. The spreadsheets will be useful during the feasibility stage and the drawings will enable designers to scale the designs as needed for their own projects. Consultants, developers, designers, builders and operators of small hydroelectric schemes will find this book invaluable..

Book Information

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Customer Reviews

If you are the developer, designer, constructor, owner or operator of small hydro plants then ignore this book at your peril!For anybody with an interest in the subject, this is an immensely readable book filled with invaluable information and experience, including drawings. I particularly enjoyed the various lessons learned paragraphs dotted throughout the book, which help illustrate the various sections covering pretty much everything needed to create a successful project. Bryanâ ™s enthusiasm and considerable knowledge of the subject is very clear and it is to his great credit that heâ ™s prepared to share this with the industry. If experts in other generation technologies would do the same then our electricity would undoubtedly be cheaper and more reliable!Of course the book doesnâ ™t claim to have all the answers, but if it just helps readers identify and understand the issues so they can ask the right questions then itâ ™s done its job.

We are a group of individual investors who are trying to tap into the small hydro space. At the moment we are working on two small hydro schemes. None of us are engineers by trade, so our strategy has been to lean heavily on a reputable consultant with experience and know-how. Unfortunately, despite carefully screening the consultants, our mandated consultant appears to be reluctant to explore anything new. Their approach has been to give us pretty much off-the-shelf drawings "customized" to our sites. I guess if it works, it wouldn’t matter if they are off-the-shelf, but we constantly have urge them to look at the total picture i.e. cost, ease of construction, time savings and longer term maintenance savings.For example, when I asked them if we should consider 1 turbine instead of the more traditional 2, they gave the 40% output reason pointed out in the book which was widely accepted by all. Discussions about using different materials other than steel for penstocks also didn’t go too far.Now that the consultant is entering into the tender drawings phase, We are trying to raise many of the design considerations highlighted in this book to them. As we debate each item, I cannot help but feel extremely relieved to have bought and read this book. At the very least, even though we are led by our consultant on the designs, we are not completely blind and have working knowledge to influence the designs.This book has been invaluable to our business. The contents in the book are having a real life impact here in our projects.I highly recommend this book to anyone who is about to enter into the small hydro space.

This book is a "must-have" for anyone working in the hydropower sector. Especially for all engineers

starting in this area of business. It is a comprehensive compilation of everything one needs to know about small hydroelectric plants plus a valuable source of information on a variety of topics in the hydropower sector. Definitely a very useful and valuable book to have in one's technical library

Small Hydroelectric Engineering Practice How to Build and Operate Your Own Small Hydroelectric Plant Flow-Induced Pulsation and Vibration in Hydroelectric Machinery: Engineer's Guidebook for Planning, Design and Troubleshooting Earthquake Engineering: From Engineering Seismology to Performance-Based Engineering Fundamentals of Earthquake Engineering (Civil engineering and engineering mechanics series) G.Dieter's Li.Schmidt's Engineering 4th (Fourth) edition(Engineering Design (Engineering Series) [Hardcover])(2008) Tissue Engineering I: Scaffold Systems for Tissue Engineering (Advances in Biochemical Engineering/Biotechnology) (v. 1) Practice Problems for the Civil Engineering PE Exam: A Companion to the Civil Engineering Reference Manual, 14th Ed Practice Problems for the Civil Engineering PE Exam: A Companion to the Civil Engineering Reference Manual, 13th Ed Modal Testing, Theory, Practice, and Application (Mechanical Engineering Research Studies: Engineering Dynamics Series) Engineering Economy: Applying Theory to Practice (Engineering & Technology) Standard Guide to Small-Size U.S. Paper Money (Standard Guide to Small-Size U.S. Paper Money 1928 to Date) Start Small, Stay Small: A Developer's Guide to Launching a Startup Tiny Book of Mason Jar Recipes: Small Jar Recipes for Beverages, Desserts & Gifts to Share (Small Pleasures) Conversation: The Gentle Art Of Hearing & Being Heard - HowTo "Small Talk", How To Connect, How To Talk To Anyone (Conversation skills, Conversation starters, Small talk, Communication) The Complete Practical Guide to Small Gardens: A Complete Step-By-Step Guide To Gardening In Small Spaces: Everything You Need To Know About Planning, Design And Planting Small Buildings, Small Gardens: Creating Gardens Around Structures The Book of Little Hostas: 200 Small, Very Small, and Mini Varieties Tiny Houses: Tiny House Plans & Interior Design Ideas For Living Small But Feeling Big: 22 FREE TINY HOUSE PLANS (Tiny Houses, Tiny House Living, Tiny House, Small Home) Small Engine Repair - Quick and Simple Tips to Get Your Small Engine Running Again