

# HAZARDS XVII

## and Workshops

**"Process safety - fulfilling our responsibilities"**

### **Major International 3 Day Symposium, Exhibition and 1 Day Workshops**

The theme of this Symposium is the need for the process industry to adapt to changing social attitudes to risk, both to people and the environment, if it is to survive and prosper in the 21st Century. This is being reflected in the increasing amount of legislation being introduced to control risks and to hold to account those responsible for creating them.

Courts are exacting increasing penalties for breaches of health, safety and environmental legislation. No longer is safety the preserve of the safety officer. Together we are all responsible - management, individuals, society and the regulator.

The aim of this Symposium is to bring together international academic, industrial and regulatory experts and practitioners from the fields of process safety and environmental protection to present and discuss their research/work, to raise awareness of the technical issues, and to provide information about new and recent guidance and legislation in these fields.

*This symposium is supported by the HSE and the Environment Agency, sponsored by ABB Ltd, ERM Risk, and co-sponsored by CCPS (AIChE), SCI, CIA, RSC, EPSC, PRISM, SIESO, Safety & Reliability Society and the Safety & Loss Prevention and Environmental Protection Subject Groups of the IChemE.*

The Institution of Chemical Engineers is a Registered Charity.

#### **BENEFITS FOR THOSE ATTENDING THIS EVENT**

- Keynote papers on: Human Factors, Societal Concerns, Inherent SHE, Corporate Manslaughter, and Lessons from COMAH Safety Reports
- The latest thinking by Industry and the Regulators with regard to COMAH, including recent experience of the HSE's new Human Factors team
- The latest on the ATEX directives from the Regulators and others
- Environmental protection papers from the Environment Agency and others
- Two practical One day Workshops on "Controlling exothermic reaction hazards" and "Safety management systems" given by recognised experts in the field
- Revised guidance information from the HSL/HSE on Gas & Vapour explosion venting requirements
- Latest research on packaged flammable dusts from the HSE/HSL
- Research work from the HSE and Health & Safety Laboratory, Advantica Technologies Ltd, Hazard Evaluation Laboratory Ltd, Ciba Speciality Chemicals, UMIST, Loughborough University and The South Bank University
- The latest on the PRISM project
- Many Industrial case studies
- Risk assessment and analysis papers
- Human Factors and Safety culture papers
- Emergency planning papers
- Contributions from many countries

#### **WHO SHOULD ATTEND THIS EVENT?**

- Senior figures from the Private and the Public sectors
- Regulators
- Safety and Environmental practitioners
- Academics and Researchers from Industry
- Design/Operations/Maintenance staff from all sectors
- Project Management
- Human Relations professionals
- SHE/Risk assessment/Safety culture consultants

24th - 27th March 2003

## One Day Workshops – Monday 24<sup>th</sup> March 2003



### CONTROLLING THE EXOTHERMIC REACTION HAZARDS OF BATCH AND SEMI-BATCH PROCESSES

Exothermic runaway reactions continue to occur regularly in all sizes of equipment. This course will explain how you can anticipate and avoid these. It will describe the types of data that you should gather in the laboratory during process development. A plant design must be safe not only for the intended reaction at normal conditions but also the unwanted reactions that can be promoted by an abnormal condition, or combination of these.

The course includes lectures, a video, case studies and workshops. It is intended for graduate level scientists and engineers or those with equivalent experience.

Speakers will include Kevin Dixon-Jackson (Ciba Specialty Chemicals), Janet Etchells (Health and Safety Executive) and Simon Waldram (Hazard Evaluation Laboratory).

Elements of the training will include:

- Introduction and overview of reaction hazards
- An HSE perspective. Preventive and protective measures
- Desktop methods for screening
- Case study and group exercise
- Isothermal calorimetry: studying the reaction you want
- Worst credible maloperations and the undesired reaction: screening and adiabatic calorimetry
- Case study and workshop
- Video based training
- Decomposition of a distillation residue: case study and video
- Worst credible maloperations and the Basis Of Safety
- HarsNet
- References

For further information contact:

Dr Simon Waldram  
Hazard Evaluation Laboratory Ltd,  
50 Moxon Street,  
Barnet,  
Herts EN5 5TS  
Tel: 020 8441 6778  
swaldram@helgroup.com  
www.helgroup.com



### SAFETY MANAGEMENT SYSTEMS (AND ATEX)

#### AIM

To gain an insight into the importance and potential benefits of managing safety.

#### OBJECTIVES

- Introduce the safety management systems detailed in HSG65
- Illustrate the importance of setting policies
- Give examples of how safety culture can be improved
- Use ATEX 137 as an example of a key risk control system
- Demonstrate the importance of 'closing the circle' of the safety management systems

#### PRESENTATIONS SCOPE

*Introduction, aims and objectives* Dr Paul Davies

- Introduce the day and presenters
- Background on ATEX
- Background on aims

*The need and benefits of safety management systems* John Gould

- Introduction to POPMAR
- Regulatory requirements
- Proactive systems
- Cost of accidents
- Accident triangle
- Potential benefits of good safety management systems

*"The way we work" Policy, Organising, Planning and Implementation* John Gould

- Definitions of policy, aims, objectives and targets
- Organising for safety
- The four "C"s of safety culture
- Risk assessment
- Setting targets

*Changing the safety culture* Tim Geyer

Examples of how the workplaces do not take into account the needs of workers.

*ATEX 137 A key risk control system* Dr Paul Davies

Complying with ATEX and managing the hazards from potentially flammable atmospheres.

*Measure, Audit and Review* John Gould

- Measuring health and safety performance
- Active and reactive monitoring
- Identifying underlying causes
- Auditing – an ERM standard
- Closing the circle – a commitment to continual improvement.

For further information contact:

Dr Paul Davies  
0161 958 8810 (direct)  
paul.davies@erm.com  
www.hazardview.com

ERM Risk  
Suite 8.01  
8 Exchange Quay  
Manchester, M5 3EJ

Delivering sustainable solutions in a more competitive world

## Day 1 of Symposium and Exhibition – Tuesday 25<sup>th</sup> March 2003

08.30 **Registration/Coffee**

09.15 **Welcome and Introduction** by Dr.I.F.McConvey –  
Chairman of the IChemE North West Branch

### PLENARY SESSION 1 – KEYNOTE PAPERS

Chairman – Dr.M.F.Pantony – Consultant

09.30 **Major accident prevention policy in the European Union: The major accident hazards bureau (MAHB) and the SEVESO II directive**  
J.S.Duffield – Major Accident Hazards Bureau, EC Joint Research Centre, Ispra, Italy

10.00 **Gauging societal concerns**  
D.Mansfield – AEA Technology, Warrington, Cheshire

10.30 **Coffee**

11.00 **Chemical engineering – an inherent SHE imperative**  
D.W.Edwards – Department of Chemical Engineering, Loughborough University

11.30 **When process safety management fails – the risks to corporate executives**  
M.Dore – Lowenstein Sandler PC, New Jersey, USA

12.00 **Lessons learned about preparing COMAH safety reports**  
T.Britton – Hazardous Installations Directorate, HSE, Bootle

12.30 **Discussion on morning papers**

13.00 **Lunch**

13.45–15.00 **Exhibition and Poster Presentations**

### OR PARALLEL SESSION 3 – EMERGENCY PLANNING & ENVIRONMENTAL PROTECTION

Chairman – Mr.M.Hoyle – AstraZeneca, Macclesfield

15.00 **Major incidents at waste treatment sites – Case studies and lessons**  
A.Hitchins – COMAH policy advisor, Environment Agency, Almondsbury, Bristol

15.30 **Emergency response plan involving multi stockholders**  
Hari Wisnu, Popi A.Nafis – VICO, East Kalimantan, Indonesia

16.00 **Tea, Exhibition and Poster Viewing**

16.30 **Assessing and reducing flood risks on major hazards sites**  
A.Whitfield – Environment Agency, Peterborough

17.00 **Use of real time measurements to estimate key parameters for a dispersion**  
Shahryar Khajehnajafi, E.Gilbert – Safer Systems, Camarillo, California, USA

17.30 **Discussion on afternoon papers**

15.00–18.00 **THREE PARALLEL SESSIONS (SESSIONS 2, 3, AND 4)**

### PARALLEL SESSION 2 – ISSUES FROM COMAH

Chairman – Mr.N.Morton – HSE

15.00 **COMAH compliance for a fine chemicals & explosives facility located within a SSSI**  
A.Ennis – Haztech Consultants Ltd., Winsford, Cheshire  
R.M.Thomas – Exchem Organics, Great Oakley, Essex

15.30 **Safety report: Maintaining standard and reviewing**  
Sa'ari Mustapha – Dept. of Chemical and Environmental Engineering, Universiti Putra Malaysia, Selangor, Malaysia  
Izani Mohd Zain – Dept. of Safety and Occupational Health, Pusat Pentadbiran Persekutuan, Putra Jaya, Malaysia

16.00 **Tea, Exhibition and Poster Viewing**

16.30 **The ongoing challenge of demonstrating ALARP in COMAH safety reports**  
G.Ellis – ABB Ltd, Warrington, Cheshire

17.00 **Discussion on afternoon papers**

### OR PARALLEL SESSION 4 – SAFETY MANAGEMENT

Chairman – Professor M.L.Preston – Consultant

15.00 **Using Behaviour-based methods to improve organisational effectiveness**  
G.Sellers – Behavioural Science Technology, Bracknell  
C.Marsh – Conoco Ltd, Humber Refinery, South Killingholme

15.30 **The management of organisational change**  
T.A.Kletz – Department of Chemical Engineering, Loughborough University

16.00 **Tea, Exhibition and Poster Viewing**

16.30 **The hazards in Management**  
R.Ward – Visiting fellow, School of Chemical Engineering, University of New South Wales, Australia

17.00 **Safety improvement through learning from incidents**  
N.J.L.Gardener – Elementis plc, Eaglescliffe, Stockton-on-Tees

17.30 **Discussion on afternoon papers**

RECEPTION AND BUFFET – Conference Centre Dining Room

18.00 **Welcome by Sponsor – ABB Ltd**

## Day 2 of Symposium and Exhibition – Wednesday 26<sup>th</sup> March 2003

### 08.30 Registration, Coffee and Exhibition

### 09.00 – 13.00 THREE PARALLEL SESSIONS (SESSIONS 5, 6, AND 7)

PARALLEL SESSION 5 – SAFE PROCESS DESIGN		OR	SESSION 6 – TRANSPORT AND STORAGE	
Chairman – Dr.I.F.McConvey – AstraZeneca, Macclesfield			Chairman – Mr.G.S.Melville – Burgoyne Consultants Ltd	
09.00	<b>Novel process design methods to access safer processing options</b> P.N.Sharratt, K.Wall – Department of Chemical Engineering, UMIST, Manchester J.Borland – Britest Ltd		09.00	<b>Design and protection of Pressure systems to withstand severe fires</b> T.A.Roberts – Health and Safety Laboratory, Buxton, Derbyshire I.Buckland – Technology Division, HSE, Bootle L.C.Shirvill – Shell Global Solutions, Chester B.J.Lowesmith – Advantica Technologies, Loughborough P.Salater – Norsk Hydro ASA, Stabekk, Oslo, Norway
09.30	<b>A modification to the KG method for estimating gas and vapour explosion venting requirements</b> G.A.Lunn, D.K.Pritchard – Health and Safety Laboratory, Buxton, Derbyshire		09.30	<b>Fire and explosion hazards of meat &amp; bone meal: storage, transport and processing</b> S.J.Manchester – Fire and Risk Sciences Division, Building Research Establishment Ltd, Garston, Watford
10.00	<b>The regulation of inherent safety</b> D.A.Moore – Acutech Consulting Group, Chemetica Inc., San Francisco, California, USA		10.00	<b>Lessons learnt from fitting an inert gas blanketing facility to an existing storage silo</b> I.Kempsell, S.Windebank – British Nuclear Fuels plc, Risley, Cheshire A.Woowat, P.Atherton – British Nuclear Fuels plc, Sellafield, Cumbria
10.30	<b>Coffee, Exhibition and Poster Viewing</b>		10.30	<b>Coffee, Exhibition and Poster Viewing</b>
11.00	<b>Application of Inherent safety challenge to offshore platform design for a new field development – Approach and experiences</b> S.Chia – Halliburton KBR, Sydney, Australia K.Walsh, E.Corpuz, A.Livingston – BP PLC		11.00	<b>Fire risks from packaged flammable dusts – HSE fire investigation and test work at HSL</b> M.I.Essa – Health & Safety Executive, Manchester G.Atkinson – Health and Safety Laboratory, Buxton, Derbyshire
11.30	<b>A case history – Whose responsibility ?</b> G.R.Astbury – Avecia Ltd., Blackley, Manchester		11.30	<b>Bund design to prevent overtopping</b> G.Pettitt – ERM Risk, London P.Waite – Entec, London
12.00	<b>Discussion on morning papers</b>		12.00	<b>Discussion on morning papers</b>

### 14.30–18.00 THREE PARALLEL SESSIONS (SESSIONS 8, 9, AND 10)

PARALLEL SESSION 8 – ATEX AND OTHER NEW STANDARDS		OR	SESSION 9 – RISK ASSESSMENT & ANALYSIS	
Chairman – Mr.R.F.Evans – HSE			Chairman – Professor D.C.Bull – Firebrand International Ltd	
14.30	<b>The ATEX directive – a route map for compliance</b> J.Walkington, E.Gilchrist – ABB Process Industries, Billingham, Cleveland		14.30	<b>Optimising the land – use around transmission pipelines</b> F.K.Crawley – WS Atkins Glasgow and University of Strathclyde, Glasgow I.Lines, J.Mather – WS Atkins, Warrington, Cheshire
15.00	<b>DSEAR; Early experience of implementing the new regulations, controlling the storage and use of dangerous substances</b> A.Tyldesley – Health & Safety Executive, Bootle, Merseyside		15.00	<b>Linking an Accident Database to design and operational software</b> J.Bond – C-MIST
15.30	<b>Tea, Exhibition and Poster Viewing</b>		15.30	<b>Tea, Exhibition and Poster Viewing</b>
16.00	<b>The explosion safety document for the ATEX 137 Directive – A new name for a fire and explosion hazard assessment ?</b> B.Broeckmann, R.L.Rogers – Inburex Consulting GmbH, Hamm, Germany N.Maddison – Inburex (UK) Ltd, Glossop, Derbyshire		16.00	<b>Understanding major accident hazards – the cutting edge of common sense</b> S.Ditchburn – DNV Consulting Ltd., Aberdeen G.Dalzell – BP Exploration & Production Ltd., Dyce R.Mohess – BP Trinidad & Tobago LLC
16.30	<b>The EC "SAFEC" project: ATEX meets IEC 61508</b> J.Wilday – Health and Safety Laboratory, Buxton, Derbyshire A.Wray – Health and Safety Laboratory, Sheffield S.Brown – Health & Safety Executive, Bootle, Merseyside		16.30	<b>Modelling releases of water reactive chemicals</b> D.J.Quinn, P.A.Davies – ERM Risk, Manchester
17.00	<b>Development of European standards for Non-Electrical equipment for use in explosive atmospheres</b> R.L.Rogers – Inburex Consulting GmbH, Hamm, Germany		17.00	<b>A simplified risk-based approach for analysing human factors</b> D.A.Moore – AcuTech Consulting Group, Chemetica Inc., San Francisco, California, USA
17.30	<b>Discussion on afternoon papers</b>		17.30	<b>Discussion on afternoon papers</b>

**OR SESSION 7 – HUMAN FACTORS AND BEHAVIOUR**

Chairman – Professor T.A.Kletz - Consultant

- 09.00 The realities of implementing an HSE management system in a joint organisation of mixed cultures and languages**  
P.Barrett, A.Hadj-Kouider – Sonatrach/Anadarko Algeria Corporation – Groupement Berkine, Algeria
- 09.30 How distribution in human problem solving imperils systems**  
J.S.Buby – University of Bath  
E.Terry – Sauf Ltd  
J.V.Sharp, J.E.Strutt, M.Lemon – Cranfield University
- 10.00 Assessing human involvements in chemical manufacturing: A human factors toolkit**  
H.Jones, S.T.Shorrock – DNV Consulting, Stockport, Cheshire  
P.Bull, D.Hallet – Ciba Speciality Chemicals, Bradford, W.Yorkshire
- 10.30 Coffee, Exhibition and Poster Viewing**
- 11.00 Human factors and COMAH – the challenge of existing plant**  
S.Marsden, M.Bendig, J.Berman, M.Wright – Greenstreet Berman Ltd, Reading, Berkshire  
K.Patterson, M.Colley – Hickson & Welch, Castleford, W.Yorkshire
- 11.30 Improving Human factors and safety in the process industries: "The PRISM project"**  
R.D.Turney – The European Process Safety Centre, Rugby
- 12.00 Less stress = More performance**  
R.Lardner - The Keil Centre, Edinburgh  
D.Wilson – BP Grangemouth
- 12.30 Discussion on morning papers**

**OR SESSION 10 – CHEMICAL REACTIONS**

Chairman – Mr.K.Dixon-Jackson – Ciba Speciality Chemicals

- 14.30 Upgrading an Alkoxylation facility: The value of calorimetric studies**  
R.L.Rogers, K.Hermann – Inburex Consulting GmbH, Hamm, Germany
- 15.00 Pressure relief of liquids containing suspended solids**  
D.McIntosh, S.Waldram – Hazard Evaluation Laboratory Ltd, Barnet, Hertfordshire  
J.Eitchells – Health & Safety Executive, Bootle, Merseyside
- 15.30 Tea, Exhibition and Poster Viewing**
- 16.00 Alkoxylation runaway reaction incident at Baker Petrolite, Hartlepool**  
S.Gakhar – ABB Ltd, Billingham, Cleveland  
D.Carr – Baker Petrolite, Hartlepool
- 16.30 An explosion accident – causes and safety information management lessons to be learned**  
Tzu-Lien Tzou, D.W.Edwards – Dept. of Chemical Engineering, Loughborough University  
P.W.H.Chung – Dept. of Computer Science, Loughborough University
- 17.00 Discussion on afternoon papers**

**13.00 Lunch, Exhibition and Poster Viewing**

**SYMPOSIUM DINNER – THE THISTLE HOTEL**

**19.00 for 19.30 in the Windermere/ Buttermere Suite**

**After dinner speakers:**

Mr.Gerard Forlin – Barrister, Grays Inn Square, London

Dr.P.A.Davies – ERM Risk, Manchester

## Day 3 of Symposium and Exhibition – Thursday 27<sup>th</sup> March 2003

### 08.30 Registration, Coffee and Exhibition

#### 09.00–12.00 THREE PARALLEL SESSIONS (SESSIONS 11, 12 AND 13)

##### PARALLEL SESSION 11 – ISSUES FROM COMAH (CONTINUED)

Chairman – Mr.R.C.Santon – HSE

- 09.00 Safety case implementation – An Australian regulator's experience**  
G.Cooke, R.Sheers – Major Hazards Division, Worksafe Victoria, Melbourne, Australia
- 09.30 Major risk avoidance – fulfilling our responsibilities (Costs and Benefits of Romania's Safety integration into the European Union)**  
S.Kovacs, D.Alexandru, F.Adina, D.Doru, A.G.Claudiu – INCDPM, Bucharest, Romania
- 10.00 Coffee, Exhibition and Poster Viewing**
- 10.30 The role and content of the safety case**  
H.Conlin, K.Lee – Parsons Brinckerhoff Ltd, Chester  
P.G.Brabazon – University of Nottingham
- 11.00 Competence assessment and major accident prevention**  
M.Wright, J.Berman, D.Turner – Greenstreet Berman Ltd, Reading, Berkshire
- 11.30 Discussion on morning papers**

OR

##### PARALLEL SESSION 12 – RISK ASSESSMENT AND ANALYSIS (CONT)

Chairman – Mr.M.C.McBride – Health and Safety Laboratory

- 09.00 Modelling high consequence, low probability scenarios**  
R.P.Cleaver, A.R.Halford, C.E.Humphreys – Advantica Technology, Loughborough
- 09.30 Evaluation study of risk assessment procedures for Small-scale chemical factories in Jordan**  
M.M.Abu-Khader – Department of Chemical Engineering, Al-Balqa Applied University, Amman, Jordan
- 10.00 Coffee, Exhibition and Poster Viewing**
- 10.30 QRA study of an activated carbon filter safeguard system**  
M.Sam Mannan, Y. Wang, H.H.West – Mary Kay O'Connor Process Safety Center, Chemical Engineering Department, Texas A&M University, USA
- 11.00 A walk in the Chemical Park – Process safety perspectives**  
L.Allford – The European Process Safety Centre, Rugby
- 11.30 Discussion on morning papers**

OR

##### PARALLEL SESSION 13 – SAFETY MANAGEMENT (CONTINUED)

Chairman – Mr.I.Kempself – BNFL Plc, Risley

- 09.00 How does safety performance affect corporate value**  
M.Hobbs, G.C.Stevens – Arthur D. Little, Cambridge
- 09.30 Factors influencing the safe management of contractors on major hazard installations**  
C.J.Beale – Ciba Speciality Chemicals, Bradford, W.Yorkshire
- 10.00 Coffee, Exhibition and Poster Viewing**
- 10.30 Top management behaviour – the determining role in changing safety culture**  
R.D.C. Prior – SHExcellence CC, Johannesburg, South Africa
- 11.00 Improving safety performance and culture whilst undertaking Business Re-Engineering**  
G.Entwistle – Octel Corporation, Ellesmere Port, Cheshire
- 11.30 Discussion on morning papers**

**12.00 Lunch, Exhibition and Poster Viewing**

##### PLENARY SESSION 14 – ISSUES FROM COMAH

Chairman – Dr.M.F.Pantony – Consultant

- 13.00 COMAH safety report regime – evaluating the impact on "New Entrant" establishments**  
R.Thomas – Hazardous Installations Directorate, HSE, Bootle, Merseyside
- 13.30 Key elements of risk decisions in the control of major accidents hazards**  
A.Rushton – Hazardous Installations Directorate, HSE, Bootle, Merseyside
- 14.00 Human factors and COMAH: A regulator's perspective**  
M.Anderson – Human Factors Team, HSE, Bootle, Merseyside
- 14.30 Discussion on afternoon papers and close of Symposium**
- 15.00 Tea, and Departure**

Please note that the programme may be subject to alteration

## POSTER SESSION PAPERS

### Developing best practice safety procedures through IT systems

D.Alexandru, S.Kovacs and A.George

The Romanian National Research Institute For Occupational Safety (INCDPM), Bucharest, Romania

### Realization of inherently safer design

A.James – Consultant

### Better value from safety using a web-based approach

M.Crowther – Serco Assurance, Culham, Oxfordshire

### The use of a safety case approach to support decision making in design

W.A.T.Alder, J.Perkins – Binnie Black and Veatch, Redhill, Surrey

### Demonstrating the tolerability of risk from major accidents

D.Glass, M.Johnson – Transco LNG Storage, Loughborough

### Using the measurements

J.Saxton – The Saxton Consultancy, Northwich, Cheshire

R.Black – Safety Software Ltd

## EXHIBITION

An Exhibition by organisations involved in the process safety and environmental protection fields will be held over the period of the symposium. Safety training products from the IChemE will be displayed

Exhibition space (which is strictly limited) for displaying hardware and software is available on a first-come first-served basis.

For information and reservations please contact the symposium organiser:  
M.J.Adams (Tel/Fax: 01539 732845, e-mail: mike.j.adams@talk21.com)

## SYMPOSIUM AND WORKSHOP REGISTRATION FEES

Workshops on Monday 24th March only

Workshop "A" – "Controlling the exothermic reaction hazards of batch and semi batch processes"

Workshop "B" – "Safety management systems (And ATEX)"

} £100 + £17.50 vat = £117.50 total

SYMPOSIUM FEES (All prices ex-VAT)	3 DAYS	2 DAYS	1 DAY
Member of IChemE/or Co-sponsor	£604.80	£436.80	£269.00
Non – Member	£695.60	£502.40	£309.20
Author (member)	£327.60	£201.60	Free on day of presentation
Author (non-member)	£376.80	£232.00	Free on day of presentation
Co-Author (member)	£452.80	£327.60	£201.60
Co-Author (non-member)	£521.70	£376.80	£232.00
Full time undergraduate student	£ 75.00	£ 55.00	£ 35.00

Corporate attendance (two or more Delegates from the same company, etc) 15% discount

Unwaged, retired and others.....please enquire

## ACCOMMODATION

Rooms have been reserved in the Weston Building (in which the Conference Centre is situated) and at the Thistle Hotel close to UMIST. Delegates must make their own arrangements directly with either the Conference Centre or the Thistle Hotel, and should do so early to secure this convenient accommodation, as availability is limited. On applying for accommodation this symposium should be quoted.

### UMIST WESTON BUILDING

Hotel Standard room • Single Occupancy £75.00 per night • Double Occupancy £84.50 per night • Inclusive of VAT and full English Breakfast

**Enquiries and bookings/reservations should be directed to:** The Manchester Conference Centre Weston Building, Sackville Street, Manchester, M1 3BB  
Tel: 0161 955 8000 Fax: 0161 955 8050 e-mail: weston@umist.ac.uk **Quoting "Hazards XVII symposium"**

### THE THISTLE HOTEL

- Executive Single £92.00 per night
- Executive Double £115.00 per night
- Inclusive of VAT and full English Breakfast

### Bookings/reservations should be sent directly to:

The Thistle Hotel, Piccadilly Gardens, Manchester, M1 6DP  
Tel: 0161 228 3400 Fax: 0161 228 6347  
e-mail: manchester@thistle.co.uk **Quoting "Hazards XVII symposium"**

### IBIS HOTEL

- Hotel standard room £45 per night on weekdays, inclusive of VAT
- £39.95 at weekends, inclusive of VAT
- Buffet breakfast £4.25 each

### Bookings/reservations should be sent directly to:

IBIS Hotel, Charles Street, Manchester, M1 7DL  
Tel: 0161 272 5000, Fax: 0161 272 5010,  
e-mail: h3143@accor-hotel.com

## REGISTRATION FORM

Prof./Dr./Mr./Mrs./Miss/Ms ..... Initials ..... Surname .....

Company/ Other .....

Address ..... Telephone/Fax No .....

..... e-mail (optional) .....

Membership of Professional Institution .....

Membership of symposium Co-sponsor (see inside of programme) .....

### I WISH TO REGISTER FOR THE FOLLOWING DAYS: (Please tick the relevant boxes)

Monday 24th March  Tuesday 25th March   
Wednesday 26th March  Thursday 27th March

I wish to attend the Symposium dinner (26th March) as an optional extra of £30 + vat = £35.25 total  I will require a Vegetarian meal

### \*\* Please note - Three day delegates fees include the cost of the Symposium dinner

I plan to attend the FREE reception and Buffet on Tuesday 25th March

I enclose a total cheque to cover Workshop/Symposium/Symposium dinner for .....

Cheques should be made payable to "IChemE NW Branch" (payment can be made by credit card/BACS):

Please send me a VAT receipt  Please send me an Invoice  (against my Purchase Order)

## PARALLEL SESSIONS

As can be seen in the programme, there will be parallel workshops on Monday, and parallel symposium sessions for part of Tuesday and Thursday, and all day Wednesday. In order to assist with the room allocation, please indicate which sessions you plan to attend.

### Monday 24th March

Workshop "A" - "Controlling the exothermic reaction hazards of batch and semi batch processes"

Workshop "B" - "Safety management systems (And ATEX)"

Tuesday 25th March after lunch: Session 2  Session 3  Session 4

### Wednesday 26th March

Morning Sessions: Session 5  Session 6  Session 7

Afternoon Sessions: Session 8  Session 9  Session 10

### Thursday 27th March

Morning Sessions: Session 11  Session 12  Session 13

**PLEASE SEND THIS COMPLETED FORM WITH REMITTANCE TO:** M.J.Adams, "Rawgreen", New Hutton, Kendal, Cumbria, LA8 0AS

Late Registration can be accepted by telephone/fax: 01539 732845, and e-mail: mike.j.adams@talk21.com

### Where did you see the Symposium/Workshop advertised? (Please tick the appropriate box)

TCE  Chemistry & Industry (SCI)  Royal Society of Chemistry   
ChERD  Process Safety and Environmental Protection  Safety & Reliability Society   
Loss Prevention Bulletin  Chemical Industries Association  Other .....

IChemE Subject Groups