



METADATA

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Abstract

This book is particularly topical, as it presents the economic and reliable operation of both traditional and, above all, modern Electric Power Systems (EPS), as they have been evolved based on the recent developments and changes related to the deregulation of the electricity market, the information and telecommunication technologies for the optimal operation and control of smart EPS, and the ever-increasing penetration of renewable energy sources and distributed generation in EPS. The philosophy of the book is learning by doing. For this reason, the book includes many solved examples. The book can be used by both beginners and advanced scientists in the field. Students, teachers, graduates and professionals

in the field of EPS can find in the book the necessary material for understanding the concepts related to: 1. EPS operation in the modern environment of the deregulated electricity market and smart grids, 2. models and solution methods for the economical and reliable operation of modern EPS, 3. electrical load analysis and load forecasting methods, 4. forecasting of system marginal price in a deregulated electricity market environment, 5. formulation and solution of the optimal AC and optimal DC power flow problem, 6. scheduling of power generation units to either minimize cost or maximize profit, 7. reliability evaluation of modern power generation, transmission and distribution systems.

