

PRESSURE SYSTEMS GROUP

PRESSURE SYSTEMS FAILURES – WHAT CAN WE LEARN?

Institution of
**MECHANICAL
ENGINEERS**

25 March 2009
One Birdcage Walk,
Westminster,
London SW1H 9JJ

Book now:
www.imeche.org/events/S1425

ATTENDING THIS EVENT WILL HELP YOU:

- Recognise the potential for failure
- Discover where to go for help if failure occurs
- Safeguard your organisation's future
- Meet, greet and network with key industry players

Improving the world through engineering

Picture courtesy of HSL

Conditions of Booking

Completed application forms should be returned to the address below, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

Special Requirements

Please inform us of any special requirements ie dietary or access, on the relevant section of this form.

Cancellation

For a refund (minus £25 + VAT admin charge), cancellations must be received at least 14 days prior to the event. Replacement delegates are welcome at any time.

Supporting Organisations

Members of the following organisations can register at our members' rates: HSE, TWI, EEMUA, SAFed, IChemE

Venue

This event will be held at One Birdcage Walk, Westminster, London SW1H 9JJ. Details will be sent upon registration.

Insurance

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

Accommodation

We have arranged special discounted rates at local hotels via the Corporate Team. Our list of hotels will be forwarded upon receipt of your registration and payment.

If you wish to contact the Corporate Team directly, please use the details below and quote ID number 8488ME

Tel: (UK only) 0845 604 4060
International: +44 (0)20 7592 3050
Email: events@corporateteam.com
www.corporateteam.com/
events/8488ME

Enquiries

For event enquiries, please call Diane Lorenzelli on +44 (0)20 7304 6966 or psg@imeche.org

For registration enquiries call Tina Churcher on +44 (0)20 7973 1258 or email t_churcher@imeche.org

Complete and return this form to:
Event Registrations,
One Birdcage Walk, Westminster,
London SW1H 9JJ.
Fax: +44 (0)20 7222 9881
Email: t_churcher@imeche.org

The Institution of Mechanical Engineers is a registered charity (No 206882) VAT No GB 299930493

One form per person only (forms may be photocopied)

For added convenience, you can also book online at www.imeche.org/events/S1425

Registration (please complete in CAPITALS)

Family Name	Title (Mr, Mrs, Miss etc)
First Name	Job Title
Membership No	Institution
Name of Organisation (for name badge)	
Address for Correspondence	
Town/City	
Postcode	Country
Contact Telephone	Fax
Email	
Do you have any special requirements?	
How did you hear about this event? Direct Mail <input type="checkbox"/> Website <input type="checkbox"/> Colleague <input type="checkbox"/> Other <input type="checkbox"/>	

Fees and Charges (please complete the appropriate box)

Registration fees include entry to the sessions, refreshments, lunch and a copy of the event proceedings

	Fee	VAT	Total	£
Institution of Mechanical Engineers Member	£210.00	£31.50	£241.50	_____
Member of Supporting Organisations	£210.00	£31.50	£241.50	_____
Non-Member	£260.00	£39.00	£299.00	_____
Student/Retired	£60.00	£9.00	£69.00	_____
Extra Items				
Invoice Charging (if applicable)	£10.00	£1.50	£11.50	_____
			Total	_____

PLEASE DO NOT SEND PAYMENT SEPARATELY FROM THIS BOOKING FORM.

By submitting this registration form, you will be indicating your consent to periodically receiving information on our events and publications, unless you indicate an objection to receiving such information by ticking this box

Payment Details

Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

Please indicate method of payment: Cheque Credit Card BACS Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note overseas delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

Credit Card: Visa MasterCard Eurocard (please note we cannot accept American Express, Diners Club or Maestro)

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Invoice Details (UK delegates only)

Delegates wishing to be invoiced must provide an order number. If your company does not use order numbers please include a formal request for invoicing on your company's letterhead. A charge of £10 + VAT will be made to cover additional administration costs. Invoices are payable on receipt and no alterations to these terms will be accepted.

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BACS bank transfers can be made to: IMechE Current Account, NatWest Charing Cross Branch.

Sort code: 60-40-05 Acc No: 00817767. A copy of the draft must accompany this form.

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PRESSURE SYSTEMS FAILURES – WHAT CAN WE LEARN?

25 MARCH 2009
ONE BIRDCAGE WALK, WESTMINSTER, LONDON

09:00 REGISTRATION AND REFRESHMENTS

09:40 CHAIRMAN'S WELCOME AND OPENING ADDRESS

Mr John Wintle, Consultant Engineer, TWI, UK

09:50 DESIGNING OUT FAILURE

- Failure of a cryogenic storage vessel - HSE investigation
- Root causes of the failure
- Need to foresee failure modes at the design stage

Mr Graeme Hughes, HM Specialist Inspector of Health and Safety (Mechanical), HSE, UK

Graeme Hughes has worked with HSE for over ten years as a Specialist Inspector; the last four years being within the Hazardous Installations Directorate responsible for major hazard sites that fall under the COMAH Regulations. His work involves the assessment of COMAH safety reports, mechanical inspection of COMAH plants and investigation of incidents when things go wrong.

10:15 Q&A SESSION

10:20 CRIMINAL AND CIVIL RESPONSIBILITY FOR PRESSURE SYSTEMS FAILURES

- Who owes duty of care?
- Responsibility of the competent person
- How will the HSE investigate, what are its powers?
- Who can be liable?
- How to respond to an incident

Mr Ron Reid, Regulatory Partner, Shoosmiths, UK

Ron Reid is a solicitor and Partner of Shoosmiths, with over 30 years' legal experience. Chambers and Partners 2009, a leading independent directory of the legal profession, identified Ron as among the best in the UK in the field of health and safety law. He regularly advises and defends clients facing prosecution for breaches of health and safety. In the past, he has been retained to prosecute more complex matters on behalf of the HSE, giving him a unique insight into the enforcement process and the major causes of prosecution. Ron additionally heads up the Shoosmiths Occupational Safety (SOS), offering a comprehensive occupational safety service to clients. The emphasis is very much on pre-emptive advice.

11:00 Q&A SESSION

11:10 REFRESHMENTS

11:40 OFFSHORE HYDROCARBON RELEASES

- Causes of major offshore hydrocarbon releases from installations on the UK Continental Shelf
- Causal data submitted by the offshore operating companies (Duty Holders) to the following databases: HSE, RIDDOR and Hydrocarbon Releases (HCR)
- Effects of offshore systems, equipment types, platform age and fluid
- Significant equipment failure causes, operational causes and procedural causes

Dr John Hare, Senior Engineer, Fire and Process Safety Unit, HSL, UK and

Miss Alison McGillivray, Higher Scientist, Fire and Process Safety Unit, HSL, UK

John Hare has over 20 years' experience in chemical process safety, mainly with chemical reaction hazards and emergency relief sizing.

Alison McGillivray specialises in the area of major hazards. She has three years' experience of consequence modelling and risk assessment.

12:05 Q&A SESSION

12:10 VIDEO: ROUGH 47/3B THE INCREDIBLE

- Major explosion on offshore North Sea gas platform – 10 tonnes of hydrocarbon released – evacuation procedure used
- What the investigation revealed
- Most significant factor
- Conclusions

Mr Kevin Marshall, Verification and Security Manager, Centrica Storage Ltd, UK

Kevin Marshall has worked for 20 years in offshore gas production, initially as a Mechanical Engineer and then as a Production Engineer. For the last 13 years he has been working onshore as Verification and Security Manager. His responsibilities include maintenance of offshore safety cases and management of the safety critical element verification schemes in managing the risks from major accident hazards, for both the offshore installations and onshore gas processing terminal.

12:50 Q&A SESSION

13:00 LUNCH



14:00 MIND THE GAP – ENSURING ALL THE RISKS ASSOCIATED WITH PRESSURE SYSTEMS ARE COVERED

- Role of inspection body in preventing pressure system failures
- Role of other parties and activities to cover the overall risk
- Situations where there can be gaps in covering the overall risk
- Case studies highlighting the benefits of periodic examination in avoiding failures and where neglecting to cover all the risks has resulted in failure

Mr Chris Jewson, Deputy Engineering Manager, Zurich Engineering, UK

Chris Jewson began his career at E Green & Son Ltd, a manufacturer of boiler economisers and pressure vessels, in the Inspection and Engineering departments. Since 1986 he has worked in the inspection industry, where he has been involved in pressure equipment new construction certification and in-service inspection.

14:25 Q&A SESSION

14:30 A MISCELLANY OF PIPE AND FITTING FAILURES

- Prevention of incidents – foreseeing the problem
- Knowledge breeds foresight
- Case studies describing a range of pipe and fitting failures
- Will you spot something that might otherwise have gone unnoticed?

Mr Mark Phillips, Principal Member, Dr J H Burgoyne & Partners LLP, UK

Mark Phillips is a Principal Member of Dr J H Burgoyne & Partners LLP, a practice of consulting scientists and engineers who investigate a wide range of incidents for a wide range of clients. Insurers have funded many of Mark's investigations for purely commercial reasons.

14:55 Q&A SESSION

15:00 REFRESHMENTS

15:30 FAILURE OF A PUMP THERMO-SYPHON SEAL SYSTEM

- Failure in a pump thermo-syphon seal arrangement on a nitric acid distribution piping system
- Investigation identifying numerous root causes to the failure
- Details of the arrangement and root causes

Mr John Miles, Pressure Systems Group Leader, Sellafield Ltd, UK

John Miles currently works in the Mechanical Capability Department of Sellafield Ltd and has over 40 years experience in the nuclear industry, including power generation, fuel reprocessing and waste management. He started his career with Babcock and Wilcox in London and then moved to Leicester with NNC working on the Advanced Gas Cool Reactor group of reactors. He subsequently transferred to CEGB with significant involvement in the UK Pressurised Water Reactor and finally joined BNFL in 1996.



Picture courtesy of HSL

PRESSURE SYSTEMS GROUP

Organising Committee:

John Wintle, TWI

Harry Bainbridge, HSE

The Committee would like to thank:

Process Industries Division

15:55 Q&A SESSION

16:00 UNDERSTANDING THE METALLURGY OF FAILURES – SOME CASE HISTORIES

- Failure by oxygen pitting – inability to predict failures or life
- Failure of old equipment and new components
- Rapid failure of aluminium by mercury
- How not to make B7 studs!
- What effect the wrong consumable can have on new welds

Dr René Hoyle, Materials Engineer, Axiom Engineering Associates Ltd, UK

René Hoyle established Axiom Engineering Associates Ltd with a colleague in 2003 after working in materials engineering since 1983 and obtaining his HNC, BSc and PhD by day-release study. Axiom delivers materials engineering, mechanical engineering and inspection to a range of clients in a wide variety of industries.

16:25 Q&A SESSION AND DISCUSSION

16:40 CHAIRMAN'S CLOSING STATEMENT

Mr John Wintle, Consultant Engineer, TWI, UK

16:50 EVENT CLOSES

The programme is subject to amendment



Picture courtesy of HSL

PRESSURE SYSTEMS FAILURES – WHAT CAN WE LEARN?

Failure is a valuable learning tool when the causes are analysed and the details made public.

This one-day seminar will describe recent investigations on a variety of equipment undertaken by the HSE, HSL, operators, inspection organisations, and consultancies, offering valuable insights into the causes of failure, both technical and human.

A leading lawyer in this field will discuss the legal and business consequences of disruptive engineering failures, in addition to offering advice on where to go for help, and Centrica will present a professionally produced video about a major failure offshore.

Major defects and failures can endanger safety and seriously impact the performance of your business. By bringing together users, inspectors, regulators and investigators to share their experiences of failure, this event will help you to safeguard your organisation's future.

THIS EVENT WILL ATTRACT

Consultants, engineers, inspectors, surveyors and project managers involved in maintenance, pressure systems, power, safety and reliability, technical services, plant integrity, oil and gas, petrochemical and pharmaceutical industries.

TECHNICAL ADVANTAGES:

- Understand how and why pressure systems failures happen
- Adopt measures that could prevent failures occurring
- Study the underlying design reasons for failures
- Learn from case studies of failure of piping systems
- Understand the role of human factors and business culture
- Increase awareness of legal and civil responsibilities
- Insight into the work of HSE, HSL and consultancies after a failure
- Examine the impact of a major heat exchanger failure offshore
- Find out where to go for help if a failure occurs
- Appreciate the wider financial and publicity consequences of failure

“THESE SEMINARS PROVIDE AN EXCELLENT METHOD OF UNDERSTANDING CURRENT BEST PRACTICE, WHICH ALLOWS IDENTIFICATION OF SPECIFIC TRAINING NEEDS.”

PETER BATTY,
LMP



Picture courtesy of HSL

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25 FEBRUARY 2009: ABERDEEN EXHIBITION & CONFERENCE CENTRE RISK, RELIABILITY AND LIFE EXTENSION OF AGEING OFFSHORE STRUCTURES

This one-day seminar presents the latest thinking in inspection/monitoring, maintenance and repair of older offshore structures. Leading experts from industry, regulatory authorities and academia will discuss techniques and philosophies to help you minimise risk, improve reliability and extend the life of ageing offshore structures. www.imeche.org/events/S1423

16 JUNE 2009: ABERDEEN EXHIBITION & CONFERENCE CENTRE SAFE & RELIABLE LIFE EXTENSION OF TOPSIDE EQUIPMENT OFFSHORE

This event will bring leading suppliers, service and engineering contractors and offshore oil & gas operators together to share their knowledge and experience to extend the life of existing facilities in a safe, reliable and cost effective way. www.imeche.org/events/S1438

18 JUNE 2009: ONE BIRDCAGE WALK, LONDON NON-METALLIC TANKS: GOOD PRACTICE GUIDANCE FOR USERS

In 2009 the HSE will be issuing new good practice guidance titled 'Thermoplastic Tank Integrity Management - Good Practice Guidance for Users', and revising the current good practice guidance titled 'Glass Reinforced Vessels and Tanks: Advice to Users'. This seminar will provide users with an insight into the views and experience of those involved in the development of these documents. www.imeche.org/events/S1447

OCTOBER 2009: TBA MAXIMISING THE VALUE OF NON-DESTRUCTIVE EXAMINATION (NDE) 2009

This seminar will bring together plant engineers and NDE practitioners, to compare the capability, selection and use of established techniques, with new advanced methods. It will discuss the best NDE solutions for common industry problems, and will give plant operators, managers and inspection bodies additional information to select the

optimum techniques. Delegates will have the opportunity to discuss their needs with leading NDE experts, and to see demonstrations of the techniques. www.imeche.org/events/S1448

NOVEMBER 2009: ONE BIRDCAGE WALK, LONDON MANAGING THE INTEGRITY OF UK UNDERGROUND CROSS-COUNTRY PIPELINES

The many thousands of kilometres of high pressure pipelines installed in the UK are essential for maintaining a successful economy. Ensuring the continued integrity of this asset in an environment of increasing commercial pressures and, in many cases, changing legislative requirements, represents a significant managerial challenge for the pipeline operator. This one-day seminar looks at the challenges faced by the pipeline industry, including an update to the Pipeline Safety Regulations 1996, integrity management, risk assessment, inspection and maintenance, infringement, revalidation, repair and updating. www.imeche.org/events/S1446

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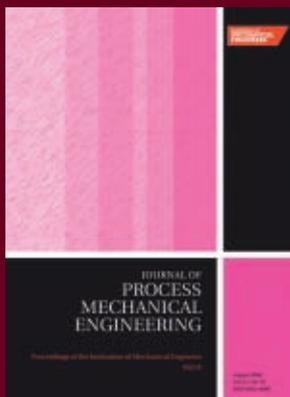
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