

Preface

The generation, delivery, and utilization of electric power and energy remain one of the most challenging and exciting fields of electrical engineering. The astounding technological developments of our age are highly dependent upon a safe, reliable, and economic supply of electric power. The objective of *Electric Power Engineering Handbook*, 2nd Edition is to provide a contemporary overview of this far-reaching field as well as to be a useful guide and educational resource for its study. It is intended to define electric power engineering by bringing together the core of knowledge from all of the many topics encompassed by the field. The chapters are written primarily for the electric power engineering professional who is seeking factual information, and secondarily for the professional from other engineering disciplines who wants an overview of the entire field or specific information on one aspect of it.

The handbook is published in five volumes. Each is organized into topical sections and chapters in an attempt to provide comprehensive coverage of the generation, transformation, transmission, distribution, and utilization of electric power and energy as well as the modeling, analysis, planning, design, monitoring, and control of electric power systems. The individual chapters are different from most technical publications. They are not journal-type chapters nor are they textbook in nature. They are intended to be tutorials or overviews providing ready access to needed information while at the same time providing sufficient references to more in-depth coverage of the topic. This work is a member of the Electrical Engineering Handbook Series published by CRC Press. Since its inception in 1993, this series has been dedicated to the concept that when readers refer to a handbook on a particular topic they should be able to find what they need to know about the subject most of the time. This has indeed been the goal of this handbook.

This volume of the handbook is devoted to the subjects of electric power generation by both conventional and nonconventional methods, transmission systems, distribution systems, power utilization, and power quality. If your particular topic of interest is not included in this list, please refer to the list of companion volumes seen at the beginning of this book.

In reading the individual chapters of this handbook, I have been most favorably impressed by how well the authors have accomplished the goals that were set. Their contributions are, of course, most key to the success of the work. I gratefully acknowledge their outstanding efforts. Likewise, the expertise and dedication of the editorial board and section editors have been critical in making this handbook possible. To all of them I express my profound thanks. I also wish to thank the personnel at Taylor & Francis who have been involved in the production of this book, with a special word of thanks to Nora Konopka, Allison Shatkin, and Jessica Vakili. Their patience and perseverance have made this task most pleasant.

Leo Grigsby
Editor-in-Chief