



## ***WHAT'S HAPPENING?***

***May 2008***

**WELCOME TO  
OUR NEW  
ASSOCIATE  
MEMBER**

Gregory  
Nicholls  
Queensland

**Mark This  
Date in Your  
Diary**

**Annual  
Conference  
Friday  
September 12  
Crowne Plaza  
Sydney**

### **SAFETY IS NO ACCIDENT**

#### **Oldies but Goodies - Process Safety Bulletins**

<http://www.tulane.edu/~bmitche/aiche/psb0802.pdf>

#### **In the News**

#### **Workers' Safety Fears at Fawley Refinery**



Anxious staff at the giant Fawley oil refinery have revealed their fears of a major accident at the plant. The workers highlighted the refinery's ageing infrastructure and lack of maintenance among their major concerns.

Other staff at the complex - the largest of its kind in Britain - also admitted the under-reporting of minor incidents, accidents and near-misses for fear of losing cash bonuses received for their safety record.

In the report, inspectors from the Health and Safety Executive (HSE) concluded they had never encountered such a prominent and pervasive blame culture at any other refining and chemical complex in the country.

"Of particular concern was the extremely high numbers of staff stating that they would not be surprised if a major incident were to occur in the near future," inspectors wrote.

[http://www.dailyecho.co.uk/mostpopular.var.2245519.mostviewed.workers\\_safety\\_fears\\_at\\_fawley\\_refinery.php](http://www.dailyecho.co.uk/mostpopular.var.2245519.mostviewed.workers_safety_fears_at_fawley_refinery.php)

This month, my thanks go to John Baker, Peter Hunt and Wal. Southwell for their contributions.

## **Buncefield Fire – Negligence! Says High Court**

The Buncefield fire was the result of negligence by Total, the French oil giant, a High Court judge ruled yesterday. Mr. Justice David Steel made the ruling during a preliminary hearing of a case in which victims of the 2005 blast are suing Total and others for up to £1 billion in damages.

In a statement to The Times, Total UK said that the duty supervisor at the time was responsible, but Total refused to admit either civil or criminal liability for the incident. It is reported that Total UK intends to argue that it should not be liable for damages because it could not reasonably have foreseen that it would cause the destruction it did.

Similar to Longford and Texas City - no?

<http://business.timesonline.co.uk/tol/business/law/article3994656.ece>

## **Hazmat 2008**

A few of our members from NSW attended this annual event.

Day 1 included the latest on regulatory changes in all aspects of chemical management from various authorities. There were differing views on when Australia should adopt GHS and how much of the complete package should be adopted. Environmental risks associated with chemicals are receiving more attention.

Day 2 got down to more specifics relating to dangerous goods, major hazard facilities and security issues, followed by ammonia incidents, the vexed question of training the next generation of experts (it's not only AIDGC which sees this problem) and finishing off with presentations on nanoparticles.

## **Vopak Site Visit**

About a dozen members attended this May AIDGC Event. Some of us were a little short of breath when we got to the top of the stairs – but the view was great!

There were tanks in various different stages of construction and being able to go inside one with only a few strakes above the floor was most educational.

It was interesting and encouraging to see lessons from the Buncefield fire being implemented in the construction of the concrete bund.

## **Australian Dependence on Imported Helium to End**

Australia's dependence on imported helium is set to end with work starting on the southern hemisphere's first helium plant in the Northern Territory.

<http://www.industrysearch.com.au:80/news/viewrecord.aspx?id=32604>

## Corporate Members

Our Corporate Members provide a range of products and services to the Dangerous Goods Industry. Their contact details are:

AJM Environmental –  
Adrian Minshull  
02) 9542 2366

Basset Consulting  
Engineers –  
Tim Dean  
(07) 3510 4000 or  
0439 371 063

Leighton O'Brien  
MassTech –  
Darrell Barton  
03) 9813 5122

Store-Safe Pty Ltd –  
Grant Breeze  
02) 9569 2122

Vanguard Solutions  
Tony Davies  
08) 9420 5322

## STANDARDS WATCH

### **AS 4979:2008:**

#### **Flammable and combustible liquids – Precautions against electrostatic ignition during tank vehicle loading**

This Standard applies to the loading of tank vehicles with Class 3 flammable liquids of Packing Groups II and III, and to combustible liquids. It deals specifically with safeguards against electrostatic ignition, but does not cover the full range of safety precautions that apply to tank vehicle loading. Published on May 23, 2008.

### **AS/NZS 60079.0:2008 :**

#### **Explosive atmospheres - Equipment - General requirements**

Specifies the general requirements for construction, testing and marking of electrical apparatus, Ex cable glands and Ex components, intended for use in explosive gas atmospheres. This Standard does not specify requirements for safety, other than those directly related to the explosion risk. Published on 19 May 2008.

### **Road Tank Vehicles for Dangerous Goods**

#### **AS 2809.1:2008 :**

#### **General requirements for all road tank vehicles.**

#### **AS 2809.2:2008 :**

#### **Road tank vehicles for flammable liquids**

#### **AS 2809.3:2008 :**

#### **Road tank vehicles for compressed liquefied gases**

Road tank vehicles intended for the transport of dangerous goods shall comply with the AS 2809 series, as is relevant to the special needs of the particular cargo.

Where a cargo has two characteristics, e.g. toxic and flammable, or where a road tank vehicle is switched from one cargo to another, the requirements of all relevant Parts shall apply. Published on May 5, 2008.

### **Not Enough Room?**

Secondary containment for places where there is not enough room for the usual the usual bund wall...

Have a look at the next page!

Any internet links that you would like to share with members, please first send to [jdbaker@ozemail.com.au](mailto:jdbaker@ozemail.com.au)



## **IN THE LABORATORY**

### **Extinguishing High Temperature Fires**

Various flammable metals (e.g. magnesium, titanium, potassium, sodium, lithium and alloys) and pyrophoric organo-metallic reagents (e.g. alkyl lithiums, alkyl magnesiums, grignard reagents and diethyl zinc) may burn at high temperatures.

They can react adversely with common fire fighting chemicals which include water and carbon dioxide.

For example, burning magnesium metal may:

- Decompose applied water to yield flammable hydrogen gas.
- Continue to burn even when completely smothered by nitrogen gas or carbon dioxide gas. In the latter case, toxic carbon monoxide and/or carbon particles may be emitted.
- Break down (now obsolete) Halon to yield toxic phosgene and fluorophosgene.

Consequently, there is no universal extinguishing agent that is applicable to all Class D fires; rather, there are several common types and a few rarer ones.

Additionally, there are important differences in the way each is operated, so operators should receive special training.

Some example of Class D chemistries include:

- Finely powdered sodium chloride (salt) propelled by carbon dioxide or argon. Heat from the fire causes the agent to cake so forming a crust that excludes air and dissipates heat. After a crust of at least 50 mm thick has formed over the burning metal, it is picked up with a long handled shovel and placed in a bucket of salt or very dry sand and additional agent poured on top. Suitable for sodium, potassium, magnesium, titanium, uranium, aluminium and most other reactive bulk metal fires, but not lithium or very finely powdered metals.
- Finely powdered graphite, applied with a long handled scoop, is preferred for fires involving fine powders of reactive metals, where the blast of pressure from an extinguisher may stir up the powder and cause a dust explosion. Graphite both smothers the fire and conducts away heat.
- Finely powdered copper propelled by compressed argon is a preferred method for lithium metal or alloy fires. It smothers the fire, dilutes the fuel, and conducts away heat. It is capable of clinging to dripping molten lithium on vertical surfaces. Graphite can also be used on lithium fires, but only on a level surface.
- Very dry sand has been used to smother a metal fire, if nothing better is available. It should be applied with a long-handled shovel to avoid the operator receiving flash burns, then the molten mass is transferred to a bucket of dry sand. But note that even the smallest trace of moisture may result in a steam explosion, spattering burning molten metal.  
For this reason, salt is preferred, since dampness is more obvious.

## **Amazing Chemical Reactions - Thermite Reaction**

<http://www.youtube.com/watch?v=ADUmv5xD99I&feature=related>

<http://video.google.com/videoplay?docid=-7231843493488769585>

## **RESOURCES**

### **Dry Ice**

Guidelines for the Safe Transportation, Storage, Use and Disposal of Dry Ice Products.

<http://www.bcgga.co.uk/publications/TIS07.pdf>

## **CSB Videos**

The US Chemical Safety Board has now published three safety DVDs:

1. Safety Videos, Vol. 2, Aug 2007 (supercedes Vol. 1)
2. Anatomy of a Disaster, Apr 2008 (BP Texas City accident)
3. Safety Videos, May 2008 (single track - Apex fire)

All DVDs are now available through an Australian source, with CSB permission. A flyer giving details of how to order may be viewed at:

<http://tinyurl.com/4apz5a>

## **Emergency Response Guidebook 2008**

This Guidebook is intended primarily for first responders to enable them to quickly identify the specific or generic classification of the material(s) involved in the incident and to protect themselves and the general public during the initial response phase. The ERG is updated every four years. The new Guidebook can be downloaded from:

[http://hazmat.dot.gov/pubs/erg/erg2008\\_eng.pdf](http://hazmat.dot.gov/pubs/erg/erg2008_eng.pdf)

## **Acetylene Cylinders in Fires Emergency Planning**

The London Fire Brigade has been working to improve controls over the safe use, signage and storage of acetylene gas cylinders, and creating a greater awareness of the dangers when the cylinders are involved in fires and other incidents.

<http://www.london-fire.gov.uk:80/news/cylinders.asp>

<http://www.ha-research.gov.uk/projects/index.php?id=1084>

## **Qualitative Comparisons - Relative Energies and Power**

The rate at which energy is released is usually more significant than the amount of energy that is released.

<http://home.earthlink.net/~jimlux/energies.htm#GasDynamite>

## **KEEP IN TOUCH**

If you have any suggestions or queries please do not hesitate to contact the AIDGC Executive Officer, Robyn Hogan: [robynhogan@unwired.com.au](mailto:robynhogan@unwired.com.au) or leave a message with the AIDGC paging service 02 9430 6739 and I will return your call.