

1. Record Nr.	UNINA9910299625603321
Titolo	Reliability Modeling and Analysis of Smart Power Systems [[electronic resource] /] / edited by Rajesh Karki, Roy Billinton, Ajit Kumar Verma
Pubbl/distr/stampa	New Delhi : , : Springer India : , : Imprint : Springer, , 2014
ISBN	81-322-1798-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (212 p.)
Collana	Reliable and Sustainable Electric Power and Energy Systems Management, , 2510-2524
Disciplina	621.042 621.31
Soggetti	Energy systems Renewable energy resources Quality control Reliability Industrial safety Energy Systems Renewable and Green Energy Quality Control, Reliability, Safety and Risk
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Preface -- Chapter 1. Reliability-Centric Studies in Smart Grids: Adequacy and Vulnerability Considerations -- Chapter 2. Security of Supply in Active Distribution Networks with PHEV Based Strategic Micro-Grids -- Chapter 3. Operational Characteristics of MicroGrids with Electric Vehicles -- Chapter 4. An Optimized Adaptive Protection Scheme for Distribution Systems Penetrated with Distributed Generators -- Chapter 5. Protection System Reliability Assessment Considering Smart Grid Technologies -- Chapter 6. Smart Charging of Plug-in Electric Vehicles under Driving Behavior Uncertainty -- Chapter 7. Multivariate Stochastic Modeling of Plug-in Electric Vehicles Demand Profile within Domestic Grid -- Chapter 8. Probabilistic Home Load Controlling Considering Plug-in Hybrid Electric Vehicle Uncertainties -- Chapter 9. A Load Management Perspective of the Smart Grid: Simple and effective tools to enhance reliability -- Chapter 10. Evaluating the

Performance of Small Autonomous Power Systems using Reliability Worth Analysis -- Chapter 11. Condition Monitoring Benefit for Operation Support of Offshore Wind Turbines -- Chapter 12. Towards Reliability Centred Maintenance of Wind Turbines -- Chapter 13. Cable Segment Replacement Optimization.

Sommario/riassunto

The volume presents the research work in understanding, modeling and quantifying the risks associated with different ways of implementing smart grid technology in power systems in order to plan and operate a modern power system with an acceptable level of reliability. Power systems throughout the world are undergoing significant changes creating new challenges to system planning and operation in order to provide reliable and efficient use of electrical energy. The appropriate use of smart grid technology is an important drive in mitigating these problems, and requires considerable research activities, some of which (by researchers from academia and industry) are included in this volume: the reliability appraisal of smart grid technologies and their applications, micro-grids, assessment of plug-in hybrid vehicles and the system effects, smart system protection and reliability evaluation, demand response and smart maintenance of power system equipment.
