COAL BLENDING

Understand coal’s physical and chemical characteristics and gain an understanding of the impacts of the blend on the power plant equipment items, from coal handling through the boiler to the dust collection plant.

27 - 28 MARCH 2017, KUALA LUMPUR, MALAYSIA

TOPICS COVERED

- MOTIVATION FOR COAL BLENDING
- COAL PROPERTIES AND SPECIFICATIONS
- PREDICTION OF BLEND BEHAVIOR
- COAL BLEND IMPACTS ON PLANT PERFORMANCE
- BLENDING TECHNIQUES
- CASE STUDIES

Expert Course Faculty Leader

Dr Rod Boyd
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About This Training Course
Various pressures on plant owners are forcing them to use a variety of coals from different sources, including buying shipments of coal on the spot market. Coal suppliers are sourcing more diverse coals and combining different coals to meet client purchase specifications. In both scenarios, coals are being combined to produce a blend suitable for utilisation. This course seeks to address the technical and practical aspects of coal blending, highlight the potential consequences of incompatible coals being blended and explore some of the methods that are employed to ensure successful coal blending. The latest global and regional forecasts for the coal markets and new coal-fired plant will be provided for the period up to and beyond 2020.

Learning Outcome
On completion of the course, participants will have an understanding of coal physical and chemical characteristics, be aware of which properties exhibit linear and non-linear behaviour when combined and have a basic appreciation of the activities involved in the evaluation of candidate coals and proposed blends. From a practical point of view, participants will gain an understanding of the impacts of the blend on the power plant equipment items, from coal handling through the boiler to the dust collection plant. Participants will gain an awareness of some of the theoretical characterisation techniques which are used to evaluate coal blends and have an overview of practical issues associated with the implementation of coal blending at a utility scale.

Who should attend
This training course will be valuable to participants who need a fundamental understanding of the rationale for and mechanics of coal blending. The course is targeted at technical persons involved either with coal supply or coal utilisation, needing to gain an understanding of both theoretical and practical aspects of coal blending. Attendees may include: utility coal procurement personnel, plant operations staff, plant engineers and operators, thermal coal marketing or customer support personnel, coal traders as well as infrastructure and logistics officials.

Unique Features with powerEDGE Training
• Pre-Course Questionnaire to help us focus on your learning objectives
• Detailed Course & Reference Manual for Continuous Learning and Sharing
• Practical Exercises & Case Examples to better understand the principles
• Limited class size to ensure One-to-One Interactivity
• Assessment at the end of the course to help you develop a Personal Action Plan

This training course has a limited attendance for up to 20 participants only.

Sessions commence at 9am on all days, with short intervals at 10.30am and 3.30pm respectively. Refreshments will be provided in the short intervals. Lunch will be provided at 12:30pm for 1 hour. Sessions will end at 5pm on all days.
Motivation for coal blending
- Drivers for coal blending from both utility and coal supplier viewpoints
- Financial, environmental and operational benefits
- Blending concepts
- Potential drawbacks and difficulties

Coal properties and specifications
- The origins of coal and its formation
- Organic and inorganic components of coal
- Overview of coal properties and classification systems
- Measurement and reporting bases
- Coal specifications
- Global coal trade and regional differences in properties
- Advanced coal characterisation techniques

Prediction of blend behavior
- Coal property response to blending; linear and non-linear coal properties
- Development of an optimum coal specification
- Coal blending strategies
- Practical aspects of coal blending
- Predictive tools for blend assessment
- Test burn fundamentals

Coal blend impacts on plant performance
- Coal handling and storage
- Pulveriser performance and wear characteristics
- Combustion behaviour – ignition, burnout
- Boiler thermal performance – heat transfer and efficiency
- Ash deposition propensity
- Electrostatic precipitator performance
- Ash disposal
- Environmental impacts (NOx, SOx and particulate emissions)

Blending techniques
- Blending at mine
- Power station blending
- Stockpile design and management for coal blending
- Dedicated coal blending facilities (for example Port blending)

Case studies
- Costs associated with coal blending
- Instances of successful blending
- Ineffective blending examples
- Future trends

Your Expert Course Trainer: Dr. Rod Boyd

Rod Boyd has considerable experience as a mechanical engineer in the energy industry providing specialist services to local and international clients in the areas of fuel evaluation and assessment, coal fired boiler design and operation, combustion science and technology, control of combustion related emissions, plant performance improvement, advanced coal technologies and power plant due diligence studies.

Dr Boyd was previously the Principal Engineer / Boiler and Combustion Systems with the NSW State owned utility Pacific Power and was responsible for the evaluation of prospective coal supplies and optimisation of plant performance on the 10,000MW of coal fired plant in NSW.

He has provided specialist services to power utilities, equipment manufacturers, coal producers and research institutions on coal fired boiler design and operation. Dr Boyd has published more than 30 journal and conference papers on topics related to coal utilisation. He has provided training in coal technology to power utility engineers from Australia, China, Indonesia, Malaysia and Thailand.
Courses Available

4 Pillars of Transformer Condition
Advanced Project Finance for Power
Advanced Technical Report Writing & Presentation Skills
Advanced Turnaround Shutdown & Outage Management
Ancillary Services in Competitive Electricity
Asset Management for the Power Industry
Best Practice Renewable Energy Capital & Project Management
Biomass Power Generation
CFB Combustion for Boiler Operations
Clean Development Mechanism and Carbon Markets
Coal Contracts
Combined Cycle Power Plants Operation
Combined Heat & Power (CHP) and Co-Generation Plant Operations
Competency Management System for the Power Industry
Design & Operations of Circulating Fluidized Bed Boiler
Developing & Structuring Public-Private Partnership (PPP) for Infrastructure
Effective Tender Process Management for Power & Utilities
Electrical Hazop (eHazop) Studies for the Power Industry
Electricity Demand-Side Management
Electricity Industry Design
Electricity Network Planning
Electricity Retail Contracts
Electricity Theft
Electricity Trading Essentials
Energy Efficiency
EPC Contract Management for Power & Utilities
Essentials of Coal Markets and Trading
Essentials of Power Trading
Excitation Systems
Feed-In Tariffs for PV Systems
Finance for Non-Finance Professionals in Power & Utilities
Financial Modelling for Project Finance in Power & Utilities
Fitness-For-Service AP1 579 & High Energy Piping Life Management
Fundamentals of Geothermal Energy
Fundamentals of Power Generation
Gas & LNG Contract Negotiation
Gas Turbine Generator Selection, Operation & Maintenance
Gas Turbine Hot Gas Paths, Rotors & Failure Analysis
Gas Turbine Major Inspection & Overhaul
GE Gas Turbine Operations Simulation Based
HRSG Design, Operations & Understanding, Controlling of HRSG Damage
HV Substation Design & Construction
IEC for Utilities
Integration of Distributed Generation
Introduction to Carbon Capture & Storage
Introduction to Clean Coal Technology
Introduction to Power Systems
Keeping Electrical Switchgear Safe
Leadership & Team Dynamics for Power & Utilities
LNG Fundamentals
LNG Markets & SPOT Trading
Maintenance Planning & Scheduling

Making IPP & Renewable Energy Projects Contract Frameworks Bankable
Managing Complex Projects for Power and Utilities Professionals
Medium Voltage & High Voltage Switchgear
Metallurgy for Engineers
Mechanical Engineering for Non-Mechanical Engineers
Mini Hydro Project Analysis
MKV Speedtronic Control System
MK VI Speedtronic Control System
Nuclear Energy Project Planning & Economics
Nuclear Power
Offshore Platforms Electrical Systems Design & Illustrations
Operations of Coal Fired Power Plants
Power Generation Commissioning, Operations & Maintenance
Power Generation Operation, Protection & Excitation Control
Power Plant Chemistry for Chemist & Chemical Engineers
Power Purchase Agreements
Process Control Methods
Programmatic CDM
Relay Protection in Power Systems
Reliability Centered Maintenance Masterclass
Reliability Engineering
Renewable Energy Development & Investment
Renewable Energy Integration
Risk Based Inspection
Risk Management in Power Markets
Root Cause Analysis
Rotating Equipment Maintenance & Reliability Excellence
SCADA & Power Systems
Smart Grid
Solar Energy & Photovoltaic Power
Spare Parts Optimisation
Supercritical and Ultra-Supercritical Coal-Fired Power Plant
Technical Report Writing & Presentation Skills for Power & Utilities Professionals
Ultra Low NOx Gas Turbine Combustion
Uninterruptible Power Supply
Vibration Analysis & Condition Monitoring
Waste to Energy Plant Operations
Water Treatment and Corrosion Control for Steam Generation and Power Production
Writing Effective Standard Operating Procedures (SOP) for Power & Utilities Professionals & Engineers
7) days or less prior to an event (including day 7), no credits will be issued. In the event that POWEREDGE PTEs credit will be available for up to one year from the date of issuance. In the event that the delegate 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 that POWEREDGE PTE LTD does not provide refunds for cancellations. For cancellations received in writing more than seven (7) days prior to the training course you will receive a 100% credit to be used at another POWEREDGE PTE LTD training course for up to one year from the date of issuance. For cancellations received seven (7) days or less prior to an event (including day 7), no credits will be issued. In the event that POWEREDGE PTE LTD cancels an event, delegate payments at the date of cancellation will be credited to a future POWEREDGE PTE LTD event. This credit will be available for up to one year from the date of issuance. In the event that POWEREDGE PTE LTD 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.

PAYMENT METHODS

By Cheque/ Bank Draft: Make Payable to PowerEdge Pte Ltd.
By Telegraphic Transfer: Please quote AE1 with the remittance advise
Account Name: PowerEdge Pte. Ltd
Bank Address: 65 Chulia Street OCBC Centre, Singapore 049513
All bank charges and payment in Singapore dollars (SGD) to be borne by payer. Please ensure that PowerEdge Pte Ltd receive the full invoiced amount.

PROMO CODE

*SGD 4,280 Per Participant
*SGD 3,638 Per Participant

*GST FOR SINGAPORE REGISTERED COMPANIES

**ATTENDEE DETAILS**

Name .................................................................................................. Job title ......................................................
Tel ........................................... Department .............................................................. Email .............................................

**COMPANY DETAILS**

Organisation name ........................................................................ Industry...........................................................
Address ..........................................................................................................................................................
Postcode............................................................... Country.................................................................
Tel ............................................................................................................................... Fax...............................................................