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# Dangerous ENews

Email update for National Dangerous Goods Training Consortium

## AGM Update



# AGM

## Coventry

The 2006 AGM held at the Allesley Hotel in Coventry went very well. Good attendance was expected and indeed plenty of members did manage to be represented, no wonder there was a good turnout when we have such a good quality of speakers.

Representatives were present from City & Guilds (John White, Paula Elliot and Doug Johnston) and the Department for Transport (Rodney Timms).

Since City & Guilds have lost the contract for driver training (SQA, Scottish Qualification Authority take over from October 2006) there were plenty of questions about the changes.

City & Guilds assured us that the hand over will be dealt with as hassle free as possible.

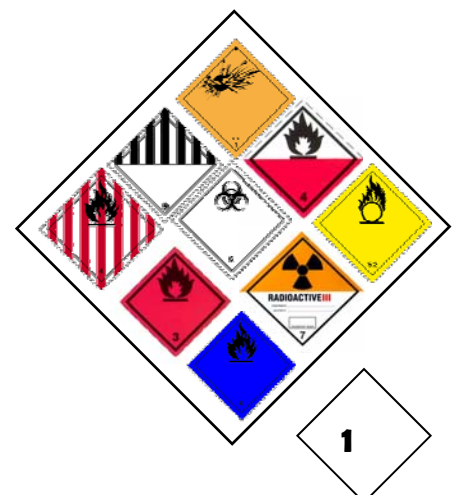
We are already in talks with SQA to see how the consortium can assist their development of a new manual of practice.

Chris Pursey handed out new compilation DVDs that incorporated the necessary media shows required on an ADR course. We have of course received copyright permission for this. We are also aware of the changes to first aid resuscitation, it is expected that the Heart start DVD will be amended around August/September time.

The newsletter is also available from our website:  
[www.ndgtc.co.uk](http://www.ndgtc.co.uk)

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## Basic Life Support Guideline Changes

The need to increase the number of chest compressions given to a victim of cardiac arrest, and the importance of simplifying guidelines to aid acquisition and retention of Basic Life Support skills, particularly for laypersons.

It is well documented that interruptions in chest compression are common and are associated with a reduced chance of survival for the victim. The 'perfect' solution is to deliver continuous compressions whilst giving ventilations independently. This is possible when the victim has an advanced airway in place, and is discussed in the adult advanced life support (ALS) section.

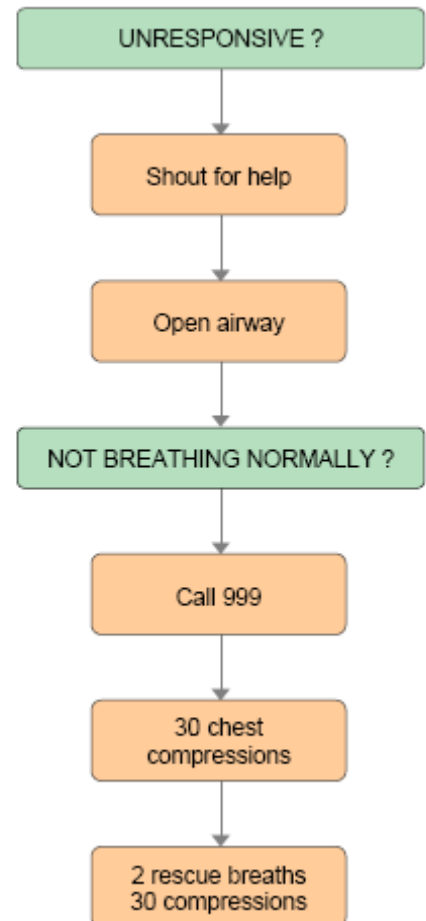
The following changes in the BLS guidelines have been made to reflect the greater importance placed on chest compression, and to attempt to reduce the number and duration of pauses:

- 1) Make a diagnosis of cardiac arrest if a victim is unresponsive and not breathing normally.
- 2) Teach rescuers to place their hands in the centre of the chest, rather than to spend more time using the 'rib margin' method.
- 3) Give each rescue breath over 1 sec rather than 2 sec.
- 4) Use a ratio of compressions to ventilations of 30:2 for all adult victims of sudden cardiac arrest. Use this same ratio for children when attended by a lay rescuer.
- 5) For an adult victim, omit the initial 2 rescue breaths and give 30 compressions immediately after cardiac arrest is established.

A fuller and more descriptive guide to resuscitation can be obtained from the resuscitation councils website: <http://www.resus.org.uk/pages/bls.pdf>

The above is expected to be implemented from 1st April 2006 but face delays until possibly July.

A new Heart Start DVD is expected to be available around August / September. Power-point and instructors notes/ handbook will be amended at the time of change.



## Transport case prompts HSE reminder on the importance of radiation protection controls

The Health and Safety Executive (HSE) today issued a reminder to companies working with radiation on the importance of protection control measures, including basic monitoring. The reminder follows the conclusion of a case brought jointly by HSE and the Department for Transport (DfT) against specialist contractor, AEA Technology plc (AEAT).

At Leeds Crown Court today, the Oxfordshire-based company was fined a total of £250,000 and ordered to pay £151,323 prosecution costs. The company had previously pleaded guilty to criminal charges under health and safety and road transport law, of exposing employees and subcontractors to potentially very high risks from radiation.

James Taylor, a Principal Specialist Radiation Inspector with HSE, said: "This case should serve as a reminder that radiation protection should never be taken for granted and that management must understand the principles, not least of which is the need to supervise their staff properly."

The joint HSE/DfT prosecution followed an incident in March 2002, when AEAT were contracted to remove material, previously used in cancer treatment, from a Leeds hospital and transport it by road to Windscale, Cumbria, for disposal. At Windscale, very high radiation levels were discovered coming from the specialist container used to transport the material.

A joint HSE/DfT investigation revealed that the fact a vital shield plug was missing from the transport container, allowing a beam of radiation to emit from its base, had gone unnoticed. A primary cause of the incident was the company's failure to supervise and support their staff properly.

James Taylor continued: "I am pleased that the court clearly saw this as a serious matter. While there is no evidence that anyone received a significant exposure during the preparation and transport of this material, there was clearly the potential for an extremely serious incident. Anyone exposed to the beam coming from the container could have exceeded the legal dose limit within seconds and suffered radiation burns within minutes.

"The case also highlights the need for proper preparation and monitoring of transport packages. Adhering to approved operating procedures would have detected the omission of the shield plug before the radioactive material was loaded to the package.

"HSE is always willing to work with companies handling radioactive materials to ensure that workers and the public are not exposed to excessive and therefore unacceptable levels of radiation. In HSE's judgment, however, the management failures and the level of risk in this case merited prosecution, in line with our published enforcement policy."

1. The prosecution alleged that AEA Technology plc (AEAT):
2. Failed to ensure, so far as reasonably practicable, the health safety and welfare at work of employees during work associated with the removal of a Cobalt 60 radiation source from a teletherapy machine at Cookridge Hospital, Leeds and its transport by road to Windscale for disposal, contrary to Section 2(1) of the Health and Safety at Work etc. Act 1974;
3. Failed to conduct its undertaking, namely the transport and management of radioactive materials, in such a way as to ensure, so far as was reasonably practicable, that persons not in its employment who may be affected thereby were not exposed to risks to their health or safety, contrary to Section 3(1) of the Health and Safety at Work etc. Act 1974;
4. Failed to take all necessary steps to restrict, so far as reasonably practicable, the extent to which employees and others were exposed to ionising radiation, contrary to Regulation 8(1) of the Ionising Radiations Regulations 1999 (IRR).
5. Failed to ensure that ionising radiation levels were adequately monitored, contrary to Regulation 19(1) of IRR.
6. Caused a package containing a radioactive source to be transported without determining the Transport Index of that package, contrary to Regulation Regulation 14(1) of the Radioactive Material (Road Transport) (Great Britain) Regulations 1996; and
7. Failed to ensure that requirements for package inspection were satisfied before shipmen, contrary to Regulation 31(2) of the above Regulations.
8. Following a preliminary hearing before Leeds District Magistrates' Court on 9th November 2005, AEAT appeared at Leeds Crown Court on 14th December 2005. The company pleaded guilty to the above charges and the case was adjourned for sentencing on Friday 17th February 2006.

Information on radiation safety can be obtained from HSE's website at: <http://www.hse.gov.uk/radiation/index.htm>

A suicide bomber detonated his device in very close proximity to a gas tanker (reported to be propane) in a market in the town of Al-Musayyib.

The reported death toll is still changing but it appears that over 90 people have been reported killed at this stage.

This incident demonstrates how a dangerous goods vehicle can be used to multiply the effect of an explosive device. A lot of the details are still sketchy at the moment, some newspapers are reporting that the bomber walked up to the tanker and detonated the device.

Pictures show the tanker itself did not explode and it is not clear if it did lose its cargo.



A more concerning report from the Jerusalem Post reports that the tanker was reported stolen by gunmen south of Baghdad on Thursday. It does raise the possibility that the tanker was deliberately placed in the market square and possibly the valves opened to create a gas cloud which would have been ignited into a fireball by the suicide bomber, this scenario is reported in the Gulf Times.

## UPDATED WEBSITES

Security Website (Modified 28th February 2006)

[http://www.dft.gov.uk/stellent/groups/dft\\_transsec/documents/page/dft\\_transsec\\_038911.hcsp](http://www.dft.gov.uk/stellent/groups/dft_transsec/documents/page/dft_transsec_038911.hcsp)

List of Approved Training Providers Explanatory Note (14th February 2006)

[http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/downloadable/dft\\_freight\\_611187.doc](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/downloadable/dft_freight_611187.doc)

List of Approved Training Providers and Their Location (14th February 2006)

[http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/downloadable/dft\\_freight\\_611188.xls](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/downloadable/dft_freight_611188.xls)

VOSA are carrying out roadside checks (they are also visiting premises) verifying that security training has been given to persons involved in the transport of dangerous goods. On roadside checks drivers are saying they have received no training in security. It would be useful to tell driver on your course that the training you are giving is part of their security training.

## REGULATIONS

A third corrigendum has been issued to the English version of ADR 2005. The corrections are mostly of a minor editorial nature, but they do include four amendments to entries in the Dangerous Goods List. The text of the corrigendum can be downloaded from the UN ECE website at [www.unece.org/trans/danger/publi/adr/adr2005/ECE-TRANS-175-Corr3e.pdf](http://www.unece.org/trans/danger/publi/adr/adr2005/ECE-TRANS-175-Corr3e.pdf).

Two corrigenda have been issued to the first revised edition of the GHS text, one relating to the English version, the other to the French. The corrections are again largely editorial in nature, some deriving from discussions by the GHS Sub-committee at its meeting this past December.



### New Class 5.2 Label / Placard

As from 1st Jan 2007 a new class 5.2 label will start to be used. The label has been redesigned to show the upper half as red to indicate it has a flammable hazard as well as being oxidising. Existing labels can be used till 2010.

### Instructions in Writing / PPE / Gloves for Nitric Acid > 70%

I recently purchased "Instructions in Writing" for Nitric Acid > 70%. They recommended that rubber gloves are to be included as part of the PPE on the vehicle.

They were not official CEFIC Tremcard but someone else's attempt at putting a set of instructions in writing together? And for sale.

According to several sources, many natural and synthetic materials are said *not* to be compatible with 70% Nitric.

Searching the BAM List on compatibility (German), latest edition, though nothing seems to have changed on the point from previous editions, clearly states that only PTFE (Teflon) or Polyvinylidifluoride (PVDF) give sufficient protection.

All other possible materials such as natural rubber (latex), butyl rubber, polyethylene, pvc and others are ruled out.

Another guide suggests that this is a special case and advice should be sought.

A third rules out natural rubber, gives a guarded intermittent recommendation for cross-linked polymers of polyethylene. Butyl rubber is ruled out.

Perhaps my best guide rules out nitrile rubber among others but recommends a glove coated with polychloroprene which could give 31 - 120 minutes protection but no more. Another has a special glove which they don't disclose what it's made of (registered trade mark) but looks very special in the guide and is said to be very flexible (a compliant often from drivers that gloves are too stiff to wear and work at e.g. connecting and disconnecting hoses)

Whatever the case, the set of instructions in writing looks decidedly dodgy.

## Foreign Licence Holders

**You should be aware that the Dangerous Goods Unit (DGU) within the Department for Transport (DfT) have advised us of a policy change, affecting all (non UK) applicants for Vocational Training Certificates (VTCs).**

**Arrangements for UK applicants (also see note 4 below) remain as set out in the current CGLI Manual of Practice for Training Providers (issue dated May 2004).**

DfT advise that it is now permissible to accept applications to sit the UK ADR examination from potential candidates, irrespective of their Nationality, country of residence or driver licence.

For the purposes of sitting ADR examinations and receiving UK issued Vocational Training Certificates (VTCs) it is no longer a relevant consideration whether the applicant holds (or held) a UK (including Northern Ireland) driver licence.

Applicants from EU Countries (irrespective of whether that Country is a signatory to ADR) and Countries outside the EU may also apply to sit the examination, in the UK. If they meet the criteria below, then, upon success in the examination, a manual certificate will be issued by CGLI showing their entitlement.

You should not therefore turn down any applicant who wishes to sit the examination at your centre purely on grounds that they do not hold a UK issued driver licence or reside in the UK.

The candidate must, in every case:-

From January 3 2006, provide sight of their passport (where no passport is held seek advice from CGLI immediately) as evidence that the candidate sitting the examination is the same person who has applied. (All candidates)

Show their driver licence (which must be checked against the number on the *Cand A* form.). A photocopy must be forwarded to John White or Paula Elliot at CGLI for verification. (Not necessary for UK driver licence holders whose records will be held by DVLA or DVLNI).

Where the licence is not supported by a photo card, particular care should be taken to ensure the bona fides of the candidate – hence the request to see their passport.

Candidates who present themselves on the day of the examination without relevant documentation must be advised that a certificate will not be issued to a successful candidate unless satisfactory documentary evidence has been received for verification within 10 working days.

CGLI

October 2005.

***To note:***

***The Manual of Practice is to be updated to reflect the DfT policy change.***

***Queries on the validity or otherwise of potential candidates must only be referred to John White or Paula Elliot at CGLI. Telephone 0207 294 2726***

***Queries on DfT policy matters should be referred to Tim Robertson or Darren Cooper at DfT. Telephone 0207 944 2775 and 0207 944 5911 respectively. It is better to e-mail queries to the DfT. [tim.robertson@dft.gsi.gov.uk](mailto:tim.robertson@dft.gsi.gov.uk) or [darren.cooper@dft.gsi.gov.uk](mailto:darren.cooper@dft.gsi.gov.uk)***

***Special arrangements are to continue to be made, as before, for members of foreign state armed services serving in the UK, to receive their VTCs.***

# Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004 ADR 2005

## Bowsers and IBCs

1. For the purpose of this note a bowser is regarded as a wheeled trailer fitted with a tank that may or may not be removable (see also Note 1 below). They are typically used for carrying fuel oils (inc diesel) or kerosene in quantities from about 500 litres to 3000 litres. Under ADR a “transport unit” is a vehicle or vehicle and trailer combined.

2. Authorisation No. 1 (see note 2 below) allows certain bowsers to be treated as IBCs. The conditions are set out in the authorisation, the most obvious being that it applies only to UN 1202 and that a bowser constructed after 10 May 2004 cannot be so treated.

3. Thus bowsers made since that date can only be treated in one of three ways

1. A trailer carrying an IBC which meets all the relevant requirements of ADR at chapter 6.5.
  2. A trailer carrying a portable tank meeting the relevant requirements of ADR at chapter 6.7.
- A tank vehicle or a trailer carrying a demountable tank, in either case complying with relevant parts of ADR at chapter 6.8.

4. In case 1, the IBC is treated as a package and if not greater than 1000 litres the “small load” exemptions set out in ADR at 1.1.3.6 will apply. The transport unit will then not be required to display orange plates and the driver needs only general training (ADR 1.3). The IBC will have to be marked and labelled in accordance with ADR 5.2. The “limited” fire extinguisher provision applies.

5. For larger IBCs carrying more than 1000 litres, all the provisions of the Carriage Regulations will apply.

6. In cases 2 & 3 all the “tank provisions” of ADR and the Carriage Regulations apply. These include

The driver must have a valid ADR training certificate.	ADR 8.2
The vehicle/ trailer (the transport unit in ADR terms) must carry an orange plate at the front and hazard warning panels on two sides and at the rear.	ADR 5.3 For GB domestic transport Carriage Regulations Reg 55 and Sch 9
The transport unit must carry adequate fire extinguishers	ADR 8.1.4
The tank must comply with relevant parts of ADR	ADR 6.7 (portable tanks) 6.8 (fixed tanks & demountable tanks)
There must be a relevant inspection regime for the tank	ADR 6.7.3.15 6.8.2.4
Where the tank is greater than 1 m <sup>3</sup> (1000 litres), the trailer must be certified to FL standards (for kerosene and other fuels with flash point up 61° C) or AT standards for UN1202	ADR 9.1
The towing vehicle must be certified to FL or AT standards as appropriate.	ADR 9.1.2.3

### Notes

1. Whilst a bowser is usually understood to be based on a towed trailer, the same analysis applies in the case of IBCs or tanks carried directly on a lorry or van.

2. Authorisation No 1 may be found at <http://www.hse.gov.uk/cdg/authorisations/auth01.pdf>

## REGULATIONS

Some articles from



A group of trade associations is gathering opposition to a French proposal to the RID/ADR joint meeting later this month that could result in new marking and documentation requirements for limited quantity loads of 12 tonnes or more. The French paper, based on a 2001 report by INERIS, states that the risks inherent in large volumes of dangerous goods carried under limited quantity exemptions are such that some sort of special marking is warranted. The trade associations, representing paint, adhesive and aerosol shippers and their carriers, contend that the reasoning of the proposal is flawed and that the measures that could result would impose significant additional costs for shippers and carriers. Those likely to be impacted are being urged to review the French proposal and to make their views known to their national delegate. The French paper is posted on the UN ECE website at:

[www.unece.org/trans/doc/2006/wp15ac1/ECE-TRANS-WP15-AC1-2006-12e.pdf](http://www.unece.org/trans/doc/2006/wp15ac1/ECE-TRANS-WP15-AC1-2006-12e.pdf).

### CEFIC ERICards Website

The website now offers Greek language information.

The full set of 10 languages is available from the website:

[www.ericards.net](http://www.ericards.net)

## 2006 No. 585 HIGHWAYS, ENGLAND

### The Dartford – Thurrock Crossing (Amendment) Regulations 2006

<i>Made</i>	<i>1st March 2006</i>
<i>Laid before Parliament</i>	<i>15th March 2006</i>
<i>Coming into force</i>	<i>12th April 2006</i>

These Regulations amend regulation 5 of the Dartford-Thurrock Crossing Regulations 1998 to substitute a reference to the 13<sup>th</sup> edition of the booklet entitled "Dangerous Traffic" issued in 2005.

The booklet may be obtained in person or by post from Le Crossing Company Limited, Crossing Offices, South Orbital Way, Dartford, Kent, DA1 5PR, the Mersey Tunnels, Merseyside Passenger Transport Authority, George's Dock Building, George's Dock Way, Pier Head, Liverpool, L3 1DD or the Tyne Tunnel, Wallsend, Tyne and Wear, NE28 OPD.

## Regs Change By 6th April (?)

### Tank Vehicle (Loading & Unloading of Petroleum Spirit) Regulations

Replace existing regulations covering the safe transportation of petrol (the loading of tankers, their carriage and unloading) by road and rail. They are designed to be short and straightforward and find a new home for existing requirements. They change no legal duties and will have no impact on costs for industry



Hands up:

Who wants to volunteer to unload the products in this container?

If you wish a .jpg image of these pictures please email me for a full collection.

Do you have any pictures that can be used, or are of any interest please email them to me at: [david@ritchiestraining.co.uk](mailto:david@ritchiestraining.co.uk)

A colleague from Canada writes "When the Saga Spray returned from Asia it encountered some rough seas. The cargo was actually the 53' containers for a consumer goods chain store inCanada. The salvage was done at the Fraser Surrey Dock because of their rotating crane with pivoting spreader."



## HAZARD CLASS 4

Take a sheet of paper and a salt cellar and sprinkle a few grains of salt onto the paper. Separate a single crystal of salt. This single crystal still consists of thousands of molecules of salt, sodium chloride.

Sodium chloride is made up of an atom of sodium and an atom of chlorine, alone, both sodium and chlorine are reactive chemicals but when they combine they form the stable sodium chloride.

Sodium is so reactive it is stored under oil and a little crumb dropped into a beaker of water will whizz around like a motor boat. Chlorine is so reactive and dangerous it can evacuate a town if it leaks. Yet together they are stable enough to sprinkle on our chips.

The sodium atom, Na, couples with the chlorine atom, Cl, to form the stable molecule, NaCl, made up from the two atoms.

To explain in old atomic structure style, the electrons in the sodium atom rotating around the nucleus have a single electron in an outer shell and it fits into an outer shell of the chlorine atom containing seven electrons to make it complete with eight. Any element with a single outer electron could have slipped in here, potassium for example.

And so everything around is made up of atoms, some reactive and some stable.

When we say everything we mean literally everything:

air—oxygen, nitrogen; water—hydrogen, oxygen; and all plastics—combinations of carbon and hydrogen with other chemical elements; blood; wood; carpets; cosmetics; clothes.

Some are natural but some are synthetic, we make them.

And we can make them by starting with simple chemical building blocks, caustic soda, sulphuric acid, ethylene, propane, nitrogen, oxygen.

Some chemicals are stable but some chemicals are dangerous and therefore must be handled with care.

CLASS 4 is hazard group containing chemicals that are not carried in the same quantities as the other groups but they do present very dangerous risks in carriage.

Although classed as combustible solids they behave differently and have been subdivided into three groups.

### 4.1 FLAMMABLE SOLIDS

### 4.2 SPONTANEOUSLY COMBUSTIBLE

### 4.3 DANGEROUS WHEN WET

Even within the groups the nature of the substances is sufficiently different to make further classification necessary.

Also in this group we use words not used in everyday language to describe the behaviour of the dangerous substances.

Class 4.1 has 3 sub groups.

Readily combustible solids can be powders, granules or pasty looking and are easily set on fire by brief contact with a source of ignition, including a lighted match, and also by friction. Once alight the flames may spread rapidly. The danger may come not only from the fire but from toxic products formed by the combustion.

Typical examples are naphthalene and sulphur.

Coated aluminium powder is an example of a substance that catches fire when subjected to friction or rubbing. It is readily ignitable and difficult to extinguish.

Also in this group are firelighters and some metal powders

Self Reactive and related substances can be solids or liquids.

Once self reaction starts heat can be generated very quickly and can be very large.

To understand self reaction we should consider some of the products in this sub group. They are uncommon but there is a wide range and are often carried under temperature controlled conditions.

Aliphatic azo (nitrogen bearing organic) compounds, nitroso (amines like methylamine or aniline that have been treated with nitric acid) compounds, diazonium salts. Uses include sponge blowing agents, polymerisation initiators, dyestuffs and diazotype printing.

Self reactive substances are liable to undergo at normal or elevated temperatures a strong **exothermal decomposition** caused by excessively high transport temperatures or contamination. In cases of ignition they may react dangerously without the presence of air and when they decompose without bursting into flames they may give out toxic vapours or gases.

An ex chairman and the author used to argue “drivers don’t need to know that”

Decomposition, decompose, dead bodies decompose, break down. Those chemicals above with the long names made up of carbon chains, hydrogen groups and complex nitrogen compounds are not as stable as the old sodium chloride we put on our chips and readily break down into smaller compounds.

So what’s with the exothermal decomposition?

Thermal( as in underwear, air currents and gas bills), heat.

Exo, (from the Greek outside) gives out.

Exothermic/Exothermal—occurring or formed with the evolution of heat.

It follows that something which is ‘thermally unstable’ breaks down when heat is applied to it.

Desensitised Explosives are substances of Class 1 which are wetted with sufficient water or alcohol or plasticizer added to suppress the explosive properties. They still present a fire risk and can be dangerous if allowed to dry out.

#### 4.2 Spontaneously Combustible Substances

These are Self **Heating** Substances which react with the oxygen in the air and are classified according to the amounts involved and the speed of the reaction.

Pyrophoric Substances including mixtures and solutions (of liquids or solids) which even in small quantities catch fire within 5 minutes of coming into contact with air.

Typical examples are white or yellow phosphorus

Pyro means fire

Pyromania an obsession with fire

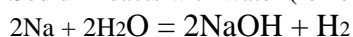
Pyrophoric means liable to ignite spontaneously on exposure to air

Other Self Heating Substances which in contact with air without energy supply the means no heat or ignition or generated heat by for example friction) are liable to self heating. These substances will ignite only when in large amounts (kilos) and after long periods of time (hours or days)

Examples are powdered carbon, fish scrap, oily cotton waste, celluloid scrap.

4.3 Dangerous When Wet substances on contact with water produce a flammable gas that can form an explosive mixture with air. The reaction may generate enough heat to ignite the gas formed.

Sodium reacts with water (remember the chips) to give off hydrogen and leave behind caustic soda.



Calcium carbide reacts with water to give acetylene.

In the 40s miners’ lamps were powered this way. A top compartment contained water which dripped onto calcium carbide via a very crude lever control over the water flow.

The gas emitted and burned in front of a large reflector, about 4 inches in diameter. The two holding compartments for the water and the calcium carbide were about 3 inches deep and 3 inches in diameter. The lamp had a clip on the back so that it could be carried on the belt or the helmet. Was this not the carriage of dangerous goods?



Time for some chips I think, pass the salt.



# Falls from tank containers

Tank containers are used for bulk transport of liquids and powders and can be handled and stored in the same way as international shipping containers (Figure 1). Access is often required to the top of the tank, at a height of 2.6 m. This may be for filling, emptying, cleaning or inspection. In the absence of any external aids, an operator must climb on top of the tank to gain access (Figure 2). Standard access provisions on tank containers consist of a ladder and walkway along the top of the tanker from which its openings can be reached



Figure 1 Tank Containers



Figure 2 - tank access ladder

This article is available from the HSE website:

<http://www.hse.gov.uk/falls/casestudies/tankcontainer.htm>

## Accident description

During unloading of a container, a site operator climbed on top of the tank. Although the vehicle driver was responsible for any operations on top of the tank, the operator saw the need to climb on the tank. Out of sight of the driver, the operator fell from the top of the tank and sustained serious injuries including a fractured skull.

## Business costs and benefits

### Cost of the accident

- An accident of this type can typically result in the employee requiring over a month off work and costing in excess of £20000. This includes pay for the injured employee, the cost of their replacement as well as legal expenses and fines.

### Cost of preventative measures

- The cost of fitting a folding handrail to a tank container is in the region of £500 per tank, about 2.5% of the total tank cost. However, tank operators often are responsible for fleets of hundreds of tanks.

**Mobile access ladders and site installed access gantries (Figure 3) cost around £5000 per installation. Mobile ladders and gantries have the benefit that no modifications are required to the tank containers and a single access system can serve multiple tank containers. Mobile access ladders and access gantries can also be considered as being inherently safe in comparison to tank mounted handrails.**

## Reducing risk of falls

Container operators have adopted a number of approaches to reduce the risk of falls from tank containers:

- Mobile access ladders and gantry access systems remove altogether the need to climb onto the tank. However, these will not necessarily be available at every port of call.
- Tank containers may be fitted with folding handrails. Even with a handrail system the containers will still need to be stacked, and so the handrail should not interfere with this. Further, folding handrails may be a target for thieves in regions where there is a market for the materials. Folding handrails also rely on the workers actively using them to make the work at height safe.

Fall arrest systems are available which will prevent an operator falling to the ground. These usually consist of a harness tethered to a location on the tank container.



# Case study of low falls whilst filling tankers

## Introduction

The Samlesbury, Inbev UK site near Preston employs 520 people and is operational 24 hours per day, 7 days per week all year round.

The site brews various beers and lagers. As well as the brewing facility, the company also bottle the product and produce promotional packaging. The product is also stored on site and distributed by Inbev's own fleet of vehicles. There are normally 50 – 70 tanker movements per week.

## Accident description

Three low falls accidents occurred in the tanker loading bay, when staff were connecting and disconnecting the hoses at the back of the tankers. Although railings were provided on each side at the rear of the tanker (see figure 1), the accidents had occurred due to staff tripping over the hoses and falling from the rear of the tanker.



Figure 1 – tanker in original position in loading bay

## Business costs and benefits

- Of the three accidents, one member of staff was badly injured and was off work for four months. Uninsured losses (resulting from lost time for example) were approximately £10000 and the accident cost in total around £31000. The other two accidents, whilst being less serious, had the potential for similar cost.

**Following the accidents, the company decided to improve safety for employees and a raised loading bay was constructed which permits the tankers to be reversed up to the deck. This allows staff to work at the same level as the tanker for most loading operations (see Figure 2). The loading bay cost £8000 to design and a further £42000 in materials and construction.**

## Reducing risk of falls

Risk of falls from vehicles during the loading and unloading process can be reduced through:

- Removing the working at height risk and the need to step down from the vehicle.
- Providing railings fitted at the correct height around working areas.
- Anti-slip coatings on pedestrian surfaces reduce slip and hence fall hazard.
- Ensuring sufficient light in the vicinity of the loading area.
- Adopting a work system for drivers that does not encourage the loading/unloading process to be rushed.



Figure 2 – tanker in the loading bay

## Tank Testing

The operator is required to have a written scheme for the initial and periodic examination, and where appropriate, periodic testing of their tanks. This may be carried out by an inspection body or, until 1 July 2006, a competent person.

The competent person scheme is being phased out so that after 1<sup>st</sup> July 2006 examination and testing can only be carried out by or under the control of an inspection body. Details regarding the appointment of inspection bodies will be available from the DfT/UKAS.

For example ADR and RID generally lay down a maximum period of six years/eight years/five years for the periodic examination and testing of tank-vehicles, tank wagons and tank containers respectively, with an intermediate three yearly/four yearly/two and a half yearly respectively leakproofness test and check of the satisfactory operation of all equipment. These periods should not normally be exceeded.

However there may be circumstances where shorter or longer periods may be appropriate, especially where RID and ADR provide for this for particular substances or groups of substances.

It may also be necessary for certain fittings e.g. relief valves to be examined more frequently than the tank itself, and the scheme should take this into account.

New DfT Guidance Notes:

- [DfT dangerous goods guidance note 10](#)

IBC examination, inspection and testing. Published: 16 March 2006.

[http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/pdf/dft\\_freight\\_pdf\\_611346.pdf](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/pdf/dft_freight_pdf_611346.pdf)

- [DfT dangerous goods guidance note 11](#)

Dangerous goods in machinery: preventing leaks. Published: 16 March 2006.

[http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/pdf/dft\\_freight\\_pdf\\_611347.pdf](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/pdf/dft_freight_pdf_611347.pdf)

- [DfT dangerous goods guidance note 12](#)

Avian influenza virus. Published: 16 March 2006.

[http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/pdf/dft\\_freight\\_pdf\\_611348.pdf](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/pdf/dft_freight_pdf_611348.pdf)

Also see revised document DfT guidance note 7 (revised): retail distribution at [http://www.dft.gov.uk/stellent/groups/dft\\_freight/documents/pdf/dft\\_freight\\_pdf\\_033696.pdf](http://www.dft.gov.uk/stellent/groups/dft_freight/documents/pdf/dft_freight_pdf_033696.pdf)

A full list of guidance notes can be found at the DfT dangerous goods website