

SAFETY AND LOSS PREVENTION SUBJECT GROUP NEWSLETTER

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EDITORIAL

The subject of Corporate Killing is still being discussed. A good paper is available on www.isrcl.org/Papers/2005/Forlin.pdf and is titled "The New Corporate Killing Proposals: Where are we now and where are we going?"

A new publication from the Royal Academy of Engineering has arrived on my desk. It is titled "Accidents and Agenda. An examination of the processes that follow from accidents or incidents of high potential." Beware, it costs £50.00.

THE FRANK LEES MEDAL FOR 2004

The Frank Lees Medal for 2004 was awarded to BP for their booklets on safety which are available from the IChemE. The author of them, Frederic Gil of BP, was presented with the medal by Mike Considine, the Chairman of the S&LP Subject Group.



CORPORATE KILLING

MEETING OF SCOTTISH LAWYERS AT THE SIGNET LIBRARY 6 JUNE 2005

An interesting meeting organised by Maclay and Murray Spens, solicitors was held in Edinburgh. The subject was the proposed Corporate Killing Bill and whether this should be incorporated into the Scottish legal system. The Health and Safety at Work Act 1974 was currently the same in the Scottish legal system as in the English and Welsh legal system. The debate was whether the proposed Corporate Killing Bill should also be adopted in the Scottish legal system.

David Leckie gave an outline of the background to the proposed bill which only applies to England and Wales. A separate bill will probably be put forward for Scotland and Northern Ireland. Under the present law there had only been a few successful prosecutions for manslaughter and these were in all cases small companies. Prosecutions of large companies had been not been successful due primarily to the difficulty in establishing who was the "controlling mind" in the company.

The proposed bill does not affect the Health and Safety at Work Act or its associated regulations. The proposed law will make it easier to prosecute large companies as it will not be necessary to establish a "controlling mind". Instead the prosecution will focus on the conduct of senior management. Where there is evidence of gross negligence an individual can be prosecuted.

Richard Keen QC questioned the necessity for a change in the law. He questioned the reasoning for prosecuting a company. Was it for retribution or for deterring? Either way a fine would affect the company's profitability, which in turn would affect share price and ultimately pensions. Companies that had violated safety law were heavily fined under the present law. He suggested that an alteration to a section of the Health and Safety at Work Act for a prosecution of "Causing death/injury by dangerous conduct" would be appropriate for individuals and would be similar to "Causing death by dangerous driving".

David Whyte of Stirling University suggested that it would be appropriate for a separate Scottish Bill.

Ronnie MacDonald of the Scottish Trades Union Congress showed that prosecutions in Scotland either individuals or companies were much lower than those in England. There was a greater risk of being killed in the construction industry in Scotland than in England.

In the debate there was a number of views stated. I made a point that the legal profession was not addressing the important factors which should ensure that:

- Compensation should be paid immediately
- Accident investigators should not be hindered in their investigation.
- Lessons learnt from the accident are made available to all engineers.

I suggested that the legal profession had to realise the serious consequences of their pursuit of the blame culture and to join, not hinder, the engineering profession in achieving best possible practice to the benefit of the employees, the public and the companies.

John Bond

ACTIVE AND PASSIVE FIRE PROTECTION ON PROCESS PLANTS. S&LP Subject Group Meeting 16 June 2005

Niall Ramsden described systems for producing and distributing foam with subsurface systems and foam pourers. The faults and limitations of foam and foam equipment were described. A basic discussion of which foam to use, the application method, the rate of application was given. The NFPA 750 code and the Fire System Integrity Assurance were described.

Eddie Walker spoke on a passive approach for fire protection of onshore operations giving actual examples of fire application. Performance requirements, installation requirements and cost considerations were described.

Paul Mather described the installation of a passive system and the performance of intumescent systems both thick film and coatings from 5 mm to 30 mm. He described the systems, how they worked, where they were used, their track record, how to test and quantify and their durability. Key performance factors were discussed.

Mike Considine described a cost benefit analyst for fire protection indicating how much spending was could be justified. A model of fire protection was described with event trees.

Ian Herbert described a Fire Safety Management system and failures in sprinkler deluge systems.

Mehdi Laftavi described a process plant management and maintenance system for an active fire protection system. Failures in active and passive fire protection systems were also described.

Phillips Fields described the work of the Building Research Establishment in fire investigation, testing materials against standards.

A well attended meeting with an excellent programme of speakers. The slide presentations are available on the IChemE Safety Group web site.

**JOINT SAFETY & LOSS
PREVENTION SUBJECT
GROUP/SIESO MEETING –
SECURITY RISK ASSESSMENTS,
MANCHESTER 22ND SEPTEMBER
2005.**

This meeting, which attracted a total attendance of 40, was chaired by Ken Readman Chairman of SIESO who placed the topic in context by comparing the traditional approach to security that primarily focused on criminal loss of property and intellectual property, to the situation of today where international terrorism is seen as an increasing threat. A recent report by CRS to the US Congress claimed that while the impact of terrorism on industry was currently small, it was highly likely that those who perpetrate these crimes will see industry as being a soft target where the consequences of their actions can be considerable. This meeting was arranged to identify how the security threat has changed, what precautions companies should be taking, the expectations of the authorities of industry and vice-versa, and where industry can expect to find help.

The first speaker was David Hughes from the UK National Security Advice Centre, which has the dual responsibilities for providing advice and carrying out research. Their web-site <http://www.mi5.gov.uk/> provides background and advice on all aspects of the terrorist threat, both international and “home grown”. He described the role of the Counter Terrorist Security Advisor’s (CTSA’s) who can be accessed through local Police Forces. CTSA’s will provide companies with the publicly available Protection of Industrial Security Manual. A healthy discussion regime already exists between the Security Service with a high level of cooperation between all stakeholders. Specific challenges continue to exist in the areas of employee and contractor vetting, particularly haulage contractors on which the UK CIA has provided guidance, and providing appropriate levels of

remuneration for security guards who, although they normally low paid, form the front line protection on security and PR.

Nick Elliott Chair of Derbyshire’s Risk Assessment Working Group for the Civil Contingencies Act 2004 and on the national scene Chair of the EPS COMAH Professional Issues Group took up the theme of balancing security against right to know legislation. Initial perceptions of threats from international terrorism have very recently been challenged by acts of home based terrorists with local knowledge of systems and UK law. The message coming out of a case history based on early requests from the public made under the Freedom of Information Act (FOI) when it was introduced in early 2005 is that it is important to understand the reason for the request, and to allow time for consideration of how best to employ exemptions allowed under the Act in a clear, consistent manner. Guidance is available from the Local Government Association through an LGAAlert which addresses national security and public interest. The DTI Office for Civil Nuclear Security provides guidance for their sector; can this be adapted for the chemical industry?

The third speaker was Jim Evans OBE of ArmorGroup who used a case study to describe the Security Risk Assessment Process. This is carried out in 5 stages, and is based on the API Security Vulnerability Assessment (SVA) model which is available through the web-site <http://api-ep.api.org/> . When conducting a threat assessment, the DNV models SAFETI and PHAST are used. It is essential that SVA’s are conducted using input from the full range of all relevant sources, to ensure that security risks are properly placed in a company’s overall risk management programme.

Colin Martin from BP described his company’s approach to security management “Getting Security Right”. This model, which corresponds closely to that used for health, safety and

environmental management, places the responsibilities on managers to develop procedures and practices to manage security, including the investigation of security incidents. In BP Health, Safety, Environment, and Security now operate under a single senior management umbrella. Challenges on employee and contractor vetting in the North Sea operations arena are managed through the use of the Vantage Card system that contains full identification, including photograph, work history and training information on each individual's card. The Oil and Gas Facilities Employment Survey (OGFES) is working with the DTI to check for any terrorist links. Despite a wide range of sophisticated equipment being available in the security field, security can only operate successfully if everybody, from the top to the bottom of all involved organisations, buy into it.

David Heather, from the Agricultural Industries Federation, described the approach used to maintain security around ammonium nitrate (AN) based fertilisers. These are both benign fertiliser and potential bomb making materials. Although used in Northern Ireland, the profile on AN was increased by the Oklahoma bombing in the USA. AN has a massive supply chain with multiple stakeholders that includes local production, importers, ports, blenders, transporters, and individual farmers. The role of the CTSA is central to ensuring that all can make their own risk assessments in the most appropriate manner. In a description of a case study, it was emphasised that a pragmatic approach is appropriate in most cases. Particular challenges remain in dealing with hauliers, such as introducing vehicle security, a joint Industry/NaCTSO initiative "Know your Customer", cutting out the "middle man", and improving product traceability. Balancing vehicle security with driver's hour's legislation, and thefts from farms are continuing issues. A "10 Point Code" for farmers and the Fertiliser Industry Assurance Scheme,

covering a full vertical slice of the industry, have been developed.

The final presentation of the day was given by Clive de Salis of Rowan House process consultants, in which he discussed the threats to process control systems through the internet. Although process control computers are generally assumed to have no connection with the external IT environment, the fact that they are invariably directly connected to computers used to provide management information that in turn are connected to the internet means that it is possible for the former to be attacked from the external environment via the latter, with the potential for a major process incident. The argument that systems are protected against external attack by virus protection and firewalls is considered fundamentally flawed. One method that significantly reduces the possibility of a hacker attack on a process control computer connected in this manner is for the two computers to use different operating systems using executable files that will only operate within their respective operating system. System architecture needs to be considered in risk assessments carried out to IEC 61508. Close control of the computer environment using known systems, known software and through the physical security of the computer equipment, as well as strict control on the use of USB devices that effectively bypass any firewall protection, is essential.

Three themes emerged in the final open forum session. Firstly, the need to persuade senior managers to place security at the same level as all other essential business functions, such as health and safety. Secondly, the importance to involve all stakeholders in decisions on FOI requests, which is considered best practice. Thirdly, that there needs to be more work done on haulier security.

John Atherton

CORRESPONDENCE

None received.

LOSS PREVENTION BULLETIN

The next issue of the Loss Prevention Bulletin will contain the following articles.

Issue 186 December 2005

- Information for authors and readers
- Hazards of welding
- Explosion during a welding operation
- A confined space fatality on a fuel filling station construction project
- Tank explosion in a TDI production unit
- The Environmental and Loss Prevention. Part 3: Risk Assessment
- Book review
- Bulletin briefing
- Events

NEWS IN BRIEF



The death toll is now 12. Six divers are still trapped in the debris of the destroyed platform and naval and coast guard teams are making all efforts to rescue them, a top ONGC official said from Mumbai. The official said 351 people have been rescued, some with minor injuries. A major fire destroyed a big oil platform of ONGC off Mumbai coast, yesterday evening, disrupting crude production from the country's main oil field. The ONGC platform is located about 160 km from the coast. There were 385 people on the platform when the incident

took place. The platform has been completely destroyed.

The fire at ONGC rigs in Bombay High is the eighth instance of an uncontrolled fire in oil rigs or oil & gas fields in India.

BPN platform wellheads were hit by one of the large work boats in Mumbai High North around 4pm today. BPN platform is gone. You can see part of it falling in the water in the picture. Over 300 people were on board, so far only 2 confirmed dead.

There are 3 choppers and Coast guard picking up people from the water. A lot of people jumped, apparently. Noble Charlie Yesterday rig is hidden by the flames that look to be going right into its derrick. All personnel were evacuated for platform and rig. No word yet on them.

The NCY evacuation should have gone well as they had some warning.

Transco accepts £15 m fine

The gas supplier and pipeline operator was fined a record £15m for a breach of the Health and Safety legislation. During the trial the prosecution alleged that a 10 inch diameter ductile iron gas main in Larkhall, Scotland was extensively corroded and leaked into the foundations of a house before it ignited. A family of four were killed in the explosion.



Well Claims Six

Six members of one family drowned in a well in south China after one man fell in and a series of rescue attempts went wrong. The first man fell into the well while installing a water pump. A second jumped in to save him and the other four went in one after another in vain – and fatal – bids to rescue their relatives.

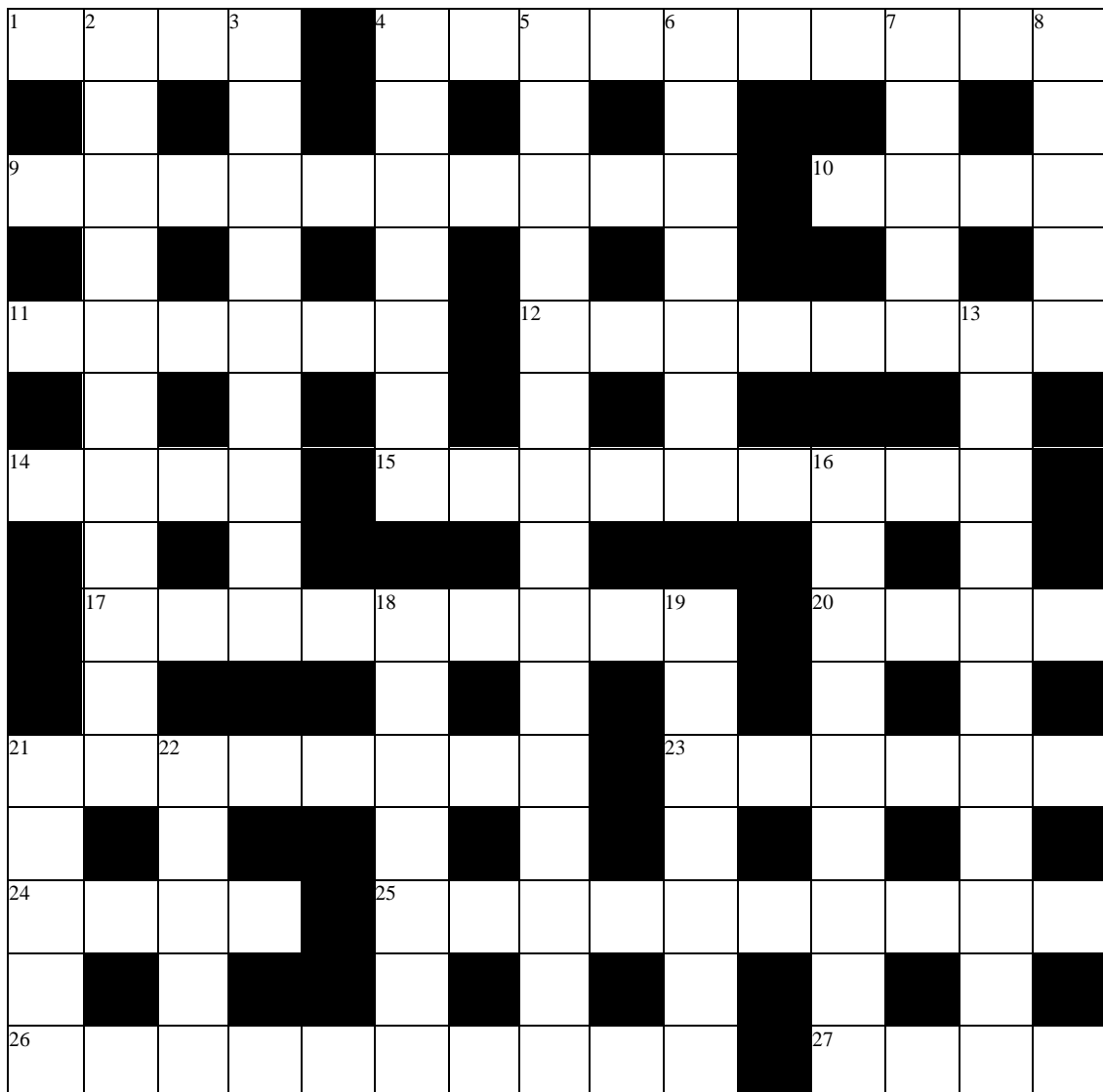
The Scotsman 30 May 2005

Exploding toilet leads to lawsuit.

A man who says he was severely burned when a toilet exploded after he sat down and lit a cigarette is suing a general contractor and a coal company for \$10 million, accusing them of negligence.

The Scotsman 3 June 2005

CROSSWORD PUZZLE No.19



ACROSS

1. Doesn't need to be Hot to provide a stimulus. (4)
4. How to look for signs of creep. (2, 3, 5)
9. Inaugurates societies. (10)
10. Piece of music from ancient Rome. (4)
11. They're enough to drive you to distraction – an opera perhaps. (6)
12. Does wrought iron hold this chemical? (8)
14. Return stolen property for useful implement. (4)
15. An impure form of talc, like the elderly surrounded by rocks. (9)
17. Interest rate on round plate in a column. (5, 4)
20. If it were sounder it could be helpful in the main. (4)
21. Engineer's breakfast served up on this. (8)
23. Another lick of paint to care about. (6)
24. Fiery sort of saint. (4)
25. Sharp-tongued wit shows strong alkalinity. (10)

26. It's what possibly stops meals upsetting you. (5, 5)
27. Explosive evidence of bad housekeeping. (4)

DOWN

2. Could a disordered parent be on a dangerous substance? (11)
3. A leading mechanical engineer embraced by cad for measuring flow. (9)
4. If high they have good anti-knock properties. (7)
5. Change local inhabitant before a source of power, substituting another. (11, 4)
- 6 The sounds in France need to be learned. (7)
7. Got away from gunpoint? Then you can let your hair down. (5)
8. Mafia boss and his sister before him made rope. (5)
13. Where Siemens formerly processed steel provide scope for cardiac surgery. (4-7)
16. Oily compound, fatty and unsaturated. (5, 4)
18. Some non-U ancestors expressed their shades of meaning. (7)
19. We hear why in fireplaces there can be a bit of a whirl. (7)
21. Blessed First Lady set off an explosion. (5)
22. Deposits of French parliamentarians' rubbish. (5)

Answers to Crossword Puzzle No. 18

Across

1. Rhombi
4. Miscible
10. Methylene
11. Rioja
12. Sievert
13. Tool kitHorn
14. Loss prevention
19. Polymerisation
21. Monomer
24. Vacuums
26. Rivets
27. Glutamate
28. Careless
29. Skiers

Down

1. Remiss
2. On the boil
3. Boyle
5. Inert
6. Car bonnet
7. Block
8. Elastane
9. Lecturer
15. Semimetal
16. Vesuvius
17. Isobutane
18. Epimeric
20. Esters
22. Never
23. Rages
25. Crack

DIARY OF SAFETY EVENTS

GROUP	TITLE OF MEETING	PLACE AND CONTACT	DATE
S&LPSG And EPSG I.Chem.E	Vent VOC Abatement – Environmental Protection without Creating New Hazards The incorporation of a VOC abatement device into a vent system can represent a convenient method of arresting both continuous and intermittent releases to atmosphere. However, in some circumstances, stream composition and flow rate excursions, fouling and corrosion can create situations which constitute serious fire and/or overpressure safety hazards. These threats can be managed by correct technology selection, duty specification and system operation.	Half day meeting Lunch at 1 pm Institution's Conference Centre 1 Portland Place, London A regulatory representative will review abatement expectations. Abatement technology and system design experts will advise the measures necessary to address the various concerns relating to the incorporation of abatement devices. The meeting will conclude with an open discussion of the experiences of those attending.	Tuesday 22 November 2005
S&LP Subject Group	Human Factors in Control Rooms – Design and Operation This meeting will explore human factors in the control room in respect of the design of the man- machine interface and issues affecting the responses and performance of operating staff.	At the IChemE Conference Centre 1 Portland Place, London John Minnings-Tomes Tel. 0207-357-2926 Email John.MunningsTomes@marsh.com	26 January 2006
S&LP Subject Group Future Programme 2006	Thermal Stability. Risk Based Inspection. Process Safety Performance Measures Learning from non-process industry incidents. Corporate Responsibility. Design of Relief Systems.		April/May 2006 September 2006 Summer 2006
IChemE NW Branch	Hazards XIX Call for papers Feb – April 2005	UMIST Contact Mike Adams 01539- 732845 mikeadams@rawgreen.fsworld.c o.uk	28-30 March 2006
IChemE and EFCE	12 th International Symposium Loss Prevention and Safety Promotion in the Process Industries	Edinburgh International Conference Centre Contact R. Cragg IChemE Tel 01788-534476 Email rcragg@icheme.org.uk	22 – 24 May 2007