Accredited by SAIEE, 2 CPD points awarded

Executive Development

Safety Earthing, Bonding & Lightning Protection of Electrical/Electronic Systems & Equipment

An up to date course providing delegates with the requirements and an understanding of SANS 10199 (2004) and 10313 standards

"COURSE SUMMARY:
The aim of this course is to increase awareness of and importance of correct earthing practices to ensure safety of personnel plant and equipment and. at the same time to understand the codes that govern the designs and installations. This course looks at these issues from a fresh yet practical perspective and enables you to reduce expensive down time on your plant and equipment to a minimum by correct application of these principles.

COURSE TRAINER:
Mike Visser
Managing Director
Power Quality Company




COURSE DATES & VENUES:

JOHANNESBURG
26 / 27 June 2008
Indaba Hotel & Conference Centre, Fourways, Sandton Johannesburg

POLOKWANE
3 / 4 July 2008

NELSPRUIT
10 / 11 July 2008

RUSTENBURG :
17 / 18 July 2008

Book and pay before 27 May (JHB), 3 June (Polokwane or Nelspruit) to qualify for Early Bird Discount.

ATTEND AND GAIN PRACTICAL INSIGHTS INTO:

The science of earthing : The codes of practice that govern the installation and maintenance of safety earthing and lightning protection systems in South Africa today;
Code requirements, to implement correct compliant earthing systems;
Different earthing system, principal design considerations and methods of lightning protection systems;
Methods to protect : personnel, plant and equipment during an earth fault or lightning strike.
Gain a new understanding of information required to design, install, test, and maintain correct earthing and lightning protection systems according to the SANS codes of practice.

The course has been designed to demystify the subject of Lightning, Surge Protection and Earthing and presents the subject in a clear, straightforward manner. Installation, testing and inspection procedures for industrial and commercial power systems will be examined in detail. The method of training is to give a short history of the subject and to address how the codes of practice have changed trough the years. Once the delegates have a understanding of the subject a practical session is given to enable the delegates to design an earthing system which is in line with the code of practice.

The POWER QUALITY COMPANY (PTY) LTD

Safety Earthing, Bonding & Lightning Protection

DAY ONE

Session 1:
Reasons for Earthing, History of Earthing

Ω History of Earthing & Lightning Protection
Ω Requirements of Earthing Systems
Ω Requirements of L/P Systems
Ω The Uni-Potential platform
Ω Safety of personnel
Ω Safety of equipment
Ω Safety of plant

Session 2:
Different Types of Earthing Systems

Ω Codes of Practice
Ω Technologies in Use
Ω Safety earthing for sub stations
Ω Static protection
Ω Theory of Testing of Earthing Electrodes

Session 3:
Testing Of Earthing Systems

Ω Resistance Testing (PRACTICAL)
Ω Lightning protection SANS 10313
Ω Lightning protection SANS 62305

Session 4:
Lightning Protection, Objectives, Options and Technologies in use today

Ω Conformance to insurance requirements
Ω Risk Analysis and Risk Management
Ω Protection Zones

DAY TWO

Session 5:
Planned Maintenance for Plant Earthing Systems

Ω Reasons for and content of PM programs
Ω Implementation of a P/M program
Ω On going testing for best protection
Ω Options for dealing with cable theft
Ω Understanding step and touch potentials

Session 6:
Designing of Earth Mats

Ω Working through the codes of practice (SANS10199 & IEEE80)
Ω Earth Fault Current, Max Grid Current
Ω Understanding Ground Potential Rise
Ω Understanding how to perform a safe design using the codes of practice

Session 7:
Practical Field Test & Calculating and Implementing a Cost Effective Earth Mat Design

Ω Resistivity Testing (PRACTICAL)
Ω Using the results to design a cost effective earth mat for Safety Earthing & LP
Ω Costing of earth mat design
Ω Comparing the different earthing solutions for a cost effective design

Session 8:
Lightning Protection Case study Workshop

Ω Indications of "effective" and "non effective" design
Ω Typical pitfalls in earthing design

Benefits include:

Ω participation in an interactive workshop;
Ω learn from a recognized expert with cross-industry experience;
Ω comprehensive course documentation and a sample of quality manual; and
Ω a course accredited by SAIEE and CPD points are gained when attending.

Registration will commence at 08h00 on the first day with the course beginning at 08h30 on each day.
Refreshments will be provided at appropriate intervals, and lunch will be served at 12h30.
The course will conclude at 16h30 on each day.
(all timings are approximate due to the interactive nature of the course)

ABOUT YOUR COURSE FACILITATOR:
Mike Visser is managing director of the Power Quality Company and offers full turnkey projects from specification, design, to implementation and commissioning. Mike has consulted and implemented safety earthing and lightning protection systems for many blue chip companies including, Sasol (petrochemical), De Beers (diamonds), Anglo Gold (mining), Centurion Municipality, Middleburg Municipality, Associated Manganese Mines of SA Ltd, Alpha Cement and many more.
After studying computer science at Bucknell University, USA Mike Visser returned to South Africa to work as a software engineer and developed a number of engineering software packages. He soon realized the cost of having down time on computer and electronic equipment and to this end he launched the Power Quality Company in 1990 to address power-related problems in industry.

The POWER QUALITY COMPANY (PTY) LTD

PLEASE INDICATE YOUR CHOICE:		TO REGISTER	
	Johannesburg	contact	
	Polokwane	phone	0118273270
	Nelspruit	mobile	
		fax	0118271527
		email	elva@powerquality.co.za

www.powerquality.co.za	63 Cachet Road
Power Quality Company (Pty) Ltd	Parkhill Gardens GERMISTON
reg no 91/00510/07	P O Box 4628, GERMISTON SOUTH 1411

EARLY BIRD FEE	STANDARD REGISTRATION FEE
R5 000 + VAT per person (book and pay before dates mentioned above)	R5 500 + VAT per person (for bookings after Early Bird dates)

PERSONAL DETAILS

Please print clearly or attach business card

	DELEGATE 1:	DELEGATE 2:
Surname (Dr/Mr/Mrs/Ms)		
First Name		
Job Title		
Organization		
Address		
Postcode		
Telephone		
VAT Registration No.		
I understand and accept the booking terms and conditions:		
Signature		

AUTHORISATION:

This booking is invalid without a signature. Signatory must be authorised to sign on behalf of contracting organization

Approving Manager (Dr/Mr/Mrs/Ms)	
Job Title	
Department	
Email (required)	
Telephone	
Signature	

BY COMPLETING THIS FORM, YOU UNDERTAKE TO ADHERE OUR CANCELLATION AND PAYMENT TERMS.

Fees include course materials, lunches, and refreshments for the duration of the programme. Incidental expenses: Power Quality Company is not responsible for covering airfare or other travel costs incurred by registrants. Delegates will be responsible for their own accommodation. Please note that Power Quality Company reserves the right to refuse admission to the training if proof of payments has not been received prior to the start of the course. An invoice will be sent upon receipt of registration form. Payment must be received in full prior to the course start. All registrations will be confirmed via email.

CANCELLATION POLICY

A full refund will be given for cancellations received up to 20 working days before the event. Cancellations must be made in writing (fax or email) and reach our office before the 20 working days deadline. No refunds will be given to cancellations received less than 20 working days before the event. Of course, a replacement is always welcome. In the event that we cancels an event, delegate payments at the date of cancellation will be credited to a future Power Quality Company event. This credit will be available for up to one year from the date of issuance. In the event that Power Quality Company postpones an event, delegate payments at the postponement date will be credited towards the rescheduled date. If the delegate is unable to attend the rescheduled event, the delegate will receive a 100% credit representing payments made towards a future Power Quality Company event. This credit will be available for up to one year from the date of issuance.

Disclaimer We reserves the right to change or cancel any part of it's publish programme due to unforeseen circumstances.

17 years of practical experience to guide you

A TOKEN EARTH IS NO EARTH

WHO SHOULD ATTEND: This course is designed to benefit technical personnel from:
utilities, municipalities, petrochemical, mines industries and commercial institutions, involved in the utilisation and/or design of lightning protection of power systems: transmission and distribution lines, substations, and the use of test standards.
Electrical Engineers & Inspectors, Electricians, Power System Protection Engineers, Instrumentation & Control Engineers, Application & Design Engineers, Project Engineers, Data Systems Planners and Managers, Technologists & Technicians, Safety Professionals, Electrical Contractors

The POWER QUALITY COMPANY (PTY) LTD