A practical, hands-on approach to power distribution system reliability

As power distribution systems age, the frequency and duration of consumer interruptions will increase significantly. Now more than ever, it is crucial for students and professionals in the electrical power industries to have a solid understanding of designing the reliable and cost-effective utility, industrial, and commercial power distribution systems needed to maintain life activities (e.g., computers, lighting, heating, cooling, etc.).

This book fills the void in the literature by providing readers with everything they need to know to make the best design decisions for new and existing power distribution systems, as well as to make quantitative “cost vs. reliability” trade-off studies. Topical coverage includes:

- Engineering economics
- Reliability analysis of complex network configurations
- Designing reliability into industrial and commercial power systems
Application of zone branch reliability methodology

Equipment outage statistics

Deterministic planning criteria

Customer interruption for cost models for load-point reliability assessment

Isolation and restoration procedures

And much more

Each chapter begins with an introduction and ends with a conclusion and a list of references for further reading. Additionally, the book contains actual utility and industrial power system design problems worked out with real examples, as well as additional problem sets and their solutions. Power Distribution System Reliability is essential reading for practicing engineers, researchers, technicians, and advanced undergraduate and graduate students in electrical power industries.

ABOUT THE AUTHOR

ALI A. CHOWDHURY, PhD, FIEEE, is Director of Regional Transmission for the California Independent System Operator. He has nearly thirty years of experience in teaching, research and development, electric utility industry, electric equipment manufacturing, and consulting in power system reliability and security assessments.
DON O. KOVAL, PhD, FIEEE, is a Professor in the Department of Electrical and Computer Engineering at the University of Alberta, Canada. Previously, he worked as a distribution special studies engineer for B.C. Hydro and Power Authority in Vancouver and as a subtransmission design engineer for Saskatchewan Power.

FEATURES

• Presents a highly innovative approach practical to problems found in the electric distribution industry

• Presents the reliability fundamentals with actual utility and industrial power system design problems worked out with examples

• Includes additional problem sets and their solutions

• Gives a clear explanation of basic reliability theories with practical system examples

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