Power Station Coal Pulverizer Performance

Presenter – Dr John Sligar

Sydney – 13th September 2005

Part of a Continuing Program of Courses in Power Station Technology
Course Details

0830  Register

0900  ■ Size reduction
       ■ Material properties, brittle, ductile
       ■ Unit operations within mill
       ■ Transport within mill
       ■ Coal drying
       ■ Particle size classification
       ■ Grinding of coal
       ■ Recirculation of oversize

1000  Break

1030  ■ Representation of grinding in mill
       ■ Coal properties important for size reduction
       ■ Economic
       ■ Physical
       ■ Chemical
       ■ Biomass properties for co-grinding

1200  Lunch

1300  ■ Types of mill grinding coal
       ■ Very low speed mill
       ■ Low speed mill
       ■ Medium speed mill
       ■ High speed mill
       ■ Mill comparison

1430  Break

1500  ■ Mill operation
       ■ Mill safety
       ■ Factors affecting performance
       ■ Capacity/fineness
       ■ Capacity/moisture
       ■ Capacity/component wear
       ■ Mill maintenance
       ■ Maintenance schedules
       ■ Criteria for maintenance
       ■ Wear reduction
       ■ Mill performance criteria
       ■ Discussion

1700  Adjourn

The Presenter

DR JOHN SLIGAR

Dr John Sligar has been a leading Australian figure in the coal fired generation scene for over forty years and has worked in many Australian coal fired power stations. He has a PhD in modelling grinding coal in vertical spindle mills using results from full-scale industrial tests.

He was previously Chief Scientist of Pacific Power, the then largest power utility in Australia.

He conducted probably the largest coal project for NERDDP in determining the abrasiveness of Australian coals and their wear effects on all types of pulveriser.

He has presented courses on power station technology concentrating on coal pulverizers for many years for the United Nations and PACE internationally and for ESAA in Australia.
Some 80% of Australia’s electricity is generated from coal-fired power stations.

In addition coal can represent up to 50% of generation costs.

While the short-term profitability in the market rests on the skill of energy traders, the long term profitability depends upon factors such as buying competitively priced coal and utilizing it effectively.

An integrated approach to this dependence on coal has the capability to minimize cost. This involves coal buyers, energy traders, power station operators and mill maintenance teams. This course provides an insight into some of these aspects as part of a series on power generation.

Participants will develop knowledge of how mills work and how they contribute to power station operation.

The course aims to address the following questions:

- Why does a mill perform the way it does and how does it contribute to unit performance?
- What can be done to minimise mill maintenance?
- How do different types of coal affect the performance/maintenance of the mills?
- How can I minimize the overall cost of mill maintenance?

The course topics will include:

- Fundamentals of size reduction with brittle and ductile material
- Size reduction equipment for coal and grinding mechanisms in mills
- Use of Rosin-Rammler plots to represent mill performance
- Types of pulverizer, high speed, medium speed, low speed and ultra low speed mills
- Effect of coal properties on mill performance such as specific energy, reactivity, volatile matter, moisture, mineral matter, Hardgrove Grindability, Abrasiveness.
- Mill operation and coal combustion
- Mill maintenance and testing
- Optimizing overall mill costs

All types of mill grinding coal will be included, the course will concentrate on those in use in most Australian coal fired boilers.

Morning tea, lunch and afternoon tea will be provided.

The provision of accommodation is the responsibility of attendees.

API will be facilitating the ongoing provision of rigorous courses in power station technology.
Course Details

Date: 13th September 2005
Time: 8.30am start, 5pm finish
Location: Sydney Mechanics School of Arts
First Floor, 280 Pitt Street Sydney
Cost: $950 plus GST
Concessions for Members of The Australian Power Institute
Enquiries: Bryce Corderoy Tel: 02 9484 6356 Mob: 0419 400 542
Fax: 02 9484 6011 Email: bryce.corderoy@api.edu.au
Numbers are limited and if exceeded the course may also be run at another location.

Registration Form

Please register the following delegates for the event - “Power Station Coal Pulverizer Performance”

DELEGATES

Name: 
Email: 
Job Title: 
Telephone: 

Name: 
Email: 
Job Title: 
Telephone: 

Name: 
Email: 
Job Title: 
Telephone: 

Name of Organisation / Company:

Address:

Contact Person: 
Job Title: 

Department: 
Email: 

Telephone: 
Fax: 

METHOD OF PAYMENT

☐ Cheque attached - Payable to The Australian Power Institute Ltd
☐ Direct debit to: The Australian Power Institute Ltd
Westpac Bank, Martin Place, Sydney
BSB: 032-024
Account No: 448 594

Credit Card: ☐ Visa ☐ Mastercard ☐ Bankcard

Name on Card:
Card No.: 
Expiry Date: 

Signature:

This course is recognised by Engineers Australia for Continuing Professional Development (CPD) purposes 16 points.
The Australian Power Institute will issue a Certificate of Attendance on completion.