



Safety & Loss Prevention
Subject Group

IChem^E

Newsletter

EDITORIAL:

The Hazard Forum web site is www.hazardforum.co.uk and is worth a visit for meetings they have, mainly in London, but in particular for its Newsletter which is posted on the site for all to read.

The new chairman of the Hazard Forum is Professor Sir David Davies.

Another interesting web site is the Step Change in Safety SADIE. This site is the Safety Alert Data and Information Exchange which deals primarily with offshore incidents. The Database is available to all who wish to register, it is not restricted. <http://step.steel-sci.org/SADIE>

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THE HAZARD FORUM REPORT

EVENING MEETINGS

The Hazard Forum, to which the IChemE is a member, produces a Newsletter and recently they have had two interesting evening events. The first, on the subject 'Risk and Inequality' was held on 24 February. Professor Nick Pidgeon, of the School of Environmental Sciences, University of East Anglia, chaired the meeting, and the speakers were Professor Mildred Blaxter, Medical Sociologist at the University of East Anglia; Dr Gordon Walker, Director, Institute for Environment and Sustainability Research, Staffordshire University; and Sue Dibb, Senior Policy Officer, National Consumer Council. Some 70 invited guests were present.

The second event was held on March 6, following the Annual General Meeting, and was on the topic 'Setting Safety Criteria'. This meeting asked how safety criteria should be set in the food and engineering industries, and how we might learn from comparison of practices in the two. The meeting was chaired by Dr Dougal Goodman, Director, The Foundation for Science and Technology. The speakers were Sir John Krebs FRS, Chairman of the Food Standards Agency; Dr Jim McQuaid FREng, Visiting Professor of the Principles of Engineering Design, Sheffield University and formerly Chief Scientist, Health

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and Safety Executive; and Dr Jacqui Russell, Advisor to the Parliamentary Office of Science and Technology, who very kindly stepped in at short notice in place of Professor Hugh Pennington, Professor of Bacteriology, Aberdeen University, who was unable to attend because of the cancellation of his flight from Aberdeen. Some 45 invited guests were present. Reports of both meetings will be issued, and will be sent to all those invited to the meeting. Others may obtain copies on application to Vicki Gallagher, Hazards Forum Secretariat, tel: 020 7665 2230, e-mail vicki.gallagher@ice.org.uk

SCIENTIFIC RESEARCH: INNOVATION WITH CONTROLS

On 25 February last year, the subject for discussion at one of the Forum's risk evenings was the Regulation of Science. The event was organised in collaboration with the Cabinet Office's Better Regulation Task Force and the Food Standards Agency. The purpose was to generate views on the topic as input to a review being conducted by the Task Force. A report of the discussion was included in the Hazards Forum Newsletter Issue No. 38 Spring 2002.

The Better Regulation Task Force has now published the report of its review under the title *Scientific Research; Innovation with Controls*. Members interested in seeing the report should go to www.brta.gov.uk or apply to The Better Regulation Task Force, 2nd Floor, 2 Little Smith Street, London, SW1P 3DH.

VOLCANIC EXPLOSION

As the Safety Inspector had flu
And Vesuvius was long overdue
For a shut-down to check
There was nothing off-spec,
It was left to the maintenance crew.

The Inspector was e-mailed to say
"Vesuvius erupted today;
The men missed some hair cracks
Round one of the flare stacks
And now there's no sign of Pompeii."

MOBILE PHONES

The Shell Oil Company recently issued a warning after three incidents in which mobile phones (cell phones) ignited fumes during fueling operations. In the first case, the phone was placed on the car's trunk lid during fueling; it rang and the ensuing fire destroyed the car and the gasoline pump.

In the second, an individual suffered severe burns to their face when fumes ignited as they answered a call while refueling their car.

And in the third, an individual suffered burns to the thigh and groin as fumes ignited when the phone, which was in their pocket, rang while they were fueling their car.

Mobile Phones can ignite fuel or fumes. Mobile phones that light up when switched on or when they ring release enough energy to provide a spark for ignition. Mobile phones should not be used in filling stations, or when fueling lawn mowers, boat, etc.

Mobile phones should not be used, or should be turned off, around other materials that generate flammable or explosive fumes or dust, i.e., solvents, chemicals, gases, grain dust, etc.

FOUR RULES FOR SAFE REFUELING

- 1) Turn off engine.
- 2) Don't smoke.
- 3) Don't use your cell phone — leave it inside the vehicle or turn it off.
- 4) Don't re-enter your vehicle during fueling.

Another safety warning you should know about concerns static electricity.

Bob Renkes of Petroleum Equipment Institute is working on a campaign to try and make people aware of fires as a result of "Static Electricity" at gas pumps. His company has

researched 150 cases of these fires. His results were very surprising:

- 1) Out of 150 cases, almost all of them were women.
- 2) Almost all cases involved the person getting back in their vehicle while the nozzle was still pumping gas, when finished and they went back to pull the nozzle out the fire started, as a result of static.
- 3) Most had on rubber-soled shoes.
- 4) Most men never get back in their vehicle until completely finished. This is why they are seldom involved in these types of fires.
- 5) Don't ever use cell phones when pumping gas.
- 6) It is the vapours that come out of the gas that cause the fire, when connected with static charges.
- 7) There were 29 fires where the vehicle was re-entered and the nozzle was touched during refueling from a variety of makes and models. Some resulting in extensive

damage to the vehicle, to the station, and to the customer.

- 8) Seventeen fires that occurred before, during or immediately after the gas cap was removed and before fueling began.

Mr. Renkes stresses TO NEVER GET BACK INTO YOUR VEHICLE WHILE FILLING IT WITH GAS.

If you absolutely **HAVE** to get in your vehicle while the gas is pumping, make sure you get out, close the door **TOUCHING THE METAL**, before you ever pull the nozzle out. This way the static from your body will be discharged before you ever remove the nozzle.

I ask you to please send this information to **ALL** your family and friends, especially those who have kids in the car with them while pumping gas. If this were to happen to them, they may not be able to get the children out in time.

Trevor Kletz

MANAGEMENT OF CHANGE INCIDENT

A subsidiary of a substantial speciality chemicals manufacturer was being disposed to a French-based competitor, which had intimated to staff that the UK factories would be closed to reduce market (over)capacity. The workforce was concerned for their jobs, and keen to maintain a positive impression. In particular, the sales staff believed that they might be retained because the new owners wouldn't want them to work for competitors.

Product stocks had been reduced just prior to the sale, as part of the original owner's intention to maximise revenues for their shareholders. One particular product, which used IPA as a solvent, had run out of stock in semi-bulk containers, though some remained in the form of 5 litre plastic kegs.

Sales therefore supplied a very large customer with kegs, and advised the customer to pour the material into mixing vessels via an open manway. A multitude of kegs were needed every batch to replace the usual piped-in semi-bulk, and the customers operator was protected from exposure to vapours using a portable LEV.

After a few kegs of product had been poured into the mixer, the operator put the latest keg back onto the works floor and flames immediately formed at its external surface where product had spilled during pouring. LEV applied local to the operator and at the mixer itself prevented an accumulation of flammable vapour and the small fire only spread to the other empty kegs, which for logistics reasons had been put away from the full ones. Therefore, the fire ran out of fuel and

the flames subsided. The operator was badly shaken and the mixer process shut down.

The customer had not been advised that conductive footwear should be worn by the operator, nor that synthetic fibre overalls should be avoided. All the too-ing and fro-ing carried out by the operator had probably caused a static charge to build up on his clothing, which discharged to ground via the keg when the operator put it down. IPA has a low "minimum ignition energy". However, the likelihood of ignition for each and every keg placement to floor is not usually 100%: electrical discharge not near flammable vapour, very little material left in keg, workplace too humid, etc.

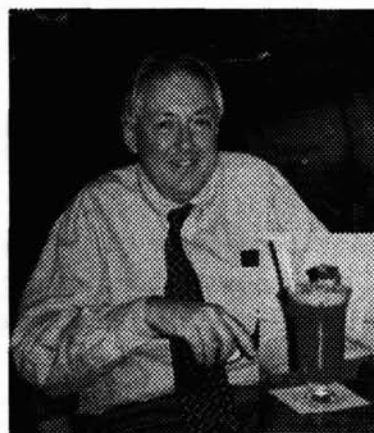
If a full keg had touched the earthed metal mixer body, then a fire or explosion in the vessel itself may have occurred. If empty kegs had been placed adjacent to full ones, a significant fire could have occurred, escalating to "work in progress" nearby.

Luckily, the customer's safety manager, who was an occupational specialist, contacted the manufacturers safety manager, who was a process safety engineer. The situation was resolved quickly and the sales team were advised to consider package type alteration more carefully.

Operations staff and personnel at the manufacturer were familiar with "management of change", but senior management did not require research, tech. service, sales, and other personnel to participate. (Why do we need that? was the phrase, causing safety issues to be "fought up" from relatively junior ranks, rather than being led from the "top")

This was a salesman-inspired "modification", which was not controlled by any form of procedure, and was not accompanied by any form of technical assessment. In trying to meet the customer's needs, the salesman might have caused their factory to burn down.

In any company operating in the commercial world, it's always the "lowest common denominator" which creates incident triggers, which is why it's hard to prevent all accidents and is hard to quantify their likelihood.



REPORT FROM SINGAPORE

Your editor was in Singapore last year and looked up one of the early members of the Lost Prevention Panel, John Lockwood. We of course had a Gin Sling in the Raffles Hotel but I am glad to report that John is very well and very active in his area. He is the Vice President of ABS Consulting and responsible for SE Asia and Australasia.

NEWS BRIEF

ALERT ON BUILDING SITE DEATHS

The Construction Safety Campaign yesterday called for urgent action to reduce accidents on building sites after revealing that 14 construction workers had been killed in the past six weeks.

Guardian 17/5/03

CORRESPONDENCE COLUMN

None received.

BOOK REVIEW

Of Caves and Caving - A way and a life, by John E. Gillett (2002) Writers Club Press £14.95
<http://www.iuniverse.com/>

John Gillett will be known to many readers as the man who spent his working week keeping the employees of ICI and later AstraZeneca out of hazardous situations. It may therefore come as a surprise (or perhaps not) that he spent his weekends crawling into tunnels underground, risking death by falling, drowning, suffocation, hypothermia, crushing, and a host of minor injuries.

This book is an account of some of his experiences, from his first Yorkshire pothole to feats of inverse mountaineering around the world. Each chapter is a self-contained story and it is thus admirably suited as a book to take when travelling. (Providing your travelling is of the wait in airports variety, rather than a long spine-jolting drive over notional tracks followed by hours of trudging across moors which seems to be the normal start and end of John's adventures.)

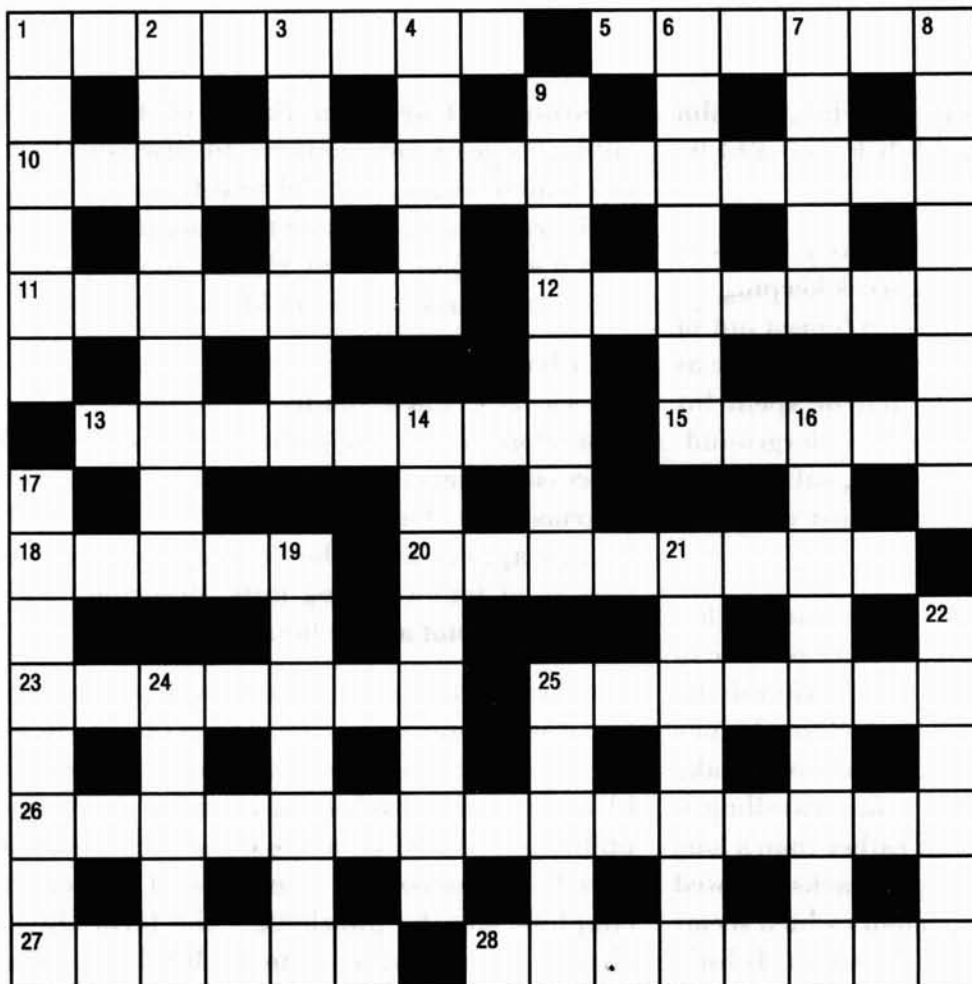
The word pictures are supported by a number of sketches - not only helpful maps but also items

of equipment or other things that took the author's eye or imagination. In case you think this is all bravado, you will be refreshed to hear of his very human response to coming face to face with a snake, or hearing ghostly footsteps in a mine where no-one else could possibly be.

John has been fortunate, firstly to survive his experiences, and secondly in the things he has seen, from prehistoric paintings to the chemical processes orders of magnitude slower than in the pharmaceutical industry. However, most of all he has appreciated the companionship of a variety of fellow caving nuts, described with warmth and not a little humour.

The book ends with a glossary, mainly of caving terms and equipment, such as aven (an overhead shaft) or carabiner (a snap link). In John's idiosyncratic fashion, it also includes philosophical and culinary terms. However, I noted one omission. Readers of the early chapters may be puzzled by the term Dilys, clearly an essential item with which John frequently travels. It is in fact a very supportive wife!

Martin Pitt



**CROSSWORD
PUZZLE
No. 14**

ACROSS

1. Result of upheaval in the Creation. (8)
5. From which a cockney tanner makes leather. (6)
10. Take note that initially it might produce no end of big bangs. (15)
11. Some are then established as important raw materials. (7)
12. Entry into vessel it's the concierge's duty to. (7)
13. Stiffens non-sugars. (8)
15. Evil surrounds army with colourful result! (5)
18. There's a call out in American city for synthetic fibre. (5)
20. Oil product starts to damage emergency relief valve,
fouling up expansion loop. (4, 4)
23. Somehow cooking vessel has archaic distillate fraction. (7)
25. Many have been to science, Marie Curie for one. (7)
26. Molecule developing into deep anticyclone. (15)
27. Student wrote in and joined up. (6)
28. Useful compounds, e.g. one out of the river to royal seaside resort. (8)

DOWN

1. For preference, radium, thorium and erbium. (6)
2. Particle includes one with a spasm - butane, for instance. (9)
3. Solvent that's less than fatty. (7)
4. Alternative to knight going back to his roots in perfumery business. (5)
6. Aromatic chemicals make Len sexy. (7)
7. Two performers add nothing to what's owing. (3, 2)
8. Candlemaker has tear in eye and exploits some of it. (8)
9. Produces an aero mist, as expected. (8)
14. Dislikes incorporating desiccated mixture in watery crystal. (6)
16. Eye lancet suspiciously - it can be a scary cutter
17. Hospital most of all dispassionate. (8)
19. Beer includes reverse kind of monosaccharide. (7)
21. Constant lawgiver who had a magnetic effect on physics. (7)
22. Examiners have no head for flavourings. (6)
24. Exercise can be a nutty thing to indulge in. (5)
25. Saw to after inspection. (5)

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**ANSWERS
TO
CROSSWORD
PUZZLE
No. 13**

DIARY OF SAFETY EVENTS

GROUP	TITLE OF MEETING	PLACE & CONTACT	DATE
SIESO	11th COMAH Workshop	Emergency Planning College	4-5 September 2003
EFCE	Loss Prevention and Safety Promotion in the Process Industries. 11th International Symposium 2004	Prague, Czech Call for papers	31 May - 3 June 2004
European Safety Management Group	Process Safety and Industrial Explosion Protection. Call for Papers	Nuremberg, Germany Dirk Oberhagemann EMAIL ober@safetynet.de	16 -18 March 2004
IChemE	7th World Congress of Chemical Engineering		10-14 July 2005