



Power System Engineering Planning, Design, and Operation of Power Systems and Equipment, 2/e

Juergen Schlabbach & Karl-Heinz Rofalski

2014

400 pp

Hardback

ISBN: 9783527412600

Price: 9,720.00

About the Book

With its focus on the requirements and procedures of tendering and project contracting, this book enables the reader to adapt the basics of power systems and equipment design to special tasks and engineering projects, e.g. the integration of renewable energy sources.

Salient Features

* Updates and additions will sum up to about 15 percent new contents.

* Standards and references will be updated

Ch 5: Update data on high voltage grid, new map

Ch 6, 7: Modifications to include new standards on switches and on the capacity of transformers (IEC 60354 and VDE 0532)

Ch 9: Major changes to cover new materials for overhead conductors, including properties. Monitoring of temperature will be discussed.

Ch 10: Presentation of HVDC systems and cables

Ch 12: Completely new, as standards, technical guidelines and have changed fundamentally. Significant increase in page amount, new figures.

Ch 15: Section on residual current compensation and combined procedures on neutral-point method will be added

Table of Contents

1. Introduction
2. Power System Load
3. Planning Principles and Planning Criteria
4. Economic Consideration and Loss Evaluation
5. Topologies of Electrical Power Systems
6. Arrangement in Gridstations and Substations
7. Transformers
8. Cable Systems
9. Overhead Lines
10. Flexible AC Transmission Systems (FACTS)
11. Load-Flow and Short-Circuit Current Calculation
12. Connection of "Green-Energy" Generation to Power Systems
13. Protection of Equipment and Power System Installations
14. Overvoltages and Insulation Coordination
15. Influence of Neutral Earthing on Single-Phase Short-Circuit Currents
16. Tendering and Contracting

About the Author

Juergen Schlabbach :- Juergen Schlabbach holds a professorship in power system engineering and renewable energies at the University of Applied Sciences in Bielefeld, Germany. He studied at the Technical University of Darmstadt, where he received his Ph.D. on the topic of digital protection of power systems in 1982. For ten years, he worked in a consulting firm in the field of power system planning, disturbance analysis and design of FACTS. During several years in Arabian and Asian countries he advised local utilities in design, planning and operation of power systems and in organizational matters. Professor Schlabbach's areas of expertise are power system planning, grid connection of renewable energy, EMC and operational training. He also works as independent consulting engineer.

Karl-Heinz Rofalski :- Karl-Heinz Rofalski has been working for more than thirty years as consulting engineer in a world-wide operating German consulting firm in the field of power transmission and distribution. He held the position of project director and manager and gained special knowledge and experience in network planning, design, procedures of tendering and contracting, project monitoring, overall project management in many power projects including assignments in various countries in Africa, the Arab regions and South-East Asia. After graduating from the engineering academy in Kassel/Germany he worked for AEG, one of the manufacturers of electrical equipment, for eight years, and became acquainted with electrical engineering standards and technology. Since 2001 he is active as freelance engineer and independent consultant.