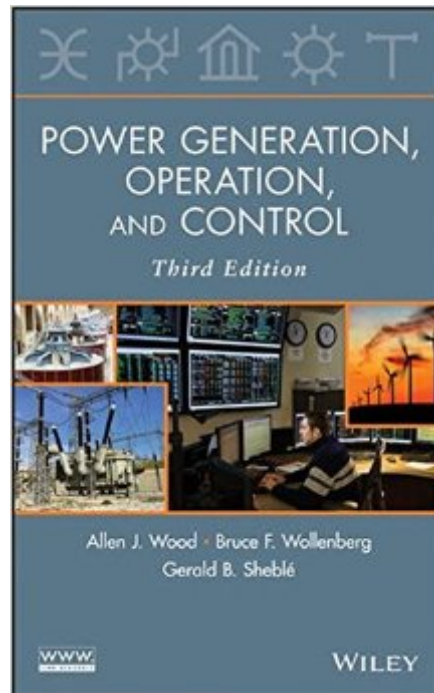


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# Power Generation, Operation, And Control



## Synopsis

A thoroughly revised new edition of the definitive work on power systems best practices In this eagerly awaited new edition, *Power Generation, Operation, and Control* continues to provide engineers and academics with a complete picture of the techniques used in modern power system operation. Long recognized as the standard reference in the field, the book has been thoroughly updated to reflect the enormous changes that have taken place in the electric power industry since the Second Edition was published seventeen years ago. With an emphasis on both the engineering and economic aspects of energy management, the Third Edition introduces central "terminal" characteristics for thermal and hydroelectric power generation systems, along with new optimization techniques for tackling real-world operating problems. Readers will find a range of algorithms and methods for performing integrated economic, network, and generating system analysis, as well as modern methods for power system analysis, operation, and control. Special features include: State-of-the-art topics such as market simulation, multiple market analysis, contract and market bidding, and other business topics Chapters on generation with limited energy supply, power flow control, power system security, and more An introduction to regulatory issues, renewable energy, and other evolving topics New worked examples and end-of-chapter problems A companion website with additional materials, including MATLAB programs and power system sample data sets

## Book Information

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## Customer Reviews

Wood and Wollenberg provide a most useful guidance for graduate courses in power engineering in

Chile. I have been using it regularly as the text book for a course on Economic Operation of Power Systems. The basic concepts are well explained, the mathematics are clear and the power generation matters are well supplemented with the optimization basic concepts. Thus, the book stands on its own as a most useful educational tool. Although deregulation has somehow changed the way power systems operation and control are handled, the book stands strong in providing a coherent understanding of concepts and methods involved. My graduates, working in industry, have found the course (and of course the book) most useful for their careers.

This is the first authoritative and comprehensive text on power system operations and control. The book provides an excellent overview of the basic topics that need to be covered in such a course at either the advanced undergraduate or the introductory graduate level. The improved second edition of the book has been widely used in various power programs throughout the world. I learned everything about "power system operation and control" by studying the first edition of this book in the mid 1980. I have used it as a professor and recommended it to all my students. This book still has no rivals in the market and is the single best source for a text in the subject area.

We have used this book at ASU for quite a while. The book is well done and clear in its writing style. All the traditional dispatch methods are covered in detail. The section on dynamic programming is excellent. There are a number of very useful tricks and tidbits in the book, and this give students a feel for the subject. If there is any weakness, it is too short -- I would like to see this expanded to two volumes. The section on state estimation is a good introduction.

I found this book to be even better than the excellent first edition. While it requires undergraduate electrical engineering education and an understanding of steady state power analysis, it provides exceptional coverage of to various aspects of power generation, operation and control. I have recommended this book and the first edition to my colleagues in the past, after insuring that they had the background to understand the material presented.

This is the second edition of an extremely well written and carefully thought out book. The material is systematically developed and is a graduate text book which provides a solid foundation in various aspects of power system operation and control. At Iowa State University we have used this book ever since the first edition was published for an introductory graduate course in our graduate curriculum. The book has been extremely well received by our students. It provides detailed

analysis of the steps involved in each aspect of power system operation and complements this with excellent examples. The problems at the end of each chapter reinforce the material presented and test the understanding of the student. The diskette which accompanies the book is also very helpful in working the problems and provides rich experience to the student. This book is ideally suited for the serious student who takes time to carefully read the material, assimilate the material and applies it in a practical setting. This was also one of the first texts to introduce several important concepts related to the deregulation of the utility industry.

This book covers many of the most significant areas in power system operations and computations. Its unique features include detailed coverage of the fundamentals of economic operations and system computational support. From the competition point of view, I doubt if you will find an equal to the well thought out examples and problems in this book. I wish that the authors would produce a new edition covering the latest in the deregulated environment,

I have used this text for many years. It is an excellent text to understand power system operation and optimization. I have found no other book as qualified for this task. I find it displeasing that another reviewer would rate the book so poorly without allowing others to review his credentials as closely. should qualify reviewers if the reviewing is to be held in any honor.

I have used the first and second edition of this book for almost twenty years and I believe that it is a classic. It is not an introductory text but all engineers with an understanding of the basics of power systems should find it a very useful introduction to the mathematical methods used in power system operation. I have recommended it to my graduate students and to engineers from industry who were taking a continuing education course based on this text. I am looking forward to a third edition.

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