BALANCE OF PLANT:
COAL FIRED POWER STATIONS

25 – 27 APRIL 2017, KUALA LUMPUR, MALAYSIA

TOPICS COVERED

- Fuel Handling and Storage
- Ash & Dust Systems
- Water Treatment
- Cooling Water Systems
- Fire Protection Systems
- General Services
- Electrical Systems and Back up Supplies

Expert Course Faculty Leader
Brian Matkin
Training Course Objectives

This course covers the less obvious but no less essential sections of a coal fired power station plant and equipment. Firstly, Fuel handling and storage including stocking out and reclaim of coal into the power station and the safe handling and operation of systems.

What about waste products? Also covered is an overview of ash and dust handling systems along with environmental considerations. Highly essential to the safe and efficient operation of the plant is the provision of the correct quality of water for the boilers and station. This is explained in a section covering the water cycle, various impurities and the processes employed in the production of the high quality water required. Also discussed are the differing problems encountered on plant due to the effects of impurities. The overall efficiency of power plant is highly influenced by the type of system installed to condense steam at the turbine low pressure exhaust. The course will compare the various cooling water or air systems in use.

Fixed and portable fire protection systems are explored along with the provision of compressed air and gases used on the power station along with their storage.

Lubrication is highly important to the wellbeing and continual operation of plant. Finally the provision of station electrical supplies, along with back up supplies and station black start capability are covered.

Who is this course for?

This course would ideally suit professionals just starting their career in the power industry as well as staff considering the design of new plant and the options available. Would also suit junior operations staff with the willingness to learn more about the design and operation of the general services plant of the power station.

PROFFESSIONAL BACKGROUND

Brian has considerable experience with coal fired plant up to 350MW and all Auxiliary Power Station Plant. As a Shift Charge Engineer, besides being responsible for the safe and efficient operation of the Units he was responsible for training Unit Operators to become Technician Engineers. In this new role the staff became responsible for the Permit System, HV Switching & Emergency Procedures.

Brian’s Industry career achievements

- Eon/Powergen TXu Drakelow Power Station
  - Drakelow Power station was a coal fired Power Station operating 2 x 350 MW Assisted Circulation Boiler/Units and 1 x 350 MW Supercritical Pressure Once through Boiler/Unit
  - During unit outage joined Mechanical Maintenance where he was responsible for the Condenser/Feed Range repairs & Budget.

- Eastern Electricity Drakelow Power Station
  - Responsible for the introduction of computer based refresher training for PF Codes of Practice including liaison with outside agencies.
  - In charge of Operations staff rotas and training of operators on the supercritical unit.
  - Being responsible for the mill ball budget, saved costs by utilising high chrome second hand mill balls rather than new cast steel ones.

- CEGB Drakelow Power Station
  - Responsible for investigation into the total compressed air supply to the station and the replacement of the reciprocating compressors with up to date screw type compressors along with associated oil separating and drying equipment.

After the closure of Drakelow, Brian went on to become involved in providing Operations training at various locations including Operations simulator training on a 500MW unit simulator (Coal Fired). He was also part of a team to develop operations training for Flue Gas De-Sulphurisation Plant (Limestone/Gypsum Process). In addition he has carried out auditing of Safety Rules and associated documentation.
3 Day Course Outline

Day 1:

**Fuel Handling and Storage**
- Delivery of fuel
- Stockpiling
- Conveyor Systems

**Ash & Dust Systems**
- Furnace bottom ash handling systems
- Boiler dust (PFA) handling systems

Day 2:

**Water Treatment**
- The Water cycle
- Water Impurities
- Effects on power station plant
- Processes used for treatment of water

**Cooling Water Systems**
- Once through systems
- Cooling Tower systems

Day 3:

**Fire Protection Systems**
- Fire protection
- Fixed systems
- Portable systems

**General Services**
- Compressed Air systems
- Bulk storage of gases
- Lubrication

**Electrical Systems and Back Up Supplies**
- Station and Unit Supplies
- Essential Back-up supplies
- Black Start supplies
OTHER AVAILABLE COURSES

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
Project Management for Power and Utilities
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
Frequently Asked Questions (FAQs)

1. Does PowerEdge have other programmes than those listed?
   We have more than 200 programmes that we are capable of running. All we need is for you to contact us and request for the preferred programme and we will able to develop it.

2. Where is PowerEdge based?
   PowerEDGE is headquartered in Singapore but we run our training programmes in different venues around Asia.

3. What does PowerEdge do?
   We are a Power & Utilities Training Specialist.

4. Can this course be done in our city?
   It absolutely can. Get in touch with us to request for a training programme to be carried out in your city.

5. Can you reduce the price of our preferred course?
   While our price has been reduced before it is even launched, we are always happy to help you with further discounts.

6. Can you change the dates of the course?
   If you have a special requested date, let us know and we will arrange another session for you.

7. Who are the companies that will be participating?
   This varies from a diversity of Power Operators, Regulators, Financiers, to Vendors in the Power & Utilities Industry.

8. Where is the venue for the course?
   We usually engage a 4 to 5 star hotel meeting room to ensure the comfort of our participants.

9. How many delegates should we expect for each course?
   This varies from 15 to 20 participants. Class sizes are kept small to allow trainers to focus better on each participant.

10. What are the different payment modes?
    We accept Visa/MasterCard, cheques, bank transfers and cash on site.

11. Is accommodation included when I sign up for a course?
    Accommodation is not included in the course fee but we are always happy to advise on available accommodations.

12. Can I get a cheaper accommodation through PowerEdge?
    We will be pleased to help you negotiate a better rate with hotels.

13. Is lunch provided during the course?
    We provide lunch and 2 tea breaks every day during our training programmes.

14. Are the training materials included once I have signed up for a course?
    Yes, training and course materials are included in the course fee.

15. Will there be a certificate for the course?
    Yes, there will be a certificate of participation upon completion of a course.

16. Who are PowerEdge trainers?
    They are expert consultants and practitioners with many years of experience in the subject matter that they deliver on.

17. Are PowerEdge trainers competent?
    We have received numerous favourable feedbacks on our trainers from past participants.

18. Can PowerEdge assist with Visa travel applications?
    We can assist in advising you on the relevant procedure[s] and embassies/consulates that provide Visa for travel purposes.

19. Can we purchase training materials without attending a course?
    Unfortunately this option is not available as training materials are specially developed for courses.

20. Can course content be tweaked to cater to our needs?
    Of course! Just let us know your request and we will get the trainer to assist in carrying it out.
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<table>
<thead>
<tr>
<th>PER PARTICIPANT</th>
<th>2 PARTICIPANTS OR MORE</th>
<th>IN-HOUSE TRAINING</th>
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<tbody>
<tr>
<td>3 Day Programme</td>
<td>SGD 3,000</td>
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<td></td>
<td>SGD 2,800</td>
<td>Guaranteed Minimum 40% Off Normal Price</td>
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ATTENDEE DETAILS

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

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COMPANY DETAILS

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

PAYMENT DETAILS

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.

PAYMENT TERMS

Payment is due in full at the time of registration. Full payment is mandatory for event attendance. I agree to PowerEdge Pte Ltd. payment terms
* GST: Exclusive price is only applicable for overseas corporate customers subject to qualifying conditions.

REGISTER

Online Web Registration
info@poweredgeasia.com
(65) 6741 9927
(65) 67478737

RELATED TRAINING

✓ Keeping Electrical Switchgear Safe
✓ Introduction to Power Systems
✓ Excitation Systems
✓ Fundamentals of Power Generation

ON SITE TRAINING

Can’t make it for the Course? We’ll make the course come to you!!
Simply let us know your preferred time and dates and we will meet you at your schedule and venue.
With a host of highly trained experts, we will be happy to customize your programme with your needs 100% fulfilled.

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Guaranteed Minimum 40% Off
Normal Price

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