

*Safety & Loss Prevention
Subject Group*



IChem^E

Newsletter

EDITORIAL:

No you did not miss the Summer copy of the Newsletter. Your editor had a lot of work involved with selling a house twice, the first buyer died the night before contracts were exchanged, then moving into temporary accommodation and then finally moving into my new address. So here is your Autumn copy.

The new organisation of the Institution has resulted in a few changes in the Safety representation. The following groups continue:

- Safety & Loss Prevention Subject Group
- Loss Prevention Panel
- The Accident Database Interest Group

These groups now respond to the Safety, Health and Environment Network (formerly Safety, Health and Environment Policy Committee)

I have written a short article on an accident that happened on my plant and which I investigated. I will never forget it as it taught me a lesson to be very wary of things. Do you have a similar experience that you can share with others?

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NEWS BRIEF

The Guardian reports:
“New Yorkers have been snapping up canaries since September 11, for use as an early warning system in the event of a terrorist gas attack.”

EUROPEAN WEEK FOR SAFETY AND HEALTH

The week began on the 15th October with 24 Facts and Figures which is worth reproducing here.

1. Health and safety failures cost Great Britain up to £18 billion each year.
2. 400 people every year are still killed in accidents caused by work activities.
3. Around 25 million working days are lost every year as a result of work-related accidents and ill health.
4. Over 25,000 people are forced to give up work every year as a result of work-related accidents and ill health.
5. Around two million people - 5% of the population - suffer from ill health caused by work.
6. Over a million workers get injured every year.
7. Around half a million people suffer from stress caused by their work.
8. The most common forms of work-related ill health are back problems and other aches and pains, with 1.2 million people affected every year, causing almost 10 million working days to be lost.
9. In 1988/99 there were almost 29 000 major injuries to workers.
10. In the same period another 131 000 workers had to take more than three days off work as a result of a work related injury.
11. More than 24 000 members of the public were injured as the result of a work-related injury.
12. Every year around 3000 people die as a result of past exposure to asbestos.
13. Falls from a height are the most common cause of death to employees.
14. Workers in small manufacturing firms are more than twice as likely to be killed at work than workers in large firms in the same sector.
15. Self-employed people are twice as likely to be killed at work as employees.
16. Work places with safety representatives have half the accident rate of workplaces that don't have safety representatives.
17. The fatal injury rate for employees in Great Britain is a quarter of what it was in 1971.
18. Great Britain has a lower rate of deaths to workers than America or any other European country; the rate is 1.7 per 100 000 workers in Great Britain, 3.2 in America and an average of 3.9 across Europe.
19. The rate of deaths per 100 000 workers is 3.7 per cent in Germany and 4.3 in France.
20. The cost of work-related accidents and ill health to employees is £140 - £300 for each worker employed.
21. The cost of work-related accidents and illness to employees is estimated at between £3.5 billion and £7.3 billion a year.
22. Over £180 million could be saved in work-related illness costs in the construction industry alone.
23. Around one in five workers have been physically attacked or threatened by a member of the public.
24. Some insurers, particularly in higher hazard sectors, offer discounts of up to 20% if employers can demonstrate good health and safety arrangements.

THE INDEX

The new version of The Index is available on the Internet at:

<http://reindeer.gazelle.net/web/051/lpbindex.nsf>

The S&LP Subject Group has sponsored the conversion of the old DOS version onto the Internet. For those that are not familiar with The Index, it is a database of the articles in the Loss Prevention Bulletin, the Environmental Protection Bulletin and the Process Safety and Environmental Protection Transactions. The database starts at the beginning of the publication and lists the title, author, an abstract of the article and keywords for:

- General description
- Chemical involved
- Equipment involved
- Type of incident
- Source of ignition if any

The Index covers articles in the LPB up to issue 126, the EPB up to 33 and the PSEPS up to volume 72. Do visit this site and let us know your thoughts.

What a glorious number is ϕ
 Akin to the virtuous π
 Irrational, yes,
 But real nonetheless,
 Unlike that contemptible i .

(P.S. The Safety Inspector is at present on sick leave caused by overwork from the studying of Safety Cases and comments at Hazards XVI)

DO WE EVER LEARN FROM THE PAST?

DEEP VEIN THROMBOSIS

Overseas travel is an increasingly popular way of spending holidays. In previous years it was almost a fulltime occupation for the leisured classes and in 1789, to help them on their way, Count Leopold Berchtold wrote "An Essay to Direct and Extend the Enquires of Patriotic Travellers." He pointed out one of the discomforts that air travellers today will recognise:-

"Travellers in carriages are very liable to have their legs swelled; in order to prevent being thus incommoded, it will be advisable to wear shoes rather than boots, to untie the garters, to alight now and then, and to walk as often as opportunity permits, which will favour circulation."

THE LITTLE PEOPLE WHO HELP TO KEEP YOU SAFE IN ICELAND.

Recently a large rock fell off a mountain-side and ended just behind a house where a man and his grandchildren lived. He was asked if he was not afraid of other stones coming down and destroying his house. "No" he said, "the elves will protect me." In the earthquake of 2000 (7.5 on the Richter Scale) more stones were dislodged from the mountain but none destroyed his house. He thanked the elves for protecting him and to show his appreciation he painted front doors on all of the large stones around his house for it is in the stones that the elves live.

AN ACCIDENT THAT I WILL NEVER FORGET. J.BOND

I will never forget many accidents but the one I will always remember occurred on my plant and caught me unaware.

I had a drum of heat transfer salt containing sodium nitrate and potassium nitrate used for heating a reactor. At a shutdown the drum of salt was cooled down by adding water until at atmospheric temperature it was a solution of nitrate salts. The solution was tested for carbonate content and dilute nitric acid to convert all of the carbonates back to the nitrate. This was a regular operation at a shutdown.

A stainless steel road tanker was ordered with the necessary dilute nitric acid. When it arrived it had no offloading hose so one was obtained from the loading bay where an organic material was loaded into rail tankers. The stainless steel flexible hose carefully washed out to remove all organic material and then connected to the road tanker and the plant. Transfer of the dilute nitric acid to the drum was started. Within a very few

seconds the flexible stainless steel hose parted from its SS flange. There was a spillage of 10% nitric acid but the operator quickly shut off the tanker valve and the spillage stopped. The operator was not seriously injured but received some medical attention and required a new pair of trousers.

My investigation of the accident established that the stainless steel flexible hose had been silver soldered to the stainless steel flange. The solder was weakened by the dilute acid and the flexible hose parted company from the flange.

It transpired that the Supply Department had recently carried out a survey of suppliers of flexible stainless steel hoses and had obtained a new supplier. Their literature indicated two types of hose, one argon arc welded and a cheaper one that was silvered soldered. Our purchasers had bought the cheaper one without checking on its suitability.

HAZARDS XVI

The Hazards symposium this year had a theme "Analysing the past, Planning the future."

The plenary session had 5 papers. The parallel sessions covered:

- Transport and Storage
- Chemical Reaction Hazards
- Dust Explosions
- Safe Process Design
- Risk Assessment and Analysis
- Emergency Planning/Environmental Protection
- Safety Culture
- Harsnet
- Final plenary session
- Lessons from COMAH

At the symposium dinner the IChemE Frank Lees Medal for Safety was presented by Mrs. Lees to Ms. H.Conlin. Dr. Timothy Walker, Director General of the HSE gave a short talk on the importance of Safety Management Systems in an organisation.

THE BOARD AND CORPORATE RISK CULTURE

A meeting of the Hazard Forum was held on the 15th November with:

- Nigel Matthews OBE,
Group Secretary, J.Sainsbury.
- J.Walder,
Director Planning and Finance Transport
for London
- John Edmonds,
General Secretary, GMB

Each of the speakers gave their views. Mr. Matthews outlined the major risks which had been identified in the supermarket area. Mr. Walder concentrated on the case against the PPP proposals for London Underground. Mr. Edmonds pointed out that there had been 300 fatalities last year, an increase of 30%. Much effort had been undertaken to persuade industry to improve safety but this had not occurred and regulation was now necessary.

ANNUAL GENERAL MEETING

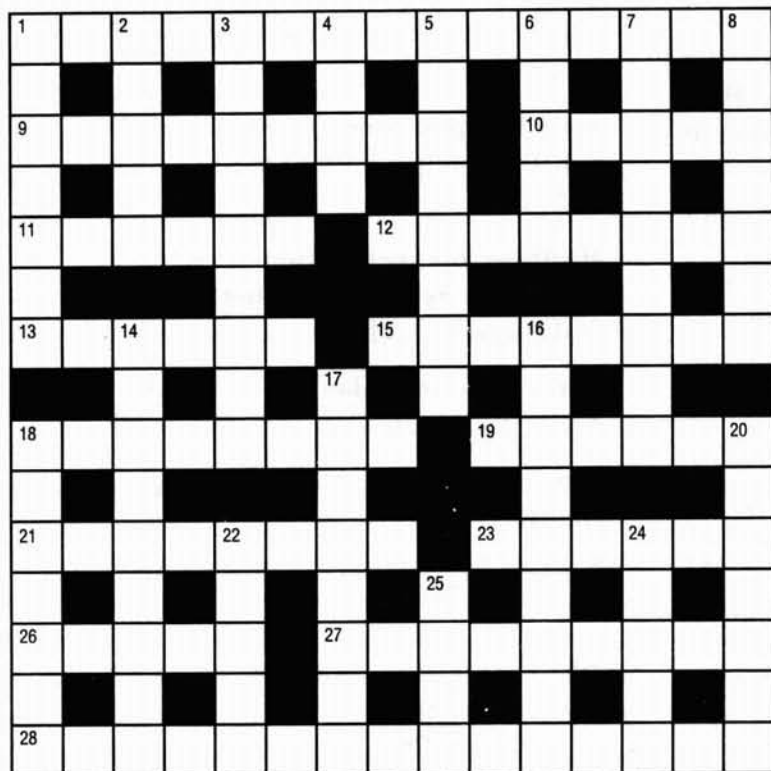
The Annual General Meeting of the Safety and Loss Prevention Subject Group was held on Monday, 5th November. The Chairman, Mike Considine, gave an a short address and account of the previous year:

- In existence for more than 25 years
- 2nd largest SG with ca 600 current member (Oil and Natural Gas largest with ca 700)
- Committee of about 20 meets around 4 times per year
- Main function is to promote the awareness of Safety and Loss across the profession
- Organisation of meetings of topical interest
- Presentation of Awards for Excellence in S&LP
- Issue of quarterly newsletter
- Maintenance of Web Site
- Interface with other parts of I Chem E
- Drafting of I Chem E response to relevant documents
- Part Sponsors of EFCE delegate
- Over last 5 years have organised 26 meetings
- Typical attendance about 50, typical fee about £50
- Some Co-sponsored - eg with Branches, Subject Groups, Other Organisations (eg CIA, IP)
- Meetings this year include Instrument Protection Systems, Exothermic Venting and Hazards XVI
- Future meetings planned include Hazardous Area Classifications and Safety in Projects
- Structure of I Chem E undergoing major change
- Subject Groups will continue to play a key role
- S&LPSC looking to strengthen ties with other organisations
EFCE, EPSC
A I Ch E, CCPS

The office bearers for the next year were elected as follows:

Chairman **Mr. Mike Considine**
Secfetary **Mr. Gus Carroll**
Treasurer **Mr. Allen Ormond**
Editor of Newsletter **Dr. John Bond**

CROSSWORD PUZZLE No.9



Down

1. Tungsten augmenting protective material. (7)
2. Creepy crawlies sometimes get into the pipework. (5)
3. Chose the right poem for a conductor. (9)
4. Centre of the revolution. (4)
5. Hem needs adjusting - it's in a tangle. (8)
6. Quietly encourage a clean out. (5)
7. In addition doctor had a meal and made lead oxides. (9)
8. Sounds like the Navy's own electrical measurement. (7)
14. Some fell and slid edgewise - a natural disaster. (9)
16. Chief embroiderer in the public drain. (4,5)
17. Filter out again and keep back the result. (8)
18. A tot of them will raise your own. (7)
20. Mid East port (located between South and North East) is a producer of liquid hydrocarbons. (7)
22. What fire can usefully do to a fire. (5)
24. Regal patronage of loss prevention. (5)
25. A petty kind of 22. (4)

Across

1. Paw paw tree sites provide their own irrigation. (5,5,5)
9. Weighty water needs it. (9)
10. Headless game-bird to wake you up. (5)
11. On site in ancient Rome (2,4)
12. Muddle in Napoleon's island reversed and put together. (8)
13. Ten to make a hat in America. (6)
15. Tiny creatures can eat you out of house and home - literally (8)
18. New resident has been bonded. (8)
19. If close by, young ladies need investigating... (6)
21. ... so that they can go about their business this way. (2,6)
23. But go this way and they'll get lost. (6)
26. Topping sounds I vocalise. (5)
27. Misuse of police time causes pollution. (4,5)
28. Men's centrifugal mix-up resulted in a hot-spot. (8,7)

ANSWERS TO NO. 8 CROSSWORD PUZZLE



Answers will appear in the next issue.

BOOK NEWS FROM ICHEMÉ
ADVANCE TITLE INFORMATION

Title: CONTAINMENT SYSTEMS: A DESIGN GUIDE
Main ISBN: 0 85295 407 7 **Price:** £70.00
Publ Date: Feb 2002 (Estimated)
Editor(s): N. Hirst, M. Brocklebank & M. Ryder.
Pages: 190 (Est) **Format:** Hardback.
Page Size: 240 x 160mm
Readership: Chemical and Process Engineers,
 Safety Specialists

CHAPTER HEADINGS
Introduction
What is Containment?
Where is Containment Used?
What Types of Equipment are Covered by this Guide?
Classification of Toxic Substances
Classification of Containment Systems
Contents Summary
Appendices

Description: The purpose of this guide is to embrace not only the many types of containment equipment available for use, but also the many issues that have to be considered by anyone selecting a particular containment system for a specific duty. These issues can range from material properties and legal requirements through to validation and operational and maintenance needs. Covering the range of containment equipment, this guide provides a structured approach to selecting the correct containment system for a particular transfer operation and looks at a variety of systems suitable for materials of low to high toxicity, different scales of operation and different transfer steps.

Title: HANDLING UNCERTAINTY: A GUIDE FOR PROFESSIONALS IN THE PROCESS INDUSTRIES & RELATED FIELDS
Main ISBN: 0 85295 432 8 **Price:** £50.00 (Est)
Publ Date: March 2002
Authors: Mike Briggs
Edition:
Publication: Softback, 500 pages (est), 240 x 160mm
Readership: Engineers
Category: Chemical & Process Engineering

CHAPTER HEADINGS
Personal Perspectives – Inputs
Personal Perspectives – Actions
Personal Perspectives – Outputs
Technical and Economic – Inputs
Technical and Economic – Actions
Technical and Economic – Outputs
Technical and Economic – Applications
Interpersonal & Managerial Relationships – Inputs
Interpersonal & Managerial Relations – Actions
Interpersonal & Managerial Relations – Outputs
Interpersonal & Managerial Relationships – Applications

Description: Acting as a wide-ranging guide for young professionals and a source of reference for managers, this title deals with the subject of uncertainty in a practical way, showing how to recognise the key features then handle different situations effectively. The principles for effective action are illustrated with examples from the author's experience in the process industry. The topics covered range from the disquiet of perceptions via the lack of facts and precision in technical work, and through to the issues arising from working with other people. It gives hints, tips, tools and gadgets for use in recognising, and then handling, uncertainty and deals with the whole spectrum of how to handle uncertainty from a positive perspective.

Title: DUST EXPLOSION PREVENTION AND PROTECTION: A PRACTICAL GUIDE

Main ISBN: 0 85295 410 7 **Price:** £90.00

Publ Date: November 2001

Editor(s): John Barton (Consultant, ex-HSE)

Edition:

Publication: Hardback, 280 pages, 240 x 160mm

Readership: Chemical and Process Engineers, Plant Managers, Safety Specialists, Plant Designers, Operators

Category: Chemical & Process Engineering

Description: IChemE's three well-known texts on practical aspects of dust explosions have been revised and combined in this new book. Incorporating new research and information, particularly in relation to containment and venting of dust explosions, this new title stands on its own as a definitive guide.

CHAPTER HEADINGS

- Background to dust explosions*
- Determination of duct fire & explosion characteristics*
- Explosion prevention*
- Control of ignition*
- Inerting*
- Explosion protection*
- Explosion containment*
- Explosion suppression*
- Explosion venting*
- Explosion venting of linked vessels*
- Explosion venting – supplementary design considerations*
- Explosion venting – special dust cloud conditions*
- Explosion venting – design of vent closures*
- Explosion venting – safe discharge area*
- Explosion venting in industrial plant*
- Equipment separation and isolation*

FORTHCOMING MEETINGS OF SUBJECT GROUPS AND OTHER MEETINGS OF INTEREST TO THE SAFETY AND LOSS PREVENTION SUBJECT GROUP

Group	Title of Meeting	Place & Contact	Date
IChemE	Process Plant Reliability and Maintainability	Sheffield, UK Course Dept. IChemE 01788-578214	26-29 Nov. 2001
S&LP Subject Group	Site Visit		Early 2002
IChemE	Gasification: The clean choice for carbon management.	Noordwijk, The Netherlands Sophie Wilson 01788-578214	8-10 April 2002
S&LP Subject Group	IP15/ATEX Regulations		May 2002
S&LP Subject Group	Emergency Planning and Crisis Management		Oct. 2002
S&LP Subject Group	Occupied Buildings		Oct 2002
S&LP Subject Group	Professional Liability	London J.Bond 01252-641907	Nov. 2002