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Autore	Shahidehpour M. <1955->
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Altri autori (Persone)	YaminHatim LiZuyi
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Nota di contenuto	Preface. Chapter 1: Market Overview in Electric Power Systems. Chapter 2: Short-Term Load Forecasting. Chapter 3: Electricity Price Forecasting. Chapter 4: Price-Based Unit Commitment. Chapter 5: Arbitrage in Electricity Markets. Chapter 6: Market Power Analysis Based on Game Theory. Chapter 7: Generation Asset Valuation and Risk Analysis. Chapter 8: Security-Constrained Unit Commitment. Chapter 9: Ancillary Services Auction Market Design. Chapter 10: Transmission Congestion Management and Pricing. Appendix A: List of Symbols.

Appendix B: Mathematical Derivation. Appendix C: RTS Load Data. Appendix D: Example Systems Data. Appendix E: Game Theory Concepts. Appendix F: Congestion Charges Calculation. References. Index.

Sommario/riassunto

An essential overview of post-deregulation market operations in electrical power systems. Until recently the U.S. electricity industry was dominated by vertically integrated utilities. It is now evolving into a distributive and competitive market driven by market forces and increased competition. With electricity amounting to a \$200 billion per year market in the United States, the implications of this restructuring will naturally affect the rest of the world. Why is restructuring necessary? What are the components of restructuring? How is the new structure different from the old monopoly? How are the participants strategizing their options to maximize their revenues? What are the market risks and how are they evaluated? How are interchange transactions analyzed and approved? Starting with a background sketch of the industry, this hands-on reference provides insights into the new trends in power systems operation and control, and highlights advanced issues in the field. Written for both technical and nontechnical professionals involved in power engineering, finance, and marketing, this must-have resource discusses:

- * Market structure and operation of electric power systems
- * Load and price forecasting and arbitrage
- * Price-based unit commitment and security constrained unit commitment
- * Market power analysis and game theory applications
- * Ancillary services auction market design
- * Transmission pricing and congestion

Using real-world case studies, this timely survey offers engineers, consultants, researchers, financial managers, university professors and students, and other professionals in the industry a comprehensive review of electricity restructuring and how its radical effects will shape the market.
