

# SAFETY AND LOSS PREVENTION SUBJECT GROUP NEWSLETTER

ISSUE 37

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## EDITORIAL

Some new developments are forthcoming which  
may produce some interesting approaches.

**Corporate Social Responsibility** has a section  
on Health and Safety with three bullet points

- Encouraging organisations to consider health  
and safety at board level.
- Encouraging organisations to report publicly  
on a range of health and safety issues.
- Producing and promoting a health and safety  
index for insurance companies, investors and  
others to gauge the performance of the  
company

This can be found on [www.csr.gov.uk](http://www.csr.gov.uk)

I do hope that the second bullet point will be to  
encourage the sharing of lessons learnt from  
accidents in a database and the index will  
include whether or not companies are sharing  
lessons learnt.

## A European Campaign on Risk Assessment 2008-2009

The UK's campaign will be launched on the 24  
June when full activities will be announced

Any information on the developments,  
particularly the Index, to be established would be  
appreciated and welcomed in the  
Correspondence column.

## THE AGM OF THE SAFETY AND LOSS PREVENTION SUBJECT GROUP

The AGM was held on the 16 April in  
Manchester. The following officers were elected

Dr. Mike Considine Chairman

Mr John Atherton Secretary

Mr Allen Ormond Treasurer

Dr. John Bond Editor of the Newsletter

The following members agreed to serve on the  
Committee:

David Bleakley, Graham Ackroyd, David Fargie,  
Helen Fennel, Hedley Jenkins, Andy  
Mackiewicz, Haroun Mahgerefteh, John  
Munnings-Tomes, Martin Goose, Ernest  
Kochmann, Shahana Mirza, Martin Pitt,  
Michelle Stell, Penny Taylor, Panos Topalis and  
Robin Turney

At the last committee meeting Helen Fennell  
agreed to be the S&LPSG Web Site  
Administrator.

## JUDITH HACKITT, CHAIR OF THE HSE, ADDRESSED THE CEO OF MAJOR ORGANISATIONS ON THE 29 APRIL.

<http://www.hse.gov.uk/aboutus/speeches/transcripts/hackitt290408cl.htm>

Here are a few of the key messages I've heard  
which must resonate with safety people:

1. Process Safety cannot be managed or led from the comfort of the Boardroom. Real leaders have to demonstrate their commitment by walking the talk – which means going out and seeing for themselves. All too often senior managers and directors are far too detached from the reality of what is actually taking place on the ground.

2. If the people on your Board don't know about/understand process safety, then they must learn. We cannot assume that Board members understand the concept. This is not something which can be delegated. You are responsible and you must lead, and to lead you must understand.

3. This is not about glossy volumes of procedures and management systems - it's about listening to the people at the coalface who really know what's going on. Procedures which look wonderful but are not being followed in practice are no use. Whatever system is in place has to be geared to ensuring safe operation – not to creating good impressions – whether that be for the senior management of the organisation or indeed your regulators.

4. We have heard also that every Board needs to consider what the real vulnerabilities are and address them – and they also need to know that it is OK to seek help and advice from others – that's also part of real, honest leadership.

We've heard about the importance of consistency – leadership credibility takes a long time to build but an instant to lose with one inconsistent decision – “production comes before safety, just this once” simply will not do – the whole culture will be destroyed.

## **OCCUPIED BUILDINGS COMPLIANCE ON MAJOR ACCIDENT HAZARD SITES - A VIEW FROM INDUSTRY**

This evening event, on 27 February 2008, was jointly sponsored by the IChemE Northern Branch (Teesside Centre) and the Safety and Loss Prevention Subject Group. It was organised by Janet Skinner and introduced by Lyn Fernie (both of Aker Kvaerner). The audience was larger than originally anticipated which necessitated a change to a larger room within the University of Durham, Stockton Campus.

Ken Norrie (BASF) and David Bleakley (Conoco Philips) gave presentations on the practical aspects of carrying out occupied buildings assessments which are required as part of demonstrating safety within a COMAH safety report, or as a separate exercise. Both speakers gave practical examples of their use of the information available from the Chemical Industries Association document "Guidance for the Location and Design of Occupied Buildings on Chemical Manufacturing Sites" and other documents such as technical articles from relevant journals.

At the end of the presentations, the enthusiastic audience raised a number of pertinent questions and issues which were answered or discussed. Martin Goose formerly of HSE (who provided the HSE technical input to the CIA document) was on hand to supply some background to the development of the issue of occupied buildings as a priority for HSE regulatory action.

The event finished in good time to allow the football fans in the audience to catch up with the FA Cup replay that was being played locally that evening!

Martin Goose

## **RISK MONITORING: LEARNING FROM OTHER INDUSTRIES**

Joint Meeting with the Scottish Branch – 30<sup>th</sup> January 2008. Following the successful meeting in London, we ran a similar event at the Department of Chemical Engineering at the University of Strathclyde.

The first speaker was David Wright of the UK Civil Aviation Authority's Safety Regulation Group. David outlined the philosophy of data recording and monitoring and how it is used proactively to prevent incidents. Hundreds of datasets are recorded continuously on Quick Access recorders in each plane (in the new Boeing 777s there are over 1400 datasets recorded), additional data is stored on the recorders used in the event of a crash. There is so much data that analysis can detect the difference between day and night flights or the seasons. One feature of the system is that a “no blame” culture exists unless there is gross negligence or “wilful behaviour”. Individual pilots will be given retraining on potential

problems and if a particular event that can lead to an accident is spotted frequently amongst several pilots then the training programmes will be modified to include this, eg a new plane with a longer fuselage showed that there was an increased frequency of “tail scrapes”. All data is archived so that it can be re-examined in the event of new information / accidents. An example was given where the nose wheel of a plane landing in Gibraltar was destroyed. Examination of the data from that flight indicated that the pilot had pushed the stick forward on landing. Archive information showed that it was common for this pilot to do so and that others also did the same. Simulator training (done 2-3 times per year) was modified to prevent this from happening.

The second speaker was Paul Lupton of Plant Manager of the Component Manufacturing Plant at Springfields Fuels Limited, which makes the component for the nuclear fuel for all UK nuclear power stations. In 1990, the site had 40 – 50 lost time accidents per year, now 1 per year is considered bad. This has been achieved through a change in the safety culture at the site. Leadership, not just management, is important. If leaders pay attention to an issue, then the employees do. People easily detect if you aren't paying attention – Paul described it as being on stage, people look at him all the time – people are constantly challenged on their behaviours. Before any maintenance activity, a pre-job brief is carried out. This involves everyone who will be taking part and it has been found that activities are carried out much more effectively as a result as everyone is aware of the issues. Springfields uses a “Human Performance Learning Clock” that covers Safety, Quality, Production and Customer issues. The trigger points are chosen so that it is tripped about once a month. This means that it happens sufficiently frequently that people stay focussed but not so often that it is ignored. Job familiarity can lead to low attention which can lead to incidents so job rotation occurs each week despite there being a dozen different job roles which can take between 2 weeks and 5 months to learn. Springfields maintains its layers of protection by having a strong near miss reporting system. Investigations focus on finding the root cause by avoiding disciplinary action as this encourages openness.

Thanks to both speakers and to the Department of Chemical Engineering at the University of Strathclyde and the Scottish Branch for their support.

Michelle Stell

## **CORPORATE MANSLAUGHTER ACT**

This Act came into force on April 6. Sue Pesch of the Institute of Advanced Motorists has pointed out that “No company that either employs professional drivers or expects its employees to drive in connection with its business can afford to be ignorant of this new law. In the event of a work-related road accident resulting in one or more fatalities, the police will investigate how the company involved managed its road safety. For example:

- Was the vehicle roadworthy?
- Was the driver fit and/or competent to drive?
- Was the journey safely manageable in the time available?

Under the new legislation, if such management failures are found to have been a factor in the accident, then the company concerned could be charged with Corporate Manslaughter, as well as breaching the Health and Safety at Work Act of 1974”

## **MOVEMENT TO BOOTLE**

The Health and Safety Commission (HSC) and the Health and Safety Executive (HSE) are the two Departments for Work and Pensions (DWP) agencies responsible for health and safety in Great Britain. They are to be merged and moved to a single headquarters in Bootle, Merseyside. The Committee is satisfied that the merger is a sensible proposal but is concerned that the move to Bootle could lead to a huge loss of experienced HSE staff, who are unwilling to relocate.

We have found that the original legislative framework governing workplace health and safety is proportionate but that partly due to some lack of legal clarity, employers can be over-cautious in their interpretation of its provisions, increasing the compliance burden on

themselves. Over-zealous health and safety “consultants” contribute to this problem and we call for a system of accreditation of consultants and advisers. We hope that HSE’s Risk and Regulation Advisory Council will be tasked with addressing this.

Many who submitted evidence to our inquiry believed that HSE does not have sufficient resources to fulfil its remit. HSE aims to meet a 60:40 ratio of proactive and reactive work, however we heard that not only are businesses likely to have an HSE inspection just once every 14.5 years but that also accident investigations are being scaled back. Academic research has highlighted the influence of the number of inspections on levels of compliance with health and safety obligations. We believe that an under resourced health and safety inspectorate has an impact upon employer compliance and accident rates. In view of the total lack of clarity in financial information supplied, it is not clear to us whether additional inspections can be financed from within the Comprehensive Spending Review 2007 settlement or whether further resources will be required.

In addition to the lack of inspections, we conclude that current levels of fines for health and safety offences are too low and do not provide a sufficient deterrent to ensure duty holders comply with their obligations. We would also like to see more innovative penalties to encourage compliance among employers.

The Health and Safety at Work Act 1974 is clear that as well as duty holders, employees must take responsibility for health and safety in the workplace. We examined the role of safety representatives and measures to increase employees’ involvement in non-unionised workforces. We believe that the HSE should do more to promote worker involvement in health and safety.

The increase in the number of fatalities in the construction industry; the offshore oil industry’s failure to meet its major hazard sub targets, and health and safety risks to migrant workers are key areas of concern for HSE. We commend the work that HSE has done on the Construction Forum, its review of North Sea assets and its planned research on migrant workers but we question whether these actions are enough to rectify the problems.

We are concerned that HSE is struggling to cope with its occupational health remit. It admits to basing its occupational health policy on an incomplete data source and is failing to meet its occupational ill health targets.

During this inquiry Dame Carol Black published a review of the health of Britain’s working age population. Her report stressed the need for a fully developed occupational health service which we endorse but we do not believe that this provision should be within HSE. We also believe that there may be a need for financial incentives for employers to engage in rehabilitation programmes for injured or sick employees.

HSE needs to concentrate on its core remit and measures to extend its responsibilities into other areas places an excessive strain on its resources and risks diverting its focus.

### **ICHEME AWARDS FOR INNOVATION & EXCELLENCE 2008 – ENTRIES NOW OPEN**

Entries are now being invited to IChemE’s Awards 2008. The awards programme encourages, celebrates and rewards innovation and excellence. This year’s awards are:

- The ABB Global Consulting Award for Sustainable Technology
- The HFL Risk Services Award for Excellence in Health & Safety
- The Shell Energy Award
- The IChemE Water Award
- The SRG Engineering Award for Food & Drink Innovation
- The Stopford Projects Award for Bioprocess Innovation
- The Petronas Award for Excellence in Education & Training
- The Sellafield Ltd Award for Engineering Excellence
- The NES Award for Novel Engineering Solutions
- The GSK Young Engineer of the Year Award

- The Dhirubhai Ambani Award for Outstanding Chemical Engineering Innovation for Resource-Poor People

Further information at: [www.icheme.org/awards](http://www.icheme.org/awards). The closing date for entries is 31 July 2008. The awards will be presented at a Gala Dinner at the NEC, Birmingham, UK, on 29 October 2008, during IChemE's ChemEng08 event.

## BOOK REVIEW

"Just Culture - Balancing Safety and Accountability" by Sidney Dekker. Published by Ashgate 2007

This new book is a refreshing read. In the Preface Dekker states "If we see an act as a crime, then accountability means blaming and punishing somebody for it. Accountability in that case is backward-looking, retributive. If, instead, we see the act as an indication of an organizational, operational, technical, educational or political issue, the accountability can become forward-looking. The question becomes: what should we do about the problem and who should bear responsibility for implementing those changes?" The prologue gives an account of a nurse unfairly convicted of manslaughter who had given information on the possible cause of the death of a baby. The comment given was "She might have hoped that we all could learn the truth behind the death of the little girl. But there is no such truth to find, to arrive at, to dig out. No final account, no last word - only versions, jostling for supremacy, media-light, popular appeal, legal sustainability. And her version had consistently drawn the shortest straw. Again and again."

Professionals having made an error are often faced with two alternatives. Either they report it and face a reprimand, a disciplinary action or a prosecution. Or they keep quiet and hope nobody notices. A single account cannot do justice to the complexity of the event as often seen in prosecutions. A Just Culture accepts nobody's account as true or right, there are no absolutes. Not wanting to disclose an error makes it look dishonest but the organisation must create a climate in which disclosure is normal, acceptable and a persons responsibility.

Dekker discusses all of these problems including when reporting becomes dangerous but carries

on to discuss how to get people to report and to see it as an opportunity for responsibility and learning the lessons from the incident.

"You have nothing to fear if you've done nothing wrong" is discussed with particular reference to gross negligence but the arbiter of gross negligence is often the judiciary and legal profession who see a limited view.

Criminalising human error is discussed with reference to medical errors. Report the facts and be prosecuted for them or don't report the error and get prosecuted for not reporting them. Dekker concludes that "If you want a people in a system to account for their mistakes in ways that can help the system learn and improve, then charging and convicting a practitioner is unlikely to do that."

The problems in introducing Just Culture are discussed with examples from the medical profession but which could be applied to many other professionally qualified scientists and engineers. Response to a failure is an ethical question but when a mistake is put on trial safety almost always suffers. Calls for accountability are not the same as holding people criminally responsible. The book raises many questions and answers them in a convincing way, if there is a focus on safety then accountability for failure has to be reconciled with learning lessons from that failure.

Dekker concludes that legal proceedings -tort or criminal- in the wake of incidents or accidents could be bad for safety, and may not help in creating a just culture.

The case of the victims of errors is discussed with examples.

This book discusses many of the problems encountered in establishing a Just Culture in a company. Although examples are mainly in the medical profession they can readily be seen in the engineering and science field. It is well worth a read if you are moving into this important safety culture area.

John Bond

## ARTICLES IN THE NEXT ISSUE OF THE *LOSS PREVENTION BULLETIN*

The Loss Prevention Bulletin publishes safety articles and accident case studies in the process and chemical industry. Many of the articles are provided for anonymous publication and are therefore not available through other sources

LPB 201: June 2008

- Information for authors and readers
- Risk Profiling
- A runaway reaction results in multiple fatalities and injuries
- More dry lessons
- Crisis management: Improvement of knowledge and development of a decision aid process
- Mindfulness: Realising the benefits
- A major fire in a catalytic cracker system
- Bulletin briefing
- Events

For further information on the Loss Prevention Bulletin, or to purchase articles online, please visit [www.icheme.org/lpb](http://www.icheme.org/lpb)

## ARTICLES IN THE NEXT ISSUE OF *PROCESS SAFETY & ENVIRONMENTAL PROTECTION*

ICHEME's bi-monthly journal *Process Safety and Environmental Protection* covers all aspects of safety of industrial processes and the protection of the environment. The articles published, which are all peer reviewed, report research from around the world. *Process Safety and Environmental Protection* is the official journal of the European Federation of Chemical Engineering: Part B.

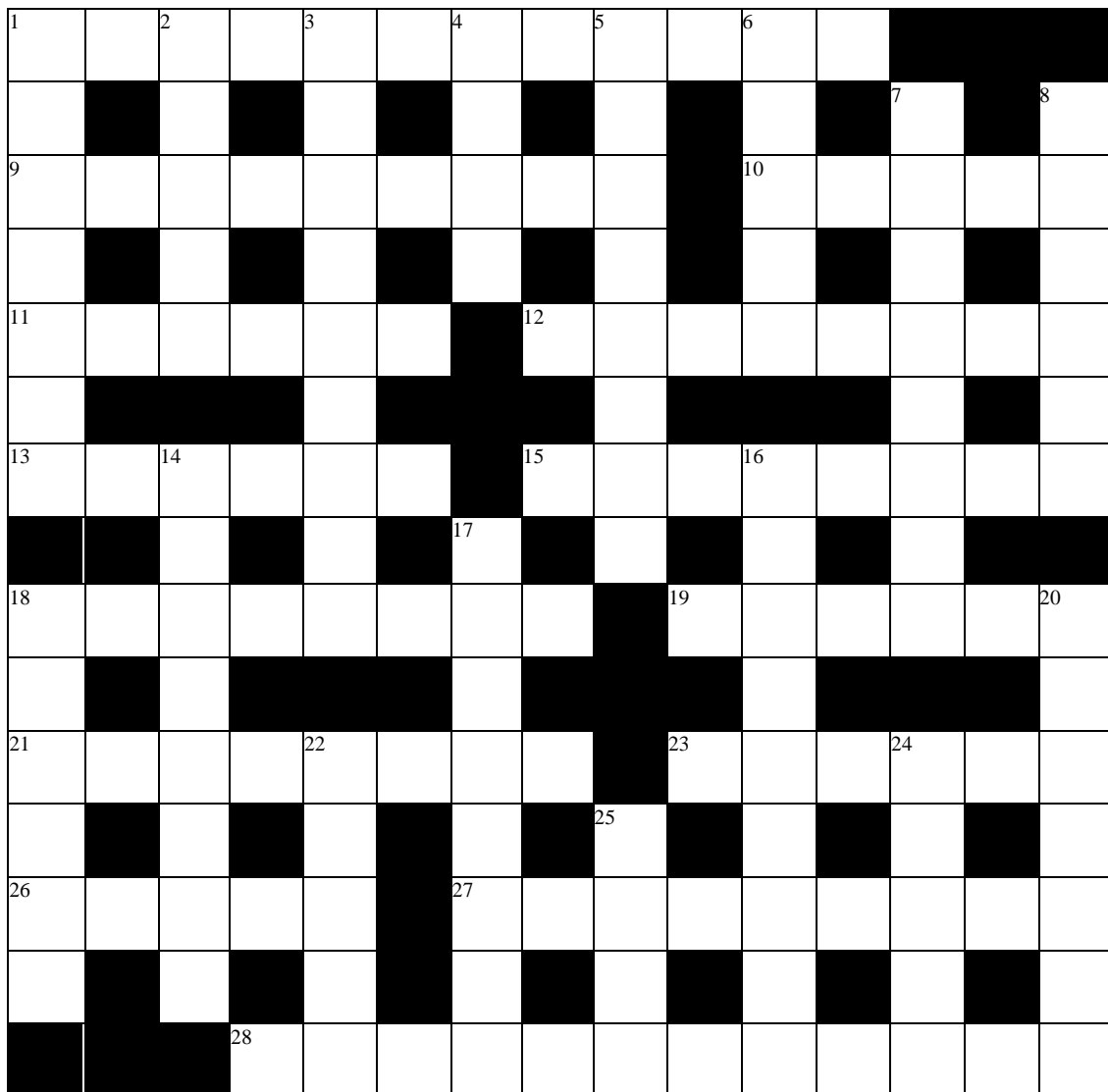
Below are the papers featured in May 2008  
Volume 86, Issue 3, Pages 153-224

- Some observations on explosion development in process pipelines and implications for the selection and testing of explosion protection devices  
Pages 153-162  
G.O. Thomas

- A statistical approach for evaluating inherent benign-ness of chemical process routes in early design stages  
Pages 163-174  
Rajagopalan Srinivasan, Nguyen Trong Nhan
- Consequence analysis by means of characteristic curves to determine the damage to buildings from bursting spherical vessels  
Pages 175-181  
Enrique González Ferradás, Fernando Díaz Alonso, Marta Doval Miñarro, Agustín Miñana Aznar, José Ruiz Gimeno, Juan Francisco Sánchez Pérez
- A comparison between superfine magnesium hydroxide powders and commercial dry powders on fire suppression effectiveness  
Pages 182-188  
Kaiqian Kuang, Xin Huang, Guangxuan Liao
- Oil spill cleanup cost estimation—Developing a mathematical model for marine environment  
Pages 189-197  
Mohammad Shahriari, Anton Frost
- Modelling accidental releases of dangerous gases into the lower troposphere from mobile sources  
Pages 198-207  
Bernatik, W. Zimmerman, M. Pitt, M. Strizik, V. Nevrlý, Z. Zelinger
- Bioremediation of DSO contaminated soil  
Pages 208-212  
H. Esmaeili Taheri, M.S. Hatamipour, G.Emtiazi, M. Beheshti
- Performance evaluation of a water mist system in semiconductor wet bench fires  
Pages 213-218  
Wen-Yao Chang, Ping-Kun Fu, Chiun-Hsun Chen, Yi-Liang Shu

For further information on *Process Safety and Environmental Protection*, or to subscribe, visit [www.icheme.org/journals](http://www.icheme.org/journals) or e-mail [journals@icheme.org](mailto:journals@icheme.org)

## CROSSWORD PUZZLE No. 26



### ACROSS

1. Power cut reduces scope for Formula 1 race. (5, 7)
9. In conduit, somehow, its coil can generate high voltage. (9)
10. Hesitate before poem causes damages. (5)
11. Prison staff using them need spark proof tools in 7, 24 down. (6)
12. In favour of learner driver if in charge of many of them. (8)
13. Anger about parish priest causes slight disturbance. (6)
15. Swindle thick vapour into becoming liquid. (8)
18. Preservative from Mediterranean island that's home to overweight duck. (8)
19. Corrosive US law enforcers go back to surround British colleagues. (6)
21. Brief pause for rest in safety vent. (8)
23. Engine the French returned after the German. (6)
26. Praise some of the next Olympics. (5)
27. Get rid of strange alien item. (9)
28. Hot work permit required for its users. (12)

## **DOWN**

1. Singular gadget to cut with. (7)
2. Stranger removed first from animal food. (5)
3. Temporary stitch for metal (or yellow dye producing) plants. (4, 5)
4. Pupil's flower. (4)
5. A hundred to one the covering will have a point to it. (4, 4)
6. I trade only in the best. (5)
- 7, 24. Entry into e.g. prison cell can be hazardous
8. Save it by making secure. (6)
14. What a BOP does. (8)
16. Duty encompasses alternative legal liability. (9)
17. And all the rest at length. (8)
18. Some heroic Able Seaman carry much power. (6)
20. Many a lesson to be learned here. (7)
22. E-mail predecessor. (5)
24. See 7 down.
25. What lying Matilda is said to have shouted. (4)

## **Answers to Crossword Puzzle No. 25 in Issue 36**

### **Across**

1. Fahrenheit
7. Disk
9. Cohesive
10. Nettle
11. Baffle
13. Examiner
14. Nitromethane
- 17, 21, Distillation Column
20. Davy lamp
21. See 17
22. Hazards
23. Ovenware
25. Gene
26. Electrodes

### **Down**

2. Aromatic
3. Rue
4. Noise
5. Element
6. To no avail
7. Detrimental
8. Solder
12. Faraday cage
15. Mishandle
16. Commerce
18. Implode
19. Damage
21. Cleat
24. Who



## DIARY OF SAFETY EVENTS

GROUP	TITLE OF MEETING	PLACE AND CONTACT	DATE
S&LPSG with SONG	LNG Safety and Engineering Challenges	Barber-Surgeons Hall, London Gemma Jones gjones@icheme.org	6 June 2008
ChemEng08	Health and Safety Session. Road Map Action Plans.	The NEC, Birmingham, UK www.chemeng08.com	29 October
S&LPSG With NW Branch	Process Safety performance Measurement	Provisional date In North West	Nov. 2008
<b>Future Programmes planned by S&amp;LP SG (dates TBC)</b>			
<ul style="list-style-type: none"> <li>• Risk Criteria</li> <li>• Management of Alarms and Trips</li> <li>• Buncefield in a Management context</li> <li>• LPG Model Code of Practice</li> <li>• Dust explosions</li> <li>• University Teachers meeting</li> </ul>			

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