

Power System Protection: Part Two

Course overview

A three-day course covering the fundamentals of power system protection, current best practice, protection system management and new developments in protection technology. This course offers you a comprehensive guide to the principles of power system protection, an overview of the variety of equipment currently in use and under development, plus an understanding of standard operational practices across the industry.

The course includes the role of protection, fault characteristics and design principles for a range of networks and network assets including a detailed examination of transformers and embedded generators. The management of protection is also examined including the use of new knowledge based systems to create more cost-effective maintenance procedures. This course includes complex numbers and introduces inductance and capacitance.

Cost: Three-day course: £1,160 + VAT

Location: EA Technology, Capenhurst, Chester, CH1 6ES

Who should attend?

You should attend this course if you are an engineering professional working within the electricity supply industry or any related field.

The course will also benefit practising distribution engineers, managers and graduate trainees.

Benefits of attending this course

- Develop your understanding of protection systems for power networks and assets
- Understand how to reconfigure your systems
- Build confidence that you will protect business critical systems
- Minimise unnecessary outages and loss of supply
- Reduce the risk to critical equipment
- Maximise safety



Substations Courses
Specialist Courses
Cables Courses
Power Networks Courses
Protection Courses
Tailored Programmes

Power System Protection: Part Two

Course programme

Day one

Role of Protection

- Contribution in network design
- Safety requirements
- Principles

Simple Fault Calculations

- Types of network faults
- Fault Level - what it is and why we need to know it
- How to calculate fault level
- Network reduction
- Calculation of balanced fault levels and fault currents
- Introduction to symmetrical components

Unbalanced Fault Calculations

- Worked examples using symmetrical components

Measuring Transformers

- Why we need measuring transformers
- Principles and specifications CTs and VTs

Day two

Grading with Grading Exercises

Electronic Relays

Protection of Radial Networks

- Principles of radial feeder protection
- Urban networks
- Overhead networks
- Distribution transformers

Busbar protection

Arc Suppression Coil Earthed System

Day three

Transformer and Transformer-Feeder Protection

- Transformer fault types and characteristics
- Protection applications to transformers and transformer feeders
- Differential protection

Protection of Non-radial Networks

- Directional overcurrent and earth fault protection
- Feeder unit protection and schemes
- Distance protection

MV/LV systems with Generators

- Operating requirements
- System and interface protection
- Generator protection

Metropolitan systems

Intertripping Techniques

Programme may be subject to amendment



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