

- Chapter One Standby and Power Generating Sets
  - Introduction
  - The Generating Set and Its Supporting Systems
  - The Power Rating Classification of Diesel Engine Driven Generating Sets
  - The Power Unit Alternating Current Generators
  - Voltage Regulators
  - Speed Governors Voltage and Frequency
  - Performance Classes for Diesel Engine-Driven Sets
  - Starting Mechanisms Fuel Systems
  - Engine Cooling Systems
  - Engine Room Ventilation Exhaust Systems
  - Control Systems
  - Remote Control and Monitoring
  - Location of Equipment
  - Bibliography
- Chapter Two Interconnecting the Standby and Normal Supplies
  - Introduction Separating the Essential and Nonessential Loads
  - Use of Multiple Generating Sets Interconnections with the Normal Supply
  - The Generator Voltage The Electricity Supply Regulations 1988
  - Engineering Recommendation G.59/1 Earthing the Neutral of the Standby Supply
  - Neutral Connections for Single Sets Not Intended to Run in Parallel with the Normal Supply
  - Neutral Connections for Multiple Sets Not Intended to Run with the Normal Supply
  - Paralleling the Standby and Normal Supplies Overcurrent Protection of the Standby Supply Switchgear
  - Bibliography
- Chapter Three Additional Information Relating to the Standby Supply Installation
  - Introduction Sizing the Engine and Generator Reliability and Redundancy
  - Routine Test Runs Kilowatts, Kilovars, and the Harmonic
  - Components of the Load Current Characteristics of Particular Loads
  - Vibration Noise 108 Safe Working Procedures
  - Bibliography
- Chapter Four Harmonic Distortion of the Supply
  - Acknowledgment Nonlinear Loads and Current Distortion
  - Harmonics Generated by Bridge Rectifiers
  - The Effect of a Bridge Rectifier on a Supply System
  - The Effect of Bridge Rectifier Loads on Local Generators
  - Reduction of Distortion Due to Rectifier Loads
  - Switched Mode Power Supplies
  - Bibliography
- Chapter Five Static Uninterruptible Power Supplies
  - Definition Background Basic Design Subassemblies
  - Rectifiers Harmonics and Effect on Design Inverters Types of Loads
  - Typical Specification Static Switches Designs Now Available Monitoring
  - Bibliography
- Chapter Six Rotary UPS Systems

- Definitions Background Rotating Transformer Systems
- Generator/Clutch/Machine
- Acknowledgments
- Chapter Seven Batteries
  - Introduction Types of Cell Lead Acid Nickel-Cadmium Cells
  - Comparison of Various Types of Cells
  - Future Trends
  - Bibliography
- Chapter Eight Kinetic Energy as an Alternative Power Source
  - Introduction Circuit Developments
  - Flywheel Type En Vacuo Flywheel Type in Helium
- Chapter Nine: Notes on Systems Installation
- Chapter Ten: Some System Failures: The Light of Experience!
  - Introduction Lack of Ventilation
  - A Bypassed Radiator Lack of Fuel Changeover of Supplies Without a Break Restoration of Supply to an Inertially Loaded Drive Low Transformer Oil Level
  - Due to Low Ambient Temperature Inadequate Protection Against Driving Rain Unconventional
    - Use of a Harmonic Filter An Unstable Power Supply
    - An Overenthusiastic Charging Regime Loose Intercell Connections on a UPS Battery
    - An Unsuccessful Attempt at Cost Reduction Empty Sumps Lack of Cooling Air An Inadequate Supporting Structure
- Index