LARGE SCALE BULK STORAGE AND HANDLING

19-20 November 2014
Forest Pines Hotel, Broughton, North Lincolnshire
www.imeche.org/events/S6155

Process Industries Division
Seminar/Technical Site Visit

TECHNICAL SITE VISIT: PORT OF IMMINGHAM
SEE PAGE 4 FOR DETAILS

Image courtesy of Immingham
LARGE SCALE BULK STORAGE AND HANDLING
19-20 November 2014, Forest Pines Hotel, Broughton, North Lincolnshire

WITH ITS CURRENT FACILITIES CAN THE UK BULK SOLIDS SECTOR MANAGE?

As the UK continues to push its renewable energy policy, the demand on imported bulk materials such as coal and wood pellets is growing and the pressure to handle and store such materials safely is a priority for the whole sector.

Alongside the need to respond to this increasing demand is the requirement to ensure that large quantities of bulk materials are delivered efficiently. The Port of Immingham handles up to 55 million tonnes making it the UK’s largest port in terms of tonnage. Within that figure coal accounts for 10 million tonnes of the overall solid bulk handled annually.

Given the unpredictability of certain materials and their riskier properties, a greater awareness is being generated to reduce the risks to health when handling materials such as biomass. Coupled with the construction of larger storage facilities is the need to implement technology that will reduce human interface in this particular supply chain.

OUR EXPERT SPEAKING PANEL INCLUDES:

JOHN FITZGERALD
CHIEF OPERATING OFFICER, PORT OF IMMINGHAM

PETER EMERY
PRODUCTION DIRECTOR, DRAX GROUP PLC

MARTIN OUWERKERK
MANAGER ENERGY AND DRY BULK, PORT OF ROTTERDAM AUTHORITY

See page 5 for full speaker list

BENEFITS OF ATTENDANCE:

• Understand how the UK’s bulk solids sector is responding to the growing demand on alternative solid fuels
• Compare and contrast the design and material options for storing large scale bulk solids
• Identify the supporting role ports play in the UK bulk solids supply chain as they continue to handle and store large quantities of bulk solids
• Update yourself on mitigation measures when handling volatile bulk materials
• Visit the Port of Immingham’s brand new coal and biomass storage facility and acknowledge the port’s growing status on a global level

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PROGRAMME

DAY 1  WEDNESDAY 19 NOVEMBER 2014

08:30  REGISTRATION AND REFRESHMENTS

09:00  CHAIR’S OPENING REMARKS
Mike Bradley, Director Wolfson Centre, University of Greenwich

09:10  KEYNOTE ADDRESS: AN INSIGHT INTO THE ACHIEVEMENTS AND AIMS OF THE DRAX ECOSTORE PROJECT
Peter Emery, Production Director, Drax Group PLC
• Preparing to reach full biomass capacity by 2016 to support the UK’s energy policy
• Handling bulk materials appropriately; the challenges that arise when unloading after transportation
• Sharing best practice on how to store bulk materials successfully on a large scale

09:40  RWE INNOGY MARKINCH CHP – CASE STUDY
Ian Gaunt, Plant Manager, and John Goulding, Logistics Coordinator, RWE Innogy
• Introduction to the Combined Heat & Power Scheme
• Solid fuel handling system
• Off-site fuel processing facility

10:10  LARGE SCALE WOOD PELLET STORAGE AT IRONBRIDGE POWER STATION AND LIVERPOOL BULK TERMINAL
Andrew Archer, Materials Handling Engineer, E.ON
• Different storage options considered for the projects and factors affecting the selection
• Fuel condition monitoring before and during storage
• Fire and explosion prevention systems employed at the plants

10:40  NETWORKING REFRESHMENT BREAK

11:00  MINIMISING THE RISK OF PARTICLE DEGRADATION WHEN CHOOSING A STORAGE SOLUTION
Robert Berry, Research Fellow and Consulting Engineer Wolfson Centre, University of Greenwich
• Recognising that certain materials are prone to separation during transportation and pre-empting the delays this can cause
• Taking into account safety strategies prior to design and selection as materials such as blended coal can produce handling risks
• Working with reduced volumes during the storage process

11:40  DESIGNING AND CONSTRUCTING THE RIGHT STORAGE SYSTEM
Paul Scott, Engineering Manager, Graham Construction
• An overview of Immingham’s Renewable Fuels Terminal from design through to construction
• Preparations to manage and store in excess of 100,000 tonnes
• Taking into account fire suppression, heat monitoring and dust extraction systems

12:10  PANEL SESSION
Mike Bradley, Director Wolfson Centre, University of Greenwich
Peter Emery, Production Director, Drax Group PLC
Ian Gaunt, Plant Manager, RWE Innogy
John Goulding, Logistics Coordinator, RWE Innogy
Andrew Archer, Materials Handling Engineer, E.ON
Paul Scott, Engineering Manager, Graham Construction
Should registered delegates wish to put forward a question prior to the event please email eventenquiries@imeche.org

12:30  NETWORKING LUNCH

INVESTMENT AND INNOVATION INTO PORTS

13:30  KEYNOTE ADDRESS: CONTRIBUTING TO THE UK ENERGY SUPPLY CHAIN FROM 2014 ONWARDS
John Fitzgerald, Port Director, Associated British Ports Humber
• The Port of Immingham’s role over the past 20 years and its ability to support the UK energy sector
• Acknowledging how the change in approach of the UK energy policy has boosted the status of the Port of Immingham on a national and international level
• Partnering with Drax and becoming a key player in the Ecostore Project
14:00 IMPORTING ON A LARGE SCALE AND HOW TO SUCCESSFULLY MANAGE LARGE BULK
Martin Ouwerkerk, Manager Dry Bulk and Energy, Port of Rotterdam Authority
• Sustaining the reputation of Europe’s largest coal port and continuing to serve Europe’s coal market
• Working to manage large quantities of alternative bulk materials
• Investment to ensure that the Port of Rotterdam continues to support the wider European energy supply chain

14:30 UK AND EUROPEAN PANEL SESSION:
John Fitzgerald, Port Director, Associated British Ports Humber
Martin Ouwerkerk, Manager Dry Bulk and Energy, Port of Rotterdam Authority
Steven Harrison, Chief Operating Officer, Port of Tyne
Mike Bradley, Director Wolfson Centre, University of Greenwich

14:40 NETWORKING REFRESHMENT BREAK

15:10 LARGE SCALE BIOMASS STORAGE AT DRAX POWER STATION
John Pethullis, Project Engineering Director, Shepherd Group Power
• Storage dome construction
• Storage dome reclaim
• Fire and explosion prevention and protection

15:40 FINAL QUESTION AND ANSWER SESSION:
John Pethullis, Project Engineering Director, Shepherd Group Power
Robert Berry, Research Fellow and Consultant, Wolfson Centre, University of Greenwich
Mike Bradley, Director Wolfson Centre, University of Greenwich

16:00 CHAIR’S CLOSING REMARKS

16:10 END OF SEMINAR

DAY 2
THURSDAY 20 NOVEMBER 2014

TECHNICAL SITE VISIT

08:00 REGISTRATION

09:30 SITE VISIT TO PORT OF IMMINGHAM
Introduction and presentation by Mike Sellers, Port Manager
Delegates will have an unprecedented opportunity to visit the Port of Immingham’s newly opened biomass handling facility – Immingham Renewable Fuels Terminal. Hosted by Mike Sellers, Port Manager, Immingham Port, delegates will be taken on a unique tour of Immingham’s storage facilities in order to understand how the port is prepared to manage the growing demand of large quantities of dry bulk cargo for the energy market.

Benefits of attendance:
• Identify how the Port of Immingham responded to the import requirements of large quantities of bulk solids
• Understand how the Port of Immingham has successfully facilitated the handling of coal and biomass, as you are shown around the newly opened storage facility
• Recognise how IRFT is able to support the Drax Ecostore Project by delivering an integrated supply chain support solution ex vessel to be loaded into specialist rail handling facilities

12:30 At the conclusion of the site visit lunch will be provided prior to delegates boarding the coach to be transported back to the venue

13:30 END OF SITE VISIT

Find out more about our speakers at www.imeche.org/events/S6155
• This programme is subject to change.
• The Institution is not responsible for the views or opinions expressed by individual speakers.

Organising committee:
Bulk Materials Handling Committee
THE INSTITUTION IS DELIGHTED TO HAVE SECURED AN INSPIRING LINE-UP OF SPEAKERS THAT WILL SHOWCASE SOME OF THE OUTSTANDING RESEARCH AND APPLICATIONS CURRENTLY WITHIN THE FIELD OF BULK SOLIDS HANDLING.

- Eddie McGee, Chair, Bulk Materials Handling Committee

SPEAKERS AND CONTRIBUTORS

MIKE BRADLEY CHAIR
DIRECTOR WOLFSON CENTRE, UNIVERSITY OF GREENWICH

Mike Bradley is Professor in Particle and Bulk Technology and Director of the Wolfson Centre. He was awarded both his honours degree and PhD from Thames Polytechnic (now the University of Greenwich) and, as manager/director, provides technical leadership in all aspects of bulk solids handling. His particular areas of interest lie in pneumatic conveying, design of hoppers and silos, dust control, plant integration and maintenance of product quality. He is a member of the Solids Handling and Processing Association (SHAPA) and Chair of their Technical Committee, Materials Handling Engineers Association (MHEA) and of the Institution of Mechanical Engineers Bulk Materials Handling Committee. He was awarded a professorship in 2006 and the directorship in 2008.

ANDREW ARCHER MATERIALS HANDLING ENGINEER, E.ON

Andrew Archer started his career at Birtley Engineering in Chesterfield in 1992 and became responsible for mechanical engineering at the company. Birtley’s was the largest supplier of turnkey bulk materials handling plants in the UK until it was closed in 1999, due to the decline in the industry. Andrew then worked for a supplier of wheel alignment machines for car factories for the next seven years, but returned to bulk materials handling when he joined E.ON Engineering in 2006.

ROBERT BERRY RESEARCH FELLOW AND CONSULTANT, WOLFSON CENTRE, UNIVERSITY OF GREENWICH

Robert Berry joined the Wolfson Centre as a full time PhD student, evaluating silo design methods for reliable flow. During this time he was involved in the OPM project, which resulted in the production of the Segregation Tester. He has recently been involved in another project, funded by DEFRA, which led to the production of the Powder Flow Tester, a unique piece of kit used for powder characterisation. His interests lie with silo design, powder flow measurements and feeder design.

JOHN FITZGERALD KEYNOTE SPEAKER
CHIEF OPERATING OFFICER, PORT OF IMMINGHAM

John Fitzgerald is Associated British Ports’ Director Humber. John joined ABP in 1997 and has held board positions since 2004. In February 2008 he was appointed Port Director for Grimsby & Immingham, the UK’s busiest port, handling more than 54 million tonnes of cargo a year. In September 2013 ABP’s operations throughout the Humber, which include ports of Scunthorpe, Goole, Grimsby and Immingham as well as Humber Estuary Services, were unified into a single directorate under John’s leadership. John previously held port management positions in both the Mersey and the Medway estuaries. He is currently Regional Chairman of the Confederation of British Industries for the Yorkshire and Humber region.

PETER EMERY KEYNOTE SPEAKER
PRODUCTION DIRECTOR, DRAX GROUP PLC

Peter Emery is the Production Director of Drax Group PLC, an Executive Director with responsibility for the group’s plant operations and the development of carbon capture and storage. Peter has been with Drax since 2004, being a member of the executive team which successfully listed the group on the LSE in December 2005. Prior to joining Drax, Peter spent 20 years with ExxonMobil in the downstream business working in the UK and overseas with experience primarily in corporate planning, distribution and refining.
SPEAKERS AND CONTRIBUTORS

“This event will bring end-users and manufacturers together with the materials and design specialists responsible for bulk solids handling.” - Ian Gaunt, Plant Manager, RWE Innogy

JOHN PETHULLIS
PROJECT ENGINEERING DIRECTOR, SHEPHERD GROUP POWER

John Pethullis is Project Engineering Director at Shepherd Group, where he works at strategic level on renewable energy projects, including materials storage and handling. His recent experience includes the conversion of three of the six generating units at Drax power station, the UK’s first and largest single converted renewable electricity generator, to burn sustainable biomass in place of coal. He is a Chartered Engineer with 39 years’ experience of bulk materials handling and is the former Chair of the Institution of Mechanical Engineers Bulk Materials Handling Committee, where he still maintains an active role.

MARTIN OUWERKERK
MANAGER ENERGY AND DRY BULK, PORT OF ROTTERDAM AUTHORITY

Martin Ouwerkerk is the Business Manager for Dry Bulk and Energy at the Port of Rotterdam Authority. Martin has worked at the Port of Rotterdam Authority since 2009, heading up a number of business sections including Pipelines. Martin has also held a number of positions including Project Manager USP Marketing Consultancy and Manager at BouwHRM, a division of USP Marketing. Martin graduated from the University of Erasmus having achieved a degree in Economics and Marketing Strategy in 2006.

IAN GAUNT
PLANT MANAGER, RWE INNOGY

Ian Gaunt has been working within the power industry since joining National Power as an MSc graduate in 1994. Although originally working within the Research & Engineering Division, Ian soon branched out into Power Station Operations taking positions at Deeside CCGT, Didcot B CCGT and then Didcot A before becoming Site Manager at npower Cogen’s CHP facility in Ellesmere Port. Subsequent moves have seen Ian work in Asset Management, Supercritical Coal Power Station Development and Third Party Owner’s Engineer roles specialising in Combined Heat and Power projects. After a brief spell working for a private investment house undertaking due diligence on acquisitions throughout Europe, Ian returned to RWE and became Plant Manager for RWE Innogy’s Biomass Plant based in Glenrothes, Fife, in 2011.

JOHN GOULDING
LOGISTICS COORDINATOR, RWE INNOGY

John Goulding joined RWE Innogy in January 2012 as the Bulk Logistics and Materials Coordinator for the Biomass CHP Plant in Glenrothes, Fife. Prior to joining RWE John worked in Open cast Coal Mining with Scottish Coal Company Limited for 20 years, becoming their Logistics Manager in 1999. As part of the role for RWE John has operational responsibility for the Offsite Fuel Processing Facility approximately 12 miles from the Biomass Plant where small round wood is chipped and stored along with recycled wood chip.

MIKE SELLERS
PORT MANAGER, ASSOCIATED BRITISH PORTS, GRIMSBY & IMMINGHAM

Mike Sellers took up his position as Port Manager for Grimsby & Immingham in January 2014, where he is responsible for the day-to-day running of the two ports. Mike has 21 years of port industry experience, starting his career working for Northern Cargo Services, an independent stevedoring company based on Scunthorpe docks. He was promoted in 2002 to ABP’s Port Operations Manager in Lowestoft and then again two years later to Deputy Port Manager for ABP’s East Anglian ports, responsible for the day-to-day operations of the ports of Ipswich and Lowestoft. In March 2008 Mike moved to the Humber as Deputy Port Manager at Scunthorpe and Goole.
**BOOKING FORM**

**EVENT CODE: S6155AB**

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**11-12 November 2014**
Aberdeen
**PRODUCTION EFFICIENCY: REVERSING A DECLINING TREND**
With greater investment needed to maintain ageing assets in order to increase their level of production, comes an opportunity for the offshore industry to share best practice and learn from their partners. The solutions to improve production efficiency are not quick but the initiative to action improvements are and need to be shared so that financial investment continues across the UKCS.

[www.imeche.org/events/C1419](http://www.imeche.org/events/C1419)

**9 December 2014**
Aberdeen
**PIPING AND PIPELINE RISK-BASED INSPECTION**
The UK oil and gas industry is facing its greatest challenge yet as the demand for energy across the UK continues to grow. A consequence of this is the pressing need for operators to ensure greater asset integrity both on and offshore.

[www.imeche.org/events/C1420](http://www.imeche.org/events/C1420)

**3 December 2014**
London
**AGEING PLANT: MINIMISING HAZARDS THROUGH BETTER DETECTION TECHNIQUES**
To get the best out of structures that are highly susceptible to deterioration, a greater emphasis must be placed on detection. This event will provide case studies showcasing the various different types of detection techniques that ultimately are able to reduce operating costs, reduce hazards and ensure compliance with latest guidance.

[www.imeche.org/events/S1826](http://www.imeche.org/events/S1826)

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