The Power Skills Centre
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technology

Power Networks

Distributed Generation

Course overview

Distributed generation (DG), from wind farms, solar power and domestic generation systems, is a growing factor in power network design and operation, and can have considerable effects on electricity supply systems.

This course will guide you through the essentials of distributed generation and the impact it has on electricity networks both at low and high voltages. The course will give you detailed knowledge of engineering recommendations, technical requirements for connections (including G59 and G83), operation of networks and network design, as well as giving you an understanding of the commercial issues affecting connection agreements.

The course will consider both the current situation and future potential of distributed generation, using real life case studies, distributed generation modelling software and the latest research and development as reference.

Cost: Two-day course: £935 + VAT

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

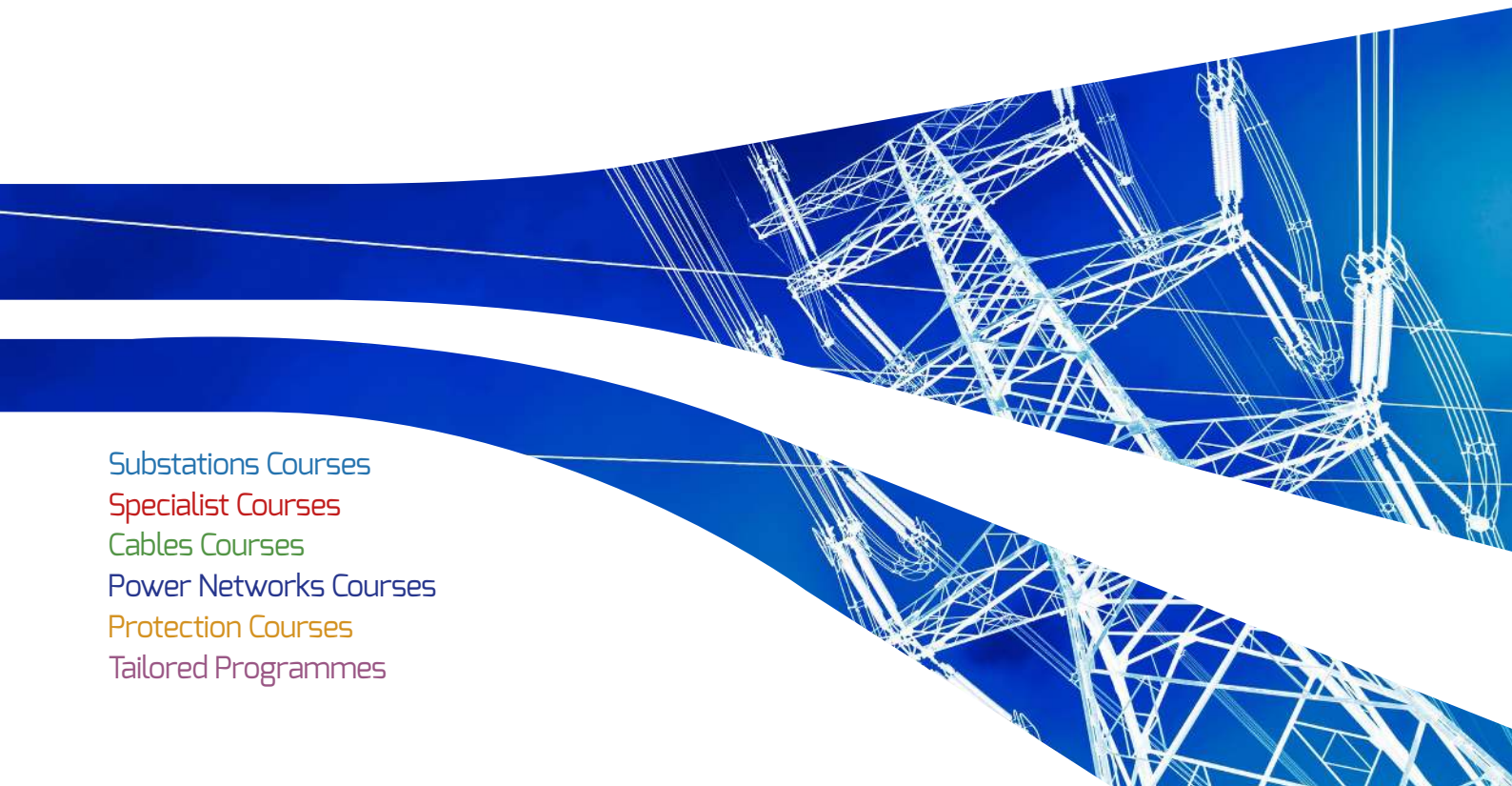
Who should attend?

This course provides essential information and perspectives for anyone involved with distributed generation and the effect it has on electrical power networks, whether you are new to distributed generation or a more experienced engineer.

The course will also benefit engineers and managers involved in the planning and operation at generation or distribution companies, along with generator manufacturers and suppliers of associated network equipment.

Benefits of attending this course

- Develop understanding of the impact of distributed generation on power networks
- Understand the key parameters involved in specification installation and commissioning of DG networks and connections
- Deliver best value through cost effective connection agreements
- Develop specialist DG skills that are in short supply within the industry
- Update your knowledge of technology and connection regulations



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

Power Networks

Distributed Generation

Course programme

Day one

Overview of Networks with Distributed Generation

- What is distributed generation
- Why is it needed
- What is the effect of distributed generation on networks

Connection of Small Scale Distributed Generation

- Issues that arise when connecting generation
- Network design
- Metering and tariffs
- Safety
- Earthing
- Fault levels
- Voltage control
- Losses
- Network security
- Connection process

Distributed Generation at HV

- Overview of the connection process
- Project planning and information phase
- Competition in connections
- Design phase
- Network studies
- Connection offer and potential issues
- Metering
- Contstruction
- Necessary agreements with DNOs
- Testing and commissioning

Day two

Large Scale Distibuted Generation

- Embedded generation
- Generation plants and licensing
- Interatcive connections
- Wider network effects
- Statement of works process
- Case study

The Future of Distributed Generation

- Flexible plug and play
- Accelerating renewable connections
- What the future might hold

Distributed Generation Protection

- Role of protection
- Over current, earth fault and reverse power
- Loss of field
- Phase differential
- Negative phase sequence
- G59

Modelling Distributed Generation

- IPSA - worked example
- DiGSILENT - case study

Programme may be subject to amendment

PSC032/CL/SEP15

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