



AUSTRALASIAN INSTITUTE OF DANGEROUS GOODS CONSULTANTS

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Conference

*"the conference
was noted for
the technical
excellence of the
papers
presented"*

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The first annual conference of the AIDGC was a resounding success with over 115 delegates.

Delegates travelled from country areas and interstate to attend a conference noted for the technical excellence of the papers presented.

Keynote speakers from NSW Government departments with regulatory responsibility and industry specialists made the day worthwhile for all attendees.

The afternoon sessions were divided into two workshops so that the delegates could work through a number of issues on either LPG gas installations or mixed class storage of dangerous goods. The Editor attended Peter Hunt and Jurgen Strauch's session on this second topic. The emphasis was on the pragmatics of using the AS/NZS3833.

John Borig travelled from Melbourne to share his experiences with the performance-based approach of the VIC

DG Regulation. His was an extremely valuable talk and we will benefit from these experiences as NSW introduces new legislation. ♦

Chris Flannery,
AIDGC
President,
welcomes all
delegates.



Peter Dunphy,
A/Director,
Occupational
Health &
Safety Division
WorkCover
opens the
conference.



Conference
delegates
enjoy the
presentations
by keynote
speakers.



ANNOUNCEMENTS

Membership • 62 members strong and growing.

Newsletter • Circulation list tops 200 with circulation to interested parties in all states, Pacific Islands and New Zealand.

Year Ahead • Full calendar of professional development planned for year 2003.

Working with SAA • There are seven (7) committees that SAA consider may be of interest to AIDGC. AIDGC representation would be of benefit by sharing the experience and knowledge of our members with the wider community through developing AS/NZ Standards.

A working party has been set up to comment on the WorkCover DG Issues paper released in October 2002.

The Board welcomes interstate dangerous goods consultants who may benefit from ongoing contact with AIDGC and attendance at the annual conference and technical seminars. Contact Robyn Hogan, Executive Officer on robyn@f1.net.au.

Changes are being made to the by-laws to enable members to use the AIDGC logo on their correspondence.

Member Profile

Graham Goodfellow



Graham Goodfellow's early training was that of a Marine Engineer, a career he followed for eight and a half years. This was initially engaged on Australian coastal and Pacific Islands runs for two years, then to overseas trading where he regularly visited all continents. He was appointed Chief Engineer of a large British freighter at the age of twenty-six years and maintained this position for a further two years. He was the youngest Chief Engineer in that company's fleet of 53 ships with a further 50 on charter.

From 1962 to 1967, he was engaged as Plant Engineer, then Maintenance Engineer with Australian Fertilizers Ltd (now Incitec Pty Ltd). AFL was the major manufacturer in this country of sulphuric acid, phosphoric acid and a large range of Fertilizers.

From 1969 to 1984, Graham was Production Manager, then Operations Director of the Samuel Taylor Aerosol and Household Division of Reckitt and Colman (Aust) Ltd. Large quantities of 2.1, 2.2 and some 2.3 and large volumes of D.G. Classes 3 to 9 except Class 7 were used. In 1984 Graham was appointed Group Director Engineering and Safety Services with Reckitt and Colman(Aust) Ltd, providing productivity enhancement advice and engineering guidance to the six Australian divisions of this large multinational business, and technical support to divisions throughout the World.

During late 1985, Graham established G R Goodfellow Pty Ltd, a management support service company, providing a wide range of manufacturing related disciplines. Because of his significant experience in the safe handling and storage on all classes of dangerous goods his consultancy also extended to this area.

In 2000, he assisted the Hon Peter Nagle in his review of the NSW Dangerous Goods Regulation 1999. The Nagle Report was tabulated in the NSW Legislative Assembly. Similarly, he has carried out a number of forensic investigations and studies on fires, explosion and accidents for lawyers on behalf of clients.

He has sat on two Standards Australia Committees.

He has written and delivered a number of papers on the Safe Handling and Storage of Dangerous Goods. These have been presented to WorkCover NSW, insurance bodies, the Aerosol Association of Australia and the Aerosol Association of New Zealand. He has also written and presented numerous manufacturing and engineering papers in Australia, New Zealand and England.

Graham has consulted to a large number of clients in oil refineries, coal, gold and copper mines, food manufacturers, household products manufacturers, agriculture and agricultural chemicals, aviation, toiletries and pharmaceutical industries, warehousing and bulk L P Gas terminals. Graham consults on all Classes of Dangerous Goods from Class 1 to Class 9 and even consulted on Class 7 materials when this was under the control of WorkCover NSW.

Graham was the Provisional Chair of the Australasian Institute of Dangerous Goods Consultants which was chartered in August 2002.

Since 1986, Graham has been heavily involved in the Rotary organisation. His service work as President of the Rotary Club of Northbridge was recognised by the then World President of Rotary International with a Rotary International Presidential Award as an Exemplary Rotarian in 1991. Graham has served on many Rotary project management committees.

His wife Joy, has a PhD in education and is one of Australia's leading authorities in Early Childhood Education. They have three married adult sons and three great daughters-in-law and six grand-children - completing the Goodfellow team! ♦

Any further technical discussion would be of interest to the Editor.

Other Design Aspects - I would be interested to hear from readers on other design aspects. Copies of the report can be provided.

"Flying Drums"

The Editor has been involved, with others, in preparing an environmental impact statement for a proposed major chemical storage facility at Minto in south-western Sydney. A number of logistics operations have been relocated to the Ingelburn-Minto industrial area due to advantages provided by infrastructure.

The EIS required a preliminary hazard analysis to be prepared as part of the assessment.

An issue that has become very topical as a result of ABC Four Corners program "Too Hot To Handle" coverage, of a fire at a hazardous waste site at Bellevue, Perth, is fire from exploding drums. Reports released by the state government were assessed and the first fire officers who attended the fire contacted to attest to the length of travel of drums containing flammable liquid waste ignited by the fire.

The incident at Bellevue involved drums stored in an open yard with stockpiles of drums stacked in several layers. Pool fires occurred, which enabled the fire to rapidly spread through the store of drums in the open yard area.

The diagram (1) shows the extent of secondary fires resulting from the propulsion of drums due to "bleves" that occurred.

The drums easily travelled several hundred metres. So how can the experience learnt from an open drum store be applied to a roofed store constructed of 240/240/240 FRL walls? - with difficulty. A search of an extensive database, MHIDAS, revealed an absence of published data on applying a technique that would be useful to influence the design of the site.

A method of calculating a trajectory that was presented in a previous EIS prepared for a similar facility at Ingleburn was adopted. The calculation technique is shown in diagram (2). The angle of trajectory was used to decide the orientation of the doorways for the flammable liquids warehouse, which would be 200 metres from the nearest residential area. Other design aspects that could be considered before fire sprinklers are, mesh beneath the roof or drainage of liquid to an external containment pit. ♦

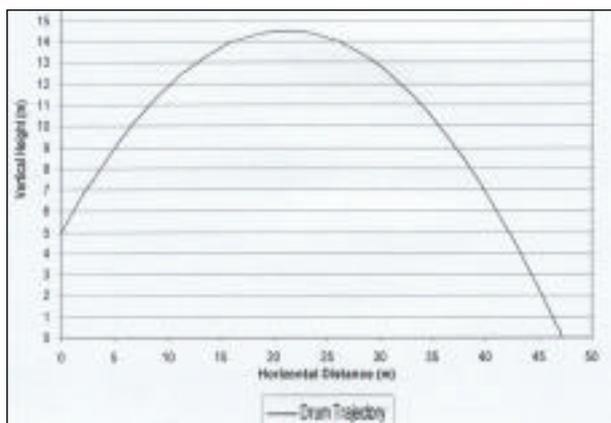


Diagram 1 (above): Plan of Bellevue site, showing fire outbreaks and secondary fire outbreaks.

Diagram 2 (left): Chart showing drum trajectory

The following new members are welcomed

- Gregory Woon*
TSF Engineering Pty Ltd
- Peter Moore*
Environmental Resources Management Australia Pty Ltd
- Andy Battye*
- Eric Strautins*
Vopak Terminals Australia
- Matt Sawtell*
MJS Dangerous Goods Solutions
- Neil Trillo*
Vopak Terminals Australia
- Jeffrey Allan*
Shell Engineering Pty Ltd
- John Biddiscombe*
Air Liquide Australia Ltd
- Arthur Hand*
A R H Technical Services
- Allan McGowan*
AGM Consultancy Pty Ltd
- Peter Powell*
Kleenheat Gas Pty Ltd
- Phillip Woodford*
C N F & Associates Pty Ltd



5th February – Visit to Elgas with a 8.00am breakfast site inspection combined with a technical presentation.

AIDGC events 2003

March – Experts on insurance to address a gathering of AIDGC members at Silverwater.

April – Visit to a major dangerous goods logistics facility, either at Port Botany or Ingelburn.

May – First information night & technical seminar for local governments presented by AIDGC at Parramatta.

June – First technical seminar for AIDGC members on explosive vapour atmospheres with talks by an electrical equipment supplier, certified electrical contractor and AIDGC members on using ventilation flow rates to reduce the extent of a hazardous area. To be held at Silverwater.

July – Second technical seminar for AIDGC members on explosive dust atmospheres with specialist discussion led by specialist suppliers, installers and operators.

August – Possible visit to a 145MW Cogeneration Plant to examine a range of issues dealing with emergency management, computer programs, practical aspects of explosion protection, management systems.

September – Annual Conference

October – Second & third information night & technical seminar for local governments presented by AIDGC at locations to be confirmed.

November – Possible visit to a coalbed methane conversion plant to examine a range of issues when exhausting methane from coal seams and converting it into electrical energy.

During the year there will be discussions held on Draft Australian Standards, new regulations, review of AS1940 and major hazard facilities. These will be breakfast meetings at locations central to the majority of members.

The Role of AIDGC for Dangerous Goods Licensing

Recent correspondence from Peter Dunphy, A/Director, Occupation Health & Safety, WorkCover NSW congratulated the AIDGC on achieving formal status, not only as an incorporated business unit, but also as a professional organisation that can provide specialist consultancy advice on a wide range of dangerous goods safety issues.

Mr Dunphy also commented on the recent one-day Dangerous Goods Seminar and the level of support it received from members and others involved in many dangerous goods industries. Mr Dunphy also noted that the AIDGC has successfully sustained the momentum of the earlier series of seminars that provide a forum for dangerous goods safety professionals accredited by WorkCover to stamp compliant plans of dangerous goods storage facilities for licensing purposes.

New legislation on safe storage and handling of dangerous goods will be introduced over the next year. This will result in changing the present licensing requirement and introducing instead a system of notification of storage facilities where dangerous goods are kept. A new Code of Practice will form part of the "package". This will set out "best practice" information for handling and storing dangerous goods, to provide both industry and the community with the essential safety measures to be observed.

WorkCover is proceeding with certain changes to the documentation arrangements for licensing of dangerous goods depots, pending the arrival of new legislation. Currently Accredited DG Consultants will continue to be accredited for stamping compliant depot plans that are submitted with new applications for a Licence to Keep Dangerous Goods, but only until the end of February 2003. WorkCover will cease their scheme for accrediting consultants after February 2003.

Qualification by an applicant for full membership of AIDGC has now been established by requiring them to have demonstrated an acceptable level of knowledge of the relevant Regulation and Standards that apply to nominated Classes of dangerous goods concerned, by means of an appropriate technical examination.

Mr Dunphy stated that WorkCover are pleased to advise that they now recognise persons who have qualified for full membership of the AIDGC as being acceptable for stamping of plans of dangerous goods storage facilities for licensing purposes.

PACIA Scheme

Cost for Carrier:

PACIA registration fee
\$200.00

Audit fees and costs,
payable to Auditor
- by negotiation.

Chemical companies who are members of the Plastics and Chemical Industries Association (PACIA) have committed themselves through the Responsible Care program to support a continuing effort to improve the industry's responsible management of chemicals. In particular they have agreed to comply with the Responsible Care Transportation Code of Practice that governs their actions with respect to the transportation of chemical products by all modes of transport from their source to their destination.

The Transportation Code of Practice is intended to:

- Ensure regulatory compliance
- Achieve progressive improvement in safety and reduction of the incidents which can result in harm to people or to the environment during the transportation cycle
- Provide an effective emergency response to transportation incidents which minimise injury to people or damage to the environment
- Ensure that management systems necessary for responsible transportation activities are in place and are functioning effectively
- Promote co-operation with the transportation industry in reducing risks associated with the carriage of chemicals
- Improve public, employee and carrier confidence in the transportation of chemical products

Carriers' seeking to be considered for transport contracts with PACIA member companies (often large volume freight), are encouraged to seek PACIA Carrier Accreditation. Orica and Incite are prime drivers of the scheme.

A Carrier seeking PACIA accreditation must first apply for and complete a comprehensive self-assessment document, which is then sent to an accredited PACIA Auditor for examination.

The Auditor makes an appointment with the carrier for a mutually acceptable time, visits and audits the carrier using a prepared PACIA audit document.

All being well, the completed audit document is sent to PACIA Secretariat with a summary and recommendation.

Institute member, Frank Bollard is an accredited PACIA Auditor and has completed many audits in NSW, VIC and QLD, the last three audits taking place in Dubbo, Wee Waa and Mt Isa.

Please direct any enquiries to Zoe Wood at the PACIA Secretariat on phone 03 9429 0670 or to AIDGC member, Frank Bollard on 0409 526 636.

ACID TANK EXPLODES; 200 FLEE!

More than 200 workers were evacuated from a Melbourne industrial estate on November 14th, 2002 after a tank containing up to 20,000 litres of hydrochloric acid exploded and rocketed skyward. A man and a woman were taken to hospital with minor injuries and for observation after the explosion around 10.20am (AEDT) at a chemical factory in Brooklyn.

Ten Metropolitan Fire Brigade (MFB) units rushed to the scene, with eight still on site late into the afternoon. Fire fighters initially cordoned off 15 factories, but the threat was reduced to one block late in the afternoon. A MFB spokesman said the explosion blew the fibreglass tank up to 20 metres into the air. "It landed about 30 metres away," he said. The spokesman said it was initially thought a spark caused the explosion, but it was later believed it could have been caused by a reaction between two or more chemicals. Environmental watchdog EPA Victoria was reported as saying the spill did not pose an environmental threat because most of it was contained within the bunding (an earth embankment) around the tank. "EPA is working with other emergency response agencies to ensure the correct clean-up procedures are followed," an EPA spokesman said.

Courtesy of Terry Grainger, BP Dangerous & Hazardous Material

Technical Q&A

Many thanks to Peter Hunt. Peter is the recipient of 2 fine bottles of Red (a Merlot & a Cab Sav) for supplying answers to questions raised in past issues.

Detailed answers of previous questions are available. Contact Peter Hunt or RT Benbow

Q. Fred's distribution business has an area of 6.2m x 5.6m in which to store aerosols (UN No. 1950). They have three different product lines, each stacked 490kg per pallet approximately 1.2m square, and wish to stock equal amounts of each. Without disturbing pallet loads, what is the maximum quantity Fred can store in this area before he has to build the enclosure required by NSW Dangerous Goods (General) Regulation 1999, Clause 122 (6) (b)?

Courtesy of Peter Hunt. Send your answer(s), with reasoning, to W.V. Peter Hunt (e-mail: pkhunt@dot.net.au or fax: 9924 2804). The first correct response received will be published in the next issue of this newsletter, and will receive an AIDGC bottle of fine Australian wine.

Q. If an aerosol package UN1950 uses Carbon Dioxide as the propellant to spray a Class C1 combustible liquid, is the aerosol classified as Class 2.2?

A. The ADG Code Appendix 2 entry for UN1950 Aerosols lists a number of applicable Special Provisions. SP63 states that for aerosols, "Class 2.1 applies if the contents include more than 45% by mass, or more than 250g of flammable components. Flammable components are gases which are flammable in air at normal pressure or substances or preparations in liquid form which have a flash point less than or equal to 100° C". For the example in the question, if the flash point of the C1 liquid is 100°C or less, it will be Class 2.1. If the flash point is greater than 100°C it will be classified as Class 2.2.

New Products

Trans-Trainer

Trans-Trainer has released the HSLP(B) series of heavy duty rigid plastics IBC's for dangerous liquids.

The design of the IBC's features many improvements. Detailed information may be obtained from Trans-Trainer, **email: sales@trans-trainer.com.au**



HSLP100(B) Liqua-Tainer

JFT

JFT Group of Companies provide a petrochemical tank and line integrity testing service using the ALERT system. The system is reported as providing quality test results with minimal disruption to site operations. Further information can be accessed from the JFT web site at **www.jft.com.au**

Please note: AIDGC does not endorse any suppliers product(s) by publishing this information.

Observations from Members ...

- Gas suppliers installing their LPG tanks at service stations are often unaware that the service stations are not already licensed to store these tanks. One member has found that this frequently occurs and recommend original licensing of service stations include the LPG tanks.
- A self bunded (wrapped tank) for above-ground diesel storage is a convenient means of establishing a diesel supply at a logistics site. One member observed two 49000L diesel tanks located 1m from a steel clad building. The installation had been approved by local council, and considerable cost will be incurred to relocate the tanks and use FRL walls to comply with AS1940. The supplier of the tanks appears to be unaware of the location requirements of AS1940.
- Chemical supplier to the pulp paper industry located 1500L IBC's of flammable liquid (PGIII) within the ground floor area of a boiler house and also immediately adjacent to IBC's of Class 8 chemical at two sites. Solutions to this installation are difficult to retrofit and needs to be avoided by the specific supplier being aware of storage requirements of the relevant Australian Standards.