

Contents

1	Green Energy and Technology: Choosing Among Alternatives . . .	1
	Brian Azzopardi	
2	Grid Codes: Goals and Challenges	17
	Pradeep Kumar and Asheesh K. Singh	
3	Fault Ride-Through Criteria Development	41
	Nirmal-Kumar C. Nair and Waqar A. Qureshi	
4	High Penetration of Rooftop Photovoltaic Cells in Low Voltage Distribution Networks: Voltage Imbalance and Improvement	69
	Farhad Shahnia and Arindam Ghosh	
5	Performance Evaluation of Grid-Connected Solar Photovoltaic (SPV) System with Different MPPT Controllers	97
	R. Singh and B. S. Rajpurohit	
6	Optimal Siting and Sizing of Wind Turbines Based on Genetic Algorithm and Optimal Power Flow	125
	Geev Mokryani and Pierluigi Siano	
7	Power Flow Analysis and Reactive Power Compensation of Grid Connected Wind Energy Conversion Systems	145
	J. Ravishankar	
8	Contribution of Variable-Speed Wind Generators to Frequency Regulation and Oscillation Damping in the United States Eastern Interconnection	169
	Yong Liu, J. R. Gracia, T. J. King and Yilu Liu	
9	Power Management of Low and Medium Voltage Networks with High Density of Renewable Generation	189
	M. A. Barik, H. R. Pota and J. Ravishankar	

10	Integration of Green Energy into Power Distribution Systems: Study of Impacts and Development of Control Methodology	209
	N. K. Roy and H. R. Pota	
11	Integrating Smart PHEVs in Future Smart Grid	239
	F. R. Islam and H. R. Pota	
12	Coordinating Distributed Energy Resources During Microgrid Emergency Operation.	259
	C. Gouveia, D. Rua, C. L. Moreira and J. A. Peças Lopes	
13	A Novel Aggregation Technique Using Mechanical Torque Compensating Factor for DFIG Wind Farms	305
	M. A. Chowdhury	
14	DC Grid Interconnection for Conversion Losses and Cost Optimization	327
	R. K. Chauhan, B. S. Rajpurohit, S. N. Singh and F. M. Gonzalez-Longatt	
15	Interconnected Autonomous Microgrids in Smart Grids with Self-Healing Capability	347
	Farhad Shahnia, Ruwan P. S. Chandrasena, Sumedha Rajakaruna and Arindam Ghosh	
16	Agent-Based Smart Grid Protection and Security	383
	Md Shihanur Rahman and H. R. Pota	
17	Vulnerabilities of Smart Grid State Estimation Against False Data Injection Attack	411
	Adnan Anwar and Abdun Naser Mahmood	
18	Impediments and Model for Network Centrality Analysis of a Renewable Integrated Electricity Grid	429
	A. B. M. Nasiruzzaman, Most. Nahida Akter and H. R. Pota	

Renewable Energy Integration

Challenges and Solutions

Hossain, J.; Mahmud, A. (Eds.)

2014, X, 447 p. 264 illus., 126 illus. in color., Hardcover

ISBN: 978-981-4585-26-2