

The Power Skills Centre

Training Courses and Conferences 2015-2016



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

EA Technology

EA Technology has a unique technical heritage within the industry stretching back over five decades, giving us unrivalled experience and expertise across the sector. We have used this experience to develop one of the most extensive ranges of specialist, technical courses available to professionals working within the power industry.

As a Power Sector employer ourselves, we have a real understanding of the needs of the industry, enabling us to develop training that is directly relevant, time efficient and cost effective.

As well as our scheduled courses, we are able to offer a range of tailored apprentice, graduate and conversion training programmes. We are now able to offer the new City & Guilds level 3 Diploma in Electrical Power Engineering as both a taught programme and as a distance-learning course.

Find out how we can help you develop and retain the skills you need in a rapidly changing industry.



For further information or to book a place:

visit www.powerskillscentre.com

email powerskillscentre@eatechnology.com

call 0800 028 9983

Course listing

Substations courses

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- Gas Insulated Switchgear and GIS Substation Essentials
- Insulating Oil Handling and Analysis
- Introduction to Earthing Systems
- Introduction to Switchgear and Transformers
- Partial Discharge (PD)
- SF6 Training and Certification
- Substation Design
- Substation Earthing
- Switchgear Technology for Power Systems
- Transformers for Power Systems

Specialist courses

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- The Essentials of Asset Management
- Failure Analysis and Investigation
- Impacts of Low Carbon Technologies on Networks
- Introduction to Smart Grids
- ISO 55000: The Route to Effective Asset Management
- Keeping Electrical Switchgear Safe
- Lightning Protection for MOD Sites
- PAS 55 To ISO 55000: Are You Ready?
- Power Quality and Harmonics
- Power Systems Engineering
- Power Systems for Private Network Operators
- Project Management: Managing Electrical Projects
- Regulation: What it Means for a Distribution Network Operator

- Safe Working Practices
- Understanding Lightning Protection

Cables courses

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- Cable Joints, Terminations and Accessories
- Cables for Power Systems: Part One
- Cables for Power Systems: Part Two
- Oil-Filled Cable Systems
- Power Cable Fault Location

Power Networks courses

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- Application of Variable-Speed Drives and Rotating Machines
- Distributed Generation
- Distribution Overhead Lines
- LV Distribution Planning and Design with optional WinDEBUT™ training
- Stability and Voltage Control
- Wind Farms: A Project Manager's Guide

Protection courses

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- Commissioning and Testing
- Power System Protection: Part One
- Power System Protection: Part Two

Tailored programmes

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- Graduate Development and Conversion Programmes
- Bespoke Training
- City and Guilds Level Three Diploma in Electrical Power Engineering

Substations courses

Gas Insulated Switchgear and GIS Substation Essentials	2 days/£935	Call for details
A unique overview of GIS technology dealing with a range of technical issues from both a manufacturer and user perspective. It covers the design and operation of GIS elements, insulation, coordination, earthing, testing and condition monitoring.		
Insulating Oil Handling and Analysis	1 day/£520	Call for details
This course will cover the sampling, analysis, storage and disposal of insulating oil used in transformers and switchgear. The course will include a blend of classroom and practical sessions to allow participants to gain a full understanding of this very important subject.		
Introduction to Earthing Systems	1 day/£520	28 Jan 2016
This one-day course is designed to give delegates with no previous training on earthing systems a basic understanding of low voltage (LV) and high voltage (HV) earthing principles.		
Introduction to Switchgear and Transformers	1 days/£520	26 Nov 2015
This course is designed to give delegates with no previous HV/EHV electrical plant training, sufficient knowledge, understanding and awareness of the operation and application of the main types of switchgear and transformers currently in use.		
Partial Discharge (PD)	1 day/£410; 2 days/£705	28-29 Sept 2015 9-10 Mar 2016 8-9 Jun 2016 4-5 Oct 2016 30 Nov-1 Dec 16
A one- or two-day course from the pioneers of Partial Discharge (PD) technology, covering PD theory, PD detection instruments and PD measuring techniques. The one-day course will focus on hand-held equipment, while the two-day course will also cover the installation and operation of Ultra TEV monitor in detail.		
SF6 Training	1 day/£395; 2 days/£595	20-21 Oct 2015 16-17 Nov 2015 30 Nov-1 Dec 15 1-2 Mar 2016
An essential one- or two-day course covering the EU training requirements for anyone involved in the handling or recovery of SF6 filled high voltage switchgear, leading to certification that is required and recognised throughout the EU.		
Substation Design	2 days/£935	8-9 Mar 2016 28-29 Sep 2016
High voltage substation design is a complex engineering activity that embraces engineering functions from numerous disciplines. This intensive course considers the aspects required to design a high voltage air or gas insulated substation. It looks at the design process, substation design methods and interfaces required to build a substation.		
Substation Earthing	1 day/£520; 3 days/£1,160	17-19 Nov 2015 10-12 May 2016
A three-day course providing a comprehensive review on the latest developments in earthing practice at transmission and distribution voltages. It considers specifications, regulations (CENELEC TC112), earth grids, resistivity, site areas, conductors, earth rods and GIS.		
Switchgear Technology for Power Systems	2 days/£935	26-27 Jan 2016 19-20 Jul 2016
The course considers the technical options and develops an understanding of switching phenomena essential for reliable system operation, as well as providing an essential update on technology and practice in this field.		
Transformers for Power Systems	2 days/£935	15-16 Mar 2016
An essential two-day course covering all aspects of transformer specification, operation, and protection and maintenance, including condition assessment and asset management.		

Specialist courses

The Essentials of Asset Management	2 days/£935	16-17 Feb 2016
This course offers a unique perspective on Asset Management; it provides practical lessons on a variety of approaches and 'how to' guidance for key stages of Asset Management implementation. It introduces the main concepts and common approaches to the management of physical assets from the relevant published standards and draws on the experience of Asset Management strategists, trouble-shooters, auditors and operational engineers.		

Failure Analysis and Investigation	1 day/£520	3 Nov 2015 23 Mar 2016
This course examines best practice, procedures and methods for failure analysis and investigation. It covers well-documented investigation techniques, handling and analysis of evidence and reporting, panels of inquiry and how the impact of information gleaned from investigations can be used for asset management decisions.		
Impacts of Low Carbon Technologies on Networks	2 days/£935	Call for details
A new course providing an essential overview of low carbon technologies, their economics, environmental impact, how they actually work and why energy companies are interested in them. The course covers the background and operation of the main technologies including Microgeneration, Small Scale Renewables, Electric Vehicles and Heat Pumps.		
Introduction to Smart Grids	2 days/£935	Call for details
The UK is at the forefront of developments in Smart Grid technologies and this new two-day course outlines the impacts that they are having on distribution networks. The course considers potential future applications, as well as current developments and delegates will learn the characteristics of the new technologies that are driving progress.		
ISO 55000: The Route to Effective Asset Management	2 days/£935	2-3 Mar 2016
This two-day course provides an essential step by step explanation of the standard's key enablers. Based on real world best practice, it provides a framework for asset-intensive industries to facilitate excellence in lifecycle planning and cost/risk optimisation.		
Keeping Electrical Switchgear Safe	1 day/£305	12 Nov 2015 15 Nov 2015
Essential safety training from the UK industry leaders. Now updated to include PAS 55, BS6626 and SF6 Regulations.		
Lightning Protection for MOD Sites	2.5 days/£935	10-12 Nov 2015 19-21 Apr 2016
This course takes the delegates through the basics of lightning including the major effects it has on the Ministry of Defence sites that contain explosives facilities. It takes delegates through the basics of lightning and lightning protection strategies. The course explains JSP482 lightning protection requirements, compares national and international standards and links BS EN 62305 with MOD practice. The maintenance, testing and compliance of lightning protection systems are also covered.		
PAS 55 to ISO 55000: Are You Ready?	1 day/£520	Call for details
This one-day interactive workshop addresses the key changes between PAS 55 and ISO 55000 and provides essential guidance and information for organisations making the transition from PAS 55 Certification to ISO 55000. The workshop can also be customised to address your organisation's specific transition requirements and delivered at your site if required. Please contact us for more information about this option.		
Power Quality and Harmonics	2 days/£935	10-11 Nov 2015 1-2 Nov 2016
A two-day power quality course that explains the Engineering Recommendations associated with power quality, and demonstrates its practical application through worked examples and case studies.		
Power Systems Engineering	10 days/£2,250; 5 days/£1,575	5-16 Oct 2015
A comprehensive five- or ten-day course offering a thorough grounding in all aspects of power systems engineering for newly qualified engineers or engineers from other disciplines. The course covers Power systems engineering up to 132kV · Regulatory framework of the industry · Network planning · Cables · Switchgear · Transformers · Overhead lines design and operation (alternative session Motors/Variable Speed Drives) · Protection · Fault level calculations · Substation earthing · Lightning protection · Asset Management · Condition Assessment of HV assets · Condition Based Risk Management · Failure investigation (alternative session: Energy Efficiency) · Renewable and distributed generation · Industry safety · Power Quality · Commissioning and testing · Site visits to a cable manufacturer and a CHP generation site.		
Power Systems for Private Network Operators	2 days/£935	Call for details
A unique introduction to common HV electrical equipment and common issues encountered by electrical engineers working with high voltage distribution equipment on private networks. Delivered by industry experts with extensive expertise in studying degradation, failure and condition assessment of HV electrical equipment this course will provide practical insights to improving the performance and reliability of electrical networks.		

Project Management: Managing Electrical Projects	2 days/£935	Call for details
This course aims to help managers, engineers and technicians to become effective managers of electrical projects. Delegates can work through case study examples to reinforce the course's key learning points. The course is equally applicable to those who manage single projects or a portfolio of electrical projects at all voltage levels from HV/LV, 132/33kV through to 400/275kV.		
Regulation: What it Means for a Distribution Network Operator	1 day/£520	7 Jun 2016
A one-day course covering Ofgem regulation of DNOs and how projects can be tailored to produce better regulatory outcomes and increase profitability.		
Safe Working Practices	1 day/£305	Call for details
An essential one-day conference covering safe working practices around electricity at work, including the recommendations of the HSE Guidance Note HSG85.		
Understanding Lightning Protection	2 days/£935	Call for details
A comprehensive two-day course on lightning protection and earthing system design, delivered by the UK's leading authority on lightning protection solutions.		

Cables courses

Cable Joints, Terminations and Accessories	2 days/£935	15-16 Jun 2016
A two-day course providing a comprehensive update on the latest in cable joints, terminations and accessories. Topics include XLPE cable, mechanical connectors, elastomeric insulation systems, resin systems, heat shrink technology and their applications.		
Cables for Power Systems: Part One	2 days/£935	27-28 Jan 2016
A comprehensive overview of power cables up to 33kV, from the fundamentals of power cable engineering and design, through asset management, joints and terminations, fault location and analysis.		
Cables for Power Systems: Part Two	3 days/£1,160	Call for details
A three-day course on cable system engineering, using example circuits, to take the participants from the planning stage through the preparation of technical and commercial specifications for the tender document, bid adjudication, contract award, manufacture, installation, maintenance and operation. The management of existing cable assets is considered in terms of condition assessment, life estimation, repair and diversions.		
Oil Filled Cable Systems	4 days/£1,160	7-10 Dec 2015 27-30 Jun 2016
This course held over four days is for managers and engineers with responsibility for managing, operating, diverting, maintaining and repairing oil filled cable systems. Delegates will learn how to undertake sufficient calculations to ensure their oil filled cable systems are being managed effectively. Also, the course will give them confidence to audit the work and recommendations of contractors and suppliers.		
Power Cable Fault Location	2 days/£935	24-25 Nov 2015 9-10 Nov 2016
A two-day course providing theory and in-depth practical fault location and diagnostics on power cables in operation. This course is led by a world authority on fault location and delegates will have an opportunity to use a range of fault location equipment.		

Power Networks

Application of Variable-Speed Drives and Rotating Machines	2 days/£935	24-25 Feb 2016 5-6 Oct 2016
The introduction to this course takes delegates quickly through basic theory for rotating machines and then moves on to introduce the power electronics used in AC variable-speed drives. The application of variable-speed drives includes performance, protection and matching torque demand to torque delivery. It then moves on to external factors for selecting variable-speed drives, harmonics, filters and the interface with electricity utilities including the demonstration of a power system analysis programme.		
Distributed Generation	2 days/£935	4-5 Nov 2015 6-7 Apr 2016 2-3 Nov 2016
A two-day course focussing on distributed generation and its impact on both LV and HV networks, including connection issues, network design and operation, regulations, commercial aspects and the future of distributed generation.		

Distribution Overhead Lines	2 days/£935	16-17 Feb 2016
This two-day course has been designed to cover many overhead line issues of the moment including the effect of European regulations on our standards, line design, lightning protection, and helicopter and foot line patrols, including condition assessment, and live line working.		
LV Network Planning with optional WinDEBUT™ training	2 days/£935	18-19 Nov 2015 20 Nov 2015 26-27 Apr 2016 28 Apr 2016 11-12 Oct 2016 13 Oct 2016
A foundation course covering the basics of LV network planning and design, including all equipment and network components, network protection, legal and regulatory issues. An optional third day explores how EA Technology's WinDEBUT™ software can be used for rapid modelling and analysis of LV networks, designing new LV networks, or adding new connections to existing networks, including embedded generators. The third day is free of charge when booked with the two-day course or £395 when booked as a stand-alone course.		
Stability and Voltage Control	2 days/£935	Call for details
This course covers the theory and practice of stability and voltage control in distribution networks with distributed generation. The key learning points are reinforced via a series of real rural and urban network scenarios with various fault levels, numbers and sizes of generators connected.		
Wind Farms: A Project Manager's Guide	2 days/£935	Call for details
This course will assist project engineers and others who are involved in the construction, commissioning and operation of wind farms to understand the electrical issues these projects present. Covering electrical design, standards, testing involving switchgear, transformers, cable systems, protection, earthing, enclosures, lightning protection and the distribution or transmission company interface, i.e. everything below the nacelle.		

Protection courses

Commissioning and Testing	2 days/£935	3-4 Nov 2015 25-26 May 2016 23-24 Nov 2016
A practical course covering the complete process of commissioning and testing new protection systems prior to initial switch-on, and the testing of existing asset protection to prove its continuing integrity.		
Power System Protection: Part One	2 days/£935	13-14 Oct 2015 2-3 Feb 2016
A comprehensive course covering the principles of power system protection. The course includes practical exercises and a 'walk through' the LV and HV system. It provides a very detailed introduction to essential protection principles at a level that does not require knowledge of complex numbers.		
Power System Protection: Part Two	3 days/£1,160	27-29 Oct 2015 23-25 Feb 2016
This course covers 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 examined including the use of new knowledge based systems to create cost-effective maintenance procedures. This course includes complex numbers and introduces inductance and capacitance.		

Tailored programmes

Graduate Development and Conversion Programmes		Call for details
Structured development routes for a range of power engineering roles and competence levels, including graduates, apprentices, new entrants and career changers. Our modular development programmes can help increase your training capacity. We can work with you to develop and deliver structured training programmes that provide a comprehensive route to specified levels of knowledge and professional competence.		
Bespoke Training		Call for details
In addition to our scheduled programme of courses we can, on request, deliver courses at locations and dates to suit you. We can also develop bespoke training courses to meet your specific requirements.		
City & Guilds Level Three Diploma		Call for details
The new City & Guilds level 3 Diploma in Electrical Power Engineering – Transmission and Distribution (2339-45) is available as both a structured, taught programme for groups of learners within an organisation, and as a distance-learning course for industry engineers and technicians requiring a formal qualification, apprentices and new entrants to the industry. This unique qualification is specifically aimed at developing the fundamental knowledge required for a career in the electricity supply industry and provides a significant platform for further career progression including the knowledge component of the Advanced Apprenticeship framework.		

Global Footprint

We provide products, services and support for customers in 90 countries, through our offices in Australia, China, Europe, Singapore, UAE and USA, together with more than 40 distribution partners.



Our Expertise

We provide world-leading asset management solutions for power plant and networks. Our customers include electricity generation, transmission and distribution companies, together with major power plant operators in the private and public sectors.

Our products, services, management systems and knowledge enable customers to:

- Prevent outages
- Assess the condition of assets
- Understand why assets fail
- Optimise network operations
- Make smarter investment decisions
- Build smarter grids
- Achieve the latest standards
- Develop their power skills

For further information or to book a place:

- visit www.powerskillscentre.com
- email powerskillscentre@eatechnology.com
- call 0800 028 9983

Additional delivery dates can be provided where there is sufficient demand for a specific course. Please contact 0800 028 9983 for information.

PSC042/CS/SEP15

Safer, Stronger,
Smarter Networks

www.eatechnology.com
Australia | China | Europe | Singapore | UAE | USA

Main reception: +44 (0) 151 339 4181
EA Technology, Capenhurst Technology Park
Capenhurst, Chester, CH1 6ES, United Kingdom