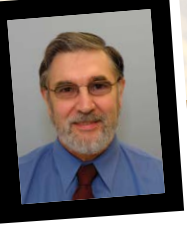
PRACTICAL ELECTRICAL WORKSHOP: AS/NZS 3000, LV, HV and EARTHING

Melbourne – 16th & 17th April 2018
Hobart – 19th & 20th April 2018

Technical training covering four equally important electrical areas:

1. Low Voltage and AS/NZS 3000: 2007 – Practical Electrical Wiring Standards
2. Earthing and Power Quality – Problems and Solutions
3. Practical Power System Protection for Engineers and Technicians
4. High Voltage Electrical Substation and Switchyard Design and Practical Power Transformer Operation, Maintenance and Testing

Workshop Presenter:
ROGER ROYAL
Electrical Specialist – IDC Technologies



WHAT YOU WILL GAIN FROM THIS EVENT:

- Update your knowledge on best practice and find practical solutions to your electrical design, installation and maintenance issues
- Learn how to meet the requirements of the AS/NZS 3000 wiring rules
- Delve into the revisions to AS/NZS 3000 and how they will affect your business
- Learn how optimal electrical design can improve production and reduce costs
- Gain current information on earthing and HV substation design
- Look at the types of power quality issues and how these impact on equipment operation
- Discuss and learn the new LV testing techniques to achieve compliance to AS/NZS 3000
- Learn the application of standards in earthing design
- Network with specialists in the field and your peers

WHO SHOULD ATTEND:

- Electrical engineers
- Substation engineers and technicians
- Generation, transmission engineers and technicians
- Electricians and electrical technicians
- Maintenance engineers and technicians
- Network, protection and distribution engineers and technicians
- Plant, project and design engineers
- Control systems and instrumentation engineers
- Electrical draftsman and project supervisors
- Engineering and safety managers
- Government safety regulators, risk assessors and inspectors

And anyone involved in the design, installation and maintenance of electrical systems in Australia.

Education Partner:
EIT ENGINEERING INSTITUTE OF TECHNOLOGY

DISCOUNTS

EARLY BIRD OFFER!
10% OFF
Book on or before 19TH MARCH 2018

AND/OR

3 FOR 2 OFFER!
SAVE UP TO $1495
See registration page for details

FOR MORE INFORMATION

Ph: 1300 138 522
conferences@idc-online.com
www.events.idc-online.com

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IDC TECHNOLOGIES
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UNITED KINGDOM • UNITED STATES • VIETNAM

Introduction to the PRACTICAL ELECTRICAL WORKSHOP: AS/NZS 3000, LV, HV AND EARTHING

This technical training workshop will feature four practical workshops that will be of special interest to the electrical engineering community as regulators are demanding continual improvement in electrical design, maintenance and safety outcomes. In the first workshop your presenter Roger will review the application and best practice in the requirements laid down in the standard AS/NZS 3000:2007, commonly known as Australia-New Zealand Wiring Rules. Any engineer involved in planning and design of electrical systems, installation or maintenance must have a clear idea about the various requirements contained in the standard.

The second workshop will cover earthing and power quality. Few topics generate as much controversy and debate as that of earthing and the associated topics of surge protection, shielding and lightning protection of electrical and electronic systems. Poor earthing practices can be the cause of continual and intermittent difficult-to-diagnose problems in a facility. Here Roger will explore these issues from a fresh yet practical perspective to help delegates reduce expensive downtime.

Workshop three will cover practical power system protection. A power system protection system has three main functions/duties; safeguard the entire system to maintain continuity of supply; minimise damage and repair costs where it senses a fault and ensure safety of personnel. These requirements are necessary, firstly for early detection and localisation of faults and secondly, prompt removal of faulty equipment from service. In order to carry out the above duties, protection must have the following qualities: selectivity, stability, sensitivity and speed. To meet all of these requirements, protection must be reliable which means it must be dependable and secure.

Finally workshop four will focus on high voltage systems including electrical substation and switchyard design and practical power transformer operation, maintenance and testing. A high voltage installation can range from a substation, auxiliary systems, interconnecting cables/lines and naturally the user's facilities such a plant, factory, office facility and mine site. Equipment includes switchgear, transformers, converters, cables, lines, batteries, earthing systems, capacitors, reactors, buildings and structures.

DAY ONE

Workshop 1 – 8.30am-12.00pm
Low Voltage and AS/NZS 3000 – Practical Electrical Wiring Standards – AS/NZS 3000: 2007

1. Why the wiring rules? – a brief introduction:
   The reasons for the rules and why and how compliance is achieved.
2. The principles of the wiring rules:
   What are these over-riding principles? To what systems do they apply?
3. A look at installation design:
   The WRs is not a book of designs. We have to look elsewhere to design a circuit.
4. Specific installation design points:
   Some parts of the installation are so critical they do need specific rules.
5. The protection coordination plan:
   The 'installation' is not complete and compliant until a protection coordination plan has been submitted. It has to coordinate with the new world order – how is this done?
6. Inspection and testing notes:
   Testing is moving away from a 'tick in a box' to giving real numbers on tests. How does this assist design?

Workshop 2 – 1.00pm-4.30pm
Earthing and Power Quality – Problems and Solutions

1. The changing world of power quality definitions – or is it?
   A few definitions and defined standards. What we have to be compliant to.
2. Why do we earth - what does that mean anyway?
   The over-riding principle of power systems earthing. Why do we do it?
3. Types of power system earthing:
   A brief discussion of the types of earthing and where used and why.
4. The classic power quality issues:
   A look at the types of power quality issues and how these impact on equipment operation. What should the equipment be able to tolerate?
5. How can earthing fix some of these problems?

DAY TWO

Workshop 3 – 8.30am-12.00pm
Practical Power System Protection for Engineers and Technicians

Power systems protection is a vital part of operating power systems. It is sometimes called 'black magic' or 'black arts' by some but it is really a combination of science, art, craft, psychology and practical application experience. In this session we will look at the following aspects of protection.

1. What has to be protected and from what and why?
2. The essential elements of protection.
3. The protection elements we use.
4. Schemes that are used.
5. Making it all work together.
6. Technologies used and operational challenges.

Workshop 4 – 1.00pm-4.30pm
High Voltage Electrical Substation and Switchyard Design and Practical Power Transformer Operation, Maintenance and Testing

Distribution sub-stations provide the link between high voltage transmission and high voltage distribution and high voltage distribution to low voltage distribution. This workshop will cover the following aspects:

1. Various styles of substation/switchyard or smaller substations.
2. A look at the 'total design package' indicating the steps required to establish a new substation.
3. Equipment normally used in substations.
4. Transformers for substations, selection, installation, settings, nominal maintenance and tests.
5. Substation earthing design, basic principles.

WORKSHOP PRESENTER:

ROGER ROYAL

Electrical Specialist – IDC Technologies

Roger has built up a solid 40 years of hard won experience in the electrical power industry and this is apparent in his instructing. He has a passion for teaching and has achieved outstanding results over the past ten years with his courses on circuit breakers and switchgear, earthing, bonding, lightning, surge protection, power systems protection and transformers throughout the world.

Roger has carefully prepared for the presentation of this workshop, to ensure that you will walk away with the skills you can immediately apply to your work. He is looking forward to meeting all participants and being able to pass on his experience and knowledge.

REGISTRATION FORM:

PRACTICAL ELECTRICAL WORKSHOP

Melbourne – 16th & 17th April 2018 - Venue TBA
Hobart – 19th & 20th April 2018 - Venue TBA
Simply complete this registration form online or return by email

EARLY BIRD OFFER:
10% off the workshop fee for registrations received on or before 19th March 2018
– SAVE $150

AND /OR

3 FOR 2 OFFER:
Register 3 delegates and only pay for 2
– SAVE UP TO $1495

1. DELEGATE DETAILS

Contact: Company Name:

Company Address:

Suburb: State: Post Code: Phone:

Admin/Accounts Payable Email:

ATTENDEES:

1 Mr/Ms: Job Title:
Email:

2 Mr/Ms: Job Title:
Email:

3 Mr/Ms: Job Title:
Email:

2. HOW DID YOU HEAR ABOUT THIS EVENT?

☐ Received an email from IDC ☐ Received a brochure in the mail ☐ Searched online (Google, Yahoo etc)
☐ Recommended by a friend/colleague ☐ Magazine advertisement/insert (please specify which magazine below)
☐ Other (please specify) _____

3. REGISTRATION & PAYMENT DETAILS

Prices shown are inclusive of 10% GST

PRACTICAL ELECTRICAL WORKSHOP: AS 3000, LV, HV AND EARTHING

Select a city: ☐ MELBOURNE – 16th & 17th April 2018 ☐ HOBART – 19th & 20th April 2018

☐ OPTION 1: **Early Bird Discount 10% OFF**
– Book **on or before** 19th March 2018 **(SAVE $149.50)** **$1345.50** x _____ delegates = $ _____

☐ OPTION 2: **Standard Rate (NO Early Bird Discount)**
– Book **after** 19th March 2018 **$1495.00** x _____ delegates = $ _____

☐ OPTION 3: **3 for 2 Offer AND Early Bird Discount**
– Book **on or before** 19th March 2018 **(SAVE $1794)** 3 delegates: 2 x $1345.50 = **$2691.00** = $ _____

☐ OPTION 4: **3 for 2 Offer Standard Rate (NO Early Bird)**
– Book **after** 19th March 2018 **(SAVE $1495)** 3 delegates: 2 x $1495.00 = **$2990.00** = $ _____

Corporate Packages available upon request

TOTAL DUE = $ _____

PLEASE NOTE: Full payment is required prior to the commencement of the workshop.

I wish to pay by: ☐ EFT ☐ Direct Deposit ☐ Company Purchase Order Number: _____

Please charge my: ☐ Mastercard ☐ VISA

CARDHOLDER'S NAME: CARDHOLDER'S SIGNATURE: EXPIRY DATE: /

On the reverse of your card, is a security number. In order to authorise your card transaction, we require the last 3 digits:

If the Cardholder's address is not the same as shown above please tick this box: ☐

GENERAL INFORMATION

Confirmation Details
A confirmation email and invoice will be sent to delegates within 3 days of receiving the registration.

Cancellation Policy
A fee of 20% cancellation will apply for cancellations received 7 – 14 days prior to the start date of the workshop. Cancellations received less than 7 days prior to the start date of the workshop are not refundable, however substitutes are welcome.

Venue
Melbourne – TBA (Central Melbourne Venue)
Hobart – TBA (Central Hobart Venue)

Accommodation
The workshop venue has accommodation available. Venues are booked once minimum attendance numbers are achieved.

Food and Beverages
All lunches, morning and afternoon refreshments are included.

Unable to Attend
If you are unable to attend the full workshop program, contact us for details to attend individual sessions, or to purchase the Workshop Manual.

Enquiries
1300 138 522
conferences@idc-online.com

REGISTRATIONS

By Email:
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