

MONITOR

Official publication of the
Mining and Resource Contractors Safety Training Association

MARCSTA 150,000th certificate

Paul Ellis was the recipient of the 150,000th MARCSTA certificate, presented at the Association's Annual General Meeting.

Paul, a mechanical fitter, who works for Roche JR in Newman, was presented with his certificate by the Minister for Consumer and Employment Protection, Mr John Kobelke MLA.

Paul was trained by Neil McMeekin.

The 50,000th certificate was presented to Ryan Speirs in early 2000 and the 100,000th was presented to Shannon Dickey in late 2002.

During his presentation the Minister commended the Association for achieving this remarkable milestone.



Minister Kobelke presents Paul Ellis with a copy of his MARCSTA certificate

MARCSTA's AGM

MARCSTA's Annual General Meeting was held on Friday, 2 December, 2005. The following extracts are from the Chairman's address:

“MARCSTA was established some ten years ago as a non-profit training organisation with only one principal objective:

To develop and implement safety and health training programs for the mining and resource industry, which would promote improved safety standards, and to ensure that the training reflected the changing needs of industry.

The first General Safety Induction program was conducted on 18 July 1996 by Vic Roberts at a quarry in the south west of the state. Since then, MARCSTA has issued more than 150,000 General Safety Induction Certificates throughout Western Australia and Tasmania.

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MARCSTA is a not-for-profit Association. All proceeds are reinvested into the industry for future development of safety and training.

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The contribution of MARCSTA to the overall culture of safety and health in Western Australia and Tasmania is incalculable. The name MARCSTA is now well known and recognised as a benchmark for general safety induction throughout the state.

This awareness is largely due to the contribution of our team of highly professional training providers. It is remarkable that at least ten of our original providers continue to deliver our programs today. We thank them for their contribution.

Some of the major changes that have occurred over the past ten years warrant a mention:

- The professionalism of training providers has led to a high level of acceptability by candidates of the need for quality safety and health induction.
- The adoption by MARCSTA of the Australian Quality Training Framework and the alignment of all programs to National Training Package Units of Competency.
- The availability of training in most major mining regions and in the metropolitan area six days per week.
- The availability of skills recognition and increased options for refresher training.
- The focus on three core training programs:
 - General Safety Induction
 - Conduct Local Risk Assessment
 - Extended Working Hours and Your Health and Safety

We believe that the completion of these three programs, at a cost of less than \$400, is the entitlement of every employee in the workplace and would do much to

improve safety and health which is increasingly under threat in today's workplace environment.

All MARCSTA training programs provide the first step in achieving nationally recognised qualifications.

I would now like to conclude with a brief look at the future, where a number of new initiatives offer great promise.

During 2005 MARCSTA was approached to provide its General Safety Induction to students attending the Fremantle, Rockingham and Peel TAFE campuses, to provide the opportunity for those undertaking engineering modules to acquire basic safety and health knowledge.

Feedback has been very positive and it is likely that this opportunity will be extended into regional areas in 2006.

These training programs are provided at no cost as part of MARCSTA's commitment to early training of young employees.

General Safety Induction training was recently provided to inmates of a correctional institution who are expected to be back in the workforce in the near future.

We believe this approach by institutional authorities to be innovative and beneficial in a social sense.

The last matter that I would draw to your attention is the very important research work being conducted by Ian Douglas of

Edith Cowan University.

This research is evaluating the efficacy of MARCSTA's General Safety Induction in reducing the duplication of mining safety induction course content and the incidence rate of accidents, injury and disease among contractors.

The study has a number of unique characteristics, perhaps the most important of which is that all the data has been obtained on a confidential basis from candidates

attending General Safety Inductions around the state and in Tasmania for the first time or on repeat occasions.

The implications for the concept of industry

wide generic inductions are considerable.

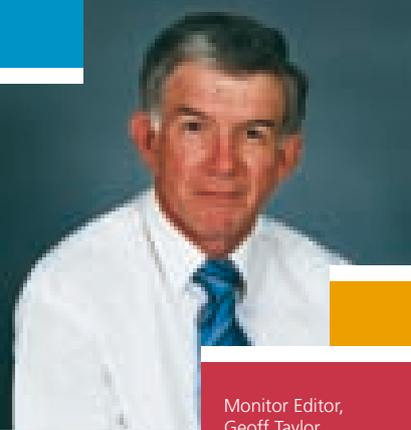
Recently the National Office of the Australian Safety and Compensation Council (formerly the National Occupational Health and Safety Commission) advised of the introduction of a *National Code of Practice for Induction Training for Construction Workers* and it would be foolish to disregard a similar proposition in the near future for the mining sector.

The Edith Cowan research will provide an authentic and valuable insight into the views of the very workers that we endeavour to influence. Preliminary results are expected early in 2006.

Thank you all for attending. We appreciate your interest in the Association's activities. ”



Chairman, Joe Maglizza, addresses the Annual General Meeting



Monitor Editor,
Geoff Taylor

Editorial

MARCSTA was fortunate to be invited to A Celebration of a Life for the late renowned epidemiologist Sir Richard Doll held in Perth in late October. Sir Richard took considerable interest in the long-running Busselton Health Study, and also assisted the WA mining industry with workplace health issues. There were three speakers, Dr Lex Cohen, Ned Williams and Dr. Bob Warner. I'd like to reproduce some excerpts from Ned Williams' speech. Ned was a key manager and former metallurgist at WMC.

Firstly on diagnosis of occupational disease: "I will recount some historical events that are germane to the occasion and which I believe set the scene for Sir Richard Doll's research. I spent the whole of my working life as a metallurgist in the nonferrous industry as a processor and manager. Most of that time was in the processing and refining of copper and nickel but also included a period of refining other metals. During that period there have been remarkable improvements in the technologies used in the processing of metals and more recently dramatic improvements in the control of those elements and compounds which have a detrimental effect on the health of process workers and the populace at large. In the early part of my career I was associated with refining of secondary lead. I did not receive any meaningful briefing on the potential dangers of lead production and as a result was not fully cognisant with the consequences of ingestion of lead compounds. On an occasion when I visited my GP for a medical check to join the superannuation fund I raised with him the question of ill effects of lead ingestion. His response was "show me your gums". I obliged. His answer was "you don't have any blue lines around your gums so you should not have a concern". That symptom I found out later suggests a very serious state of lead poisoning. The medicine used to combat lead poisoning was milk, a pint of which was given to each employee daily. The cure was to remove the operator from the job until his blood level dropped to an acceptable level. The method of determining relative lead levels was to perform a stippled cell count on the blood, a procedure which lacked accuracy unless in the hands of an expert who was not readily available."

The editor can be contacted at Work Safety and Health Associates Telephone 08 9457 6487 or at wsha@iinet.net.au

And on research and improvements in occupational hygiene in the nickel industry: "The attitude of industrialists in the not so distant past could be best summed up as believing that the human body which is fitted with a very sophisticated cleaning system could handle anything which may come its way.

Clearly that was not the case as the cilia, the macrophages, the alveoli and other organs were being taxed beyond the limit to cope and as result there were very serious health effects. The epidemiological work carried out by Sir Richard and his associates on the effects of smoking and their findings that smoking was a prime cause of lung cancer prompted the industries with a long operating history to finally realise they had an effective means of making a determination on just how deleterious their industry was to health. Following essentially the same principles laid down by Sir Richard, one major nickel producer of the world undertook a comprehensive study of its workforce. It had a large long-term workforce and retirees and a long history of operation which was more than sufficient to bridge the latency period required for cancer development. Good exposure data was lacking but at least it was a move in the right direction. The result was that there was a much elevated incidence of lung and nasal cancer in the cohort, particularly in some areas of the operation, compared to the nonexposed population.

The result was not too surprising because the industry had a long history of unhygienic operation. As result of this work the major nickel producers of the world clubbed together to form an organisation known as the Nickel Producer's Environmental Research Association which has a budget of the order of half a million dollars per year to research the health effects of nickel in the workforce and even in the consuming public. The research was complicated by the fact that during the course of processing different compounds, mainly oxides and so-called subsulfides, are formed all of which have a different effect. There was a need for speciation of the exposure compounds and testing of each compound. The end result demonstrated that nickel subsulfides and some oxides which were formed in processing were the most serious contaminants. As a result the exposure standards for nickel compounds were substantially reduced." On that note I hope all readers had a Merry Christmas and we wish them a happy 2006.

Editor awarded SIA Life Membership

At a presentation in September 2005 Monitor Editor, Geoff Taylor, was awarded life membership of the Safety Institute of Australia. Geoff has carried out field surveys of workplaces over 36 years. He has his own safety and health consultancy, and is a sessional lecturer at Curtin University. Geoff is a past national president of the Safety Institute of Australia WA Division and National Vice-President, became a Chartered Fellow in 1998, and was a board member of the International Commission on Occupational Health. He was a co-founder of the Occupational Health Society

of Australia. He has been senior lecturer in OHS at Curtin University, a sessional lecturer at Edith Cowan University and at the Australian Centre for Work Safety. He was OHS study area leader in TAFE-WA and chief scientific officer with WorkSafe Western Australia. Geoff has developed and delivered OHS training at various management levels for different industries. As well as being Monitor editor, he has an audit and advisory role with MARCSTA. He has edited and jointly authored textbooks and workbooks in OHS, and a book on community safety.



SIA President Gavin Waugh presents Geoff Taylor with Life Membership

Latest UK statistics for OHS

The UK Health and Safety Executive recently published new statistics on work-related ill health in Great Britain. For the first time these identify the contributing factors recorded by specialist doctors involved in cases of musculoskeletal disorders and mental ill health.

Between 2002 and 2004, the tasks most commonly reported as contributing to musculoskeletal disorders were guiding or holding tools, followed by heavy lifting, carrying, pushing, pulling and keyboard work. The jobs carrying the highest risks of musculoskeletal disorders, according to reports from rheumatologists in 2002-04, were: typists; metal plate workers; shipwrights and riveters and road construction operatives, all with annual average incidence rates around 15 times the average for all occupations.

In cases of work-related mental ill health reported to the Health and Occupation Reporting network in 2002-2004, the most commonly reported factor was simple work pressure (mentioned in one quarter of cases). Interpersonal difficulties were a factor in 22% of cases, traumatic events 10% and bullying or sexual harassment in 8% of cases. Consultant psychiatrists reported NCOs and other ranks in the UK armed forces as the occupation with the highest incidence rate of work-related mental ill health in 2002-04, at around 17 times the overall average, followed by medical practitioners (16 times). A consistent pattern in self-reporting surveys is that professional and managerial groups have the highest rates of work-related stress, anxiety or depression, particularly teachers, nurses and other public sector occupations.

For the first time these statistics identify the contributing factors, recorded by specialist doctors involved, in cases of musculoskeletal disorders and mental ill health.

Chronic noise linked to ill health



Exposure to chronic noise on the street and at work can increase the risk of a heart attack say scientists at the Charite University Medical Centre in Berlin, who studied the impact of noise

on health. It can increase stress levels which may set off changes in the body that can trigger a heart attack.

Based on the findings which are reported in the *European Heart Journal*, the scientists believe workplace ear protection levels should be reduced from the current 85 decibels to between 65-75 decibels.

Another study by the University of Michigan suggests working in loud places can raise blood pressure levels. The findings, published in the *Archives of Environmental Health*, were based on a study in an auto assembly plant that connected noise exposure with elevated levels of systolic and diastolic blood pressure and heart rate.

The researchers concluded that blood pressure is more affected by overall noise exposure while the instantaneous peak noises affect heart rate.

In hearing protection, previous research demonstrates the importance of wearing earplugs or earmuffs 100 percent of the time - even 30 minutes without protection cuts their effectiveness greatly.

To help workers reduce health problems associated with noise, management should enforce the use of hearing protection. Appropriate training should be provided to employees and reminders like posters in lunchrooms would explain to employees why hearing protection matters.

Extended working hours and your health and safety

The Minister for Community and Employment Protection, Hon John Kobelke MLA, launched this revised and innovative training program at the MARCSTA Annual General Meeting in December 2005.

This course is designed for workers and employers everywhere as a basic introduction to managing extended working hours, developed to enable them to meet the duty of care obligations contained in the occupational safety and health legislation and the *Working Hours Code of Practice* expected to be released shortly by WorkSafe.

The program also meets the elements of competency and performance criteria of the *Transport and Distribution Package unit TDTF1097B Apply Fatigue Management Strategies*.

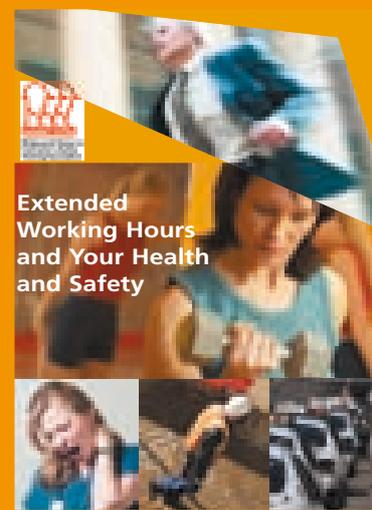
This unit involves the skills and knowledge required to apply fatigue management strategies, including identifying and acting upon signs of fatigue and implementing appropriate strategies to minimise it during work activities.

main elements:

1. Our Biological Clocks
2. Sleep
3. Sleep Deprivation
4. Staying Safe and Alert
5. Maintaining Good Health
6. Family and Social Consequences

Successful students who are able to demonstrate application of the learning and skills acquired from attendance at this training program can make application to MARCSTA for a Statement of Attainment.

The conclusions of the *Men's Health Study* in the Goldfields region announced recently, suggested that there is a need for utilisation of this program as a matter of urgency.



TO VIEW THE
COURSE OUTLINE
AND ELEMENTS VISIT
WWW.MARCSTA.COM/
COURSES OFFERED

HOOKER INQUIRY - STATUTORY REVIEW OF OS&H LEGISLATION

Mr Richard Hooker QC is heading the five yearly inquiry into the Occupational Safety and Health Act. Some readers may wish to make submissions. The closing date is 10 February 2005.

Submissions may be sent to the Occupational Safety and Health Review, Wickham Chambers, Level 11, BGC Centre, 29 The Esplanade, Perth WA 6000. email: oshreview@wickhamchambers.com.au

US census of fatal occupational injuries 2004

In 2004, the US fatal occupational injury rate was 4.1 per 100,000 employees, which represented an increase of 2% compared to the 2003 rate. This rate however was still the third lowest annual rate ever. Compared to 2003 rates, fatal injuries went up 11% among Hispanic workers, after declining the previous two years. Fatal injuries also increased 10% among older workers (55 years of age or older) but decreased 6% among younger workers (16 to 24 years old). By industry, construction had the highest fatality rate, followed by transportation and warehousing. Fatality rates also increased in manufacturing, retail and the wholesale trade. On the other hand, they decreased in agriculture, forestry, fishing and hunting. (US Bureau of Labor Statistics, "National Census of Fatal Occupational Injuries in 2004.")

Managers of shiftwork operations must be particularly cognisant of accident risks, as fatigue increases the risk of injuries and fatalities on the night shift. Circadian data indicates that for every accident or injury on the morning shift, there are nearly 1.2 accidents and injuries on the afternoon shift and over 1.3 on the night shift (per hour worked). Not only is frequency increased, severity is also higher in night shift accidents, as inattention often means that safety precautions are missed or reactive measures are absent. These issues are particularly salient in transportation, where the likelihood of a driver falling asleep and crashing without any braking manoeuvre is greatly enhanced at night.

SOURCE: Circadian Technologies 24/7 Business Insider Issue 155).

Better risk assessment

Professor Jim Joy of the University of Queensland skilfully led 55 participants through a thorough dissection of problems with risk assessment (RA) at a one day ISMSP workshop in October 2005.

The workshop arose out of a report on research on this issue carried out by a team from the UK Health and Safety Executive, who provided a range of examples illustrating 19 types of incorrect application of RA.

The 11 teams for the day were presented with a scenario involving an electrocution and a possibly typical - but far from satisfactory - generic RA form, where electrocution as a risk had been moved from a matrix rating of 4 to 21 by "Check the electrical gear is in good condition" in the "Controls" column.

They moved through what happened, to why it happened, and then recommendations, looking at the context, the scope/design, execution and application of RA.

One issue which emerged is that there seems to be a need for employer principals and their contractors to agree on what level of consequence should be assigned to a potential LTI.

Later, Professor Joy explained the three part NMIRAG (National Mineral Industry Risk Assessment Guideline), MIRMgate good practice guidance and revised Risk Management Guideline MDG 1010, downloadable from mishc.uq.edu.au/NMIRAG.

In the last session of the day, the proposals to introduce safety cases to mining operations in WA were given a thorough airing. There are significant problems in applying the technique to a very dynamic environment, where the principal hazards are not determined by quantity of explosive/flammable/toxic material in given locations, and in determining what degree of change requires review of the safety case.



Professor Jim Joy



Participants at the Risk Management workshop

ISMSP members

Associate

David Bies
Dale Cocker
Dr Mike Gouws
Professor Peter Lilly
Nick Mabbott
Jason Roberts
Mal Sanders

Professional

Charles Tony Baker
Reuben Barber
Terry Condipodero
Geoff Day
Linda Elezovich
Andrew Extract
Rob Filmer
Lynette Gilbert

Patrick Gilroy AM
Ross Graham
Andrew Johnson
Vicki Jones CMSP
Ray Kennedy CMSP
Geoff Knight
Taff Langley
Peter Luobikis
Joe Maglizza CMSP

Michael McCudden
Brett McIntosh
Vic Roberts
William Roche CMSP
Grant Shearwin
Stephen Smith
Jim Torlach
Noel Wendt
Stephen Woods
Amanda Youngman

Bad management endangers safety

A Monash University study has confirmed what many OHS practitioners already know - without a top down approach to safety, one person, usually an OHS manager or rep, will spend considerable time and resources "banging their head against a brick wall". And that's at the expense of effecting long-term change.

The study surveyed 1,800 workers from a large company about their views on OHS. Half were office workers and half worked on-site or in a workshop. The study found that staff perform at higher standards when they perceive their safety is of concern to management. This suggests the hallmark of an "excellent" organisation was how workers responded to the safety message.

It's not just about following rules. It's about safety citizenship, about being able to suggest a different idea about eliminating a risk, which shows people are thinking about safety.



Notes for the Shift Worker

Morning sunlight improves sleep

St Louis University School of Medicine is exploring whether morning sunlight can help elderly nursing home residents sleep better. Many nursing home residents have difficulty sleeping at night. While one approach to this problem is giving medication that promotes sleep, another solution may be to provide natural sunlight exposure. A small pilot study conducted found that nursing home patients who were exposed to natural light had improved sleep quality. They had less difficulty falling asleep, fewer episodes of wakefulness during the night, and greater satisfaction with the amount of sleep they got.

If sunlight improves sleep for residents of nursing homes, they might not request as many sleeping medications. If this inexpensive and easy method of helping patients sleep better proves to be effective, we could see fewer drug-related side effects and drug-to-drug interactions because we'll prescribe fewer sleeping pills.

Insomnia linked to risk of falls

In nursing homes across the country, elderly people with insomnia often go untreated, because of the perception that sleeping pills increase the risk of falls and injuries that are a bane of old age. A new University of Michigan Health System study suggests that the real culprit may be the underlying insomnia, rather than the medications used to treat it. Residents with untreated, or partially treated, sleeplessness have a much higher risk of falls than those who take sleep medications and get relief from their insomnia.

The study included more than 34,000 Michigan nursing home residents over age 65. Data was collected over six months as part of ongoing mandatory assessments by nursing home staff.

Individuals who had untreated insomnia at the start of the study period were 90 percent more likely to fall in the next six months compared with those who did not have insomnia. In contrast, those who were taking hypnotic drugs to treat their insomnia at the start were only 29 percent more likely to fall.

One in three adults over 65 falls each year, and falls are the leading cause of injury-related deaths, non-fatal injuries and trauma-related hospital admissions in this group.

Japanese railway's sleep apnea testing

The driver of a train which crashed at high speed in Japan in 2003 was later determined to have suffered from sleep apnea. As part of the aftermath of this crash, 37 Japanese railroads were surveyed about how they deal with sleep apnea. All 37 companies comply with the law and conduct regular health checks but since there is no legal stipulation on how to check for sleep apnea, companies use very different methods. Only two companies test their drivers for sleep apnea using blood oxygen levels. Ten companies use doctors' consultations and 23 firms use self-assessment questionnaires.

Crash risk higher for truckers in the 11th hour

In the last hour of an 11 hour day behind the wheel, truck drivers face a crash risk that is more than three times higher than the risk during the first hour, according to researchers at the US Penn State. The findings are presented in a paper *On the Relationship of Crash Risk and Driver Hours of Service*.

Analysis of data from three national trucking companies during normal operations in 2004 showed that the crash risk is statistically similar for the first six hours of driving and then increases in significant steps thereafter. The 11th hour has a crash risk more than three times the first hour.

The pattern of increased crash risk associated with the number of hours driven is contrary to the results of field studies conducted by others in the 1990s. The pattern, however, is consistent with more recent Penn State observational studies. For example, using data on an estimated 16 million vehicle miles of actual long haul truck travel by professional drivers collected during 1984 and 1985, the Penn State researchers found that the 10th hour of driving had a crash risk 2.1 times the first hour of driving. The findings, using data from 2004 and from the 1980s, establish a consistent pattern of increased crash risk with hours of driving, particularly in the 9th, 10th and 11th hours.



Night shifts give women more chance of breast cancer

Women who work night shifts are more likely to get breast cancer because their bodies produce far less of a vital hormone that inhibits the disease, according to recently published research.

Scientists have demonstrated for the first time that human breast cancer tumours are suppressed when exposed to levels of melatonin produced during a normal night's sleep. Tumours exposed to blood lacking melatonin, from women exposed to bright light during sleep, were found to grow at roughly twice the normal speed.

The findings, published in the *American Journal Cancer Research*, provide the first proof of a biological mechanism to explain previous research showing that female night-shift workers have higher risks of breast cancer than those who work during the day, and studies showing that blind women have less chance of getting the disease.

People concerned about the potential hazards of suppressed melatonin production could take steps to reduce their exposure to light at night. Measures which could be taken include the use of heavy curtains for those people who live with a street light outside their house. When people get up in the middle of the night to visit the toilet, rather than turning on all the lights, they could survive on natural light or use low-wattage bulbs.

The issue is more difficult for night-shift workers. We have moved over to a 24/7 way of working and one of the consequences of that is the killing-off of nocturnal melatonin production in those working at night.

Melatonin is produced in the pineal gland in the brain when the body receives a signal that light levels have dropped below a certain level. Production can be curtailed if a person is exposed to bright light during the night.

Test can spot sleepy drivers

Sleep apnea can lead to daytime sleepiness, which in turn increases the risk of road accidents. In an article published in November's *European Respiratory Journal (ERJ)*, German researchers show that a driving simulator could allow easy, objective assessment of the accident risk. They also confirm the potential road safety benefits of the standard treatment provided to sleep apnea sufferers.

Since daytime sleepiness is one of the main signs of sleep apnea, sufferers from the condition are particularly vulnerable. They are thought to have an accident rate between two and seven times higher than that of the general population. In view of this, doctors are tending increasingly (and in some countries have an obligation) to make judgements about their apneic patients' safety at the wheel. But how is the risk to be judged objectively, and with what diagnostic tool? The researchers used a C.A.R.@ (Computer Aided Risk Simulator) in the study.

They tested the driving performance of 31 patients with obstructive sleep apnea. The simulator placed the subjects in monotonous driving conditions for 60 minutes at an average virtual speed of 100 kilometres/hour. Various weather conditions and a range of obstacles (such as animals, pedestrians and other vehicles) were integral to the simulation. The results show that, on average, untreated apnea sufferers experienced 2.7 "accidents" (collisions with other vehicles or pedestrians, veering off the carriageway) in such a driving simulation, with a further 12.4 lapses of concentration. Importantly, the study shows that the usual treatment for sleep apnea (continuous positive airway pressure delivered through a mask worn over the nose and mouth at night - CPAP), can significantly improve safety behind the wheel.

The team measured subjects' driving performance before treatment and then two and 42 days after the start of treatment. The results were clear: not only were attention and alertness improved after 42 days' treatment but a safer driving performance could be seen. The comparative accident rate fell sharply as soon as treatment began (2.7 before the start of CPAP, 1.5 after two days and 0.9 at 42 days).

Early intervention to improve sleep may curb hurricane's psychiatric toll

Many responders to the crisis of hurricane Katrina in the US - medical personnel, police and other community workers, telephone and power company employees, relief organisation staff and volunteers, and ordinary citizens - worked nearly non-stop to provide help. They typically grabbed little sleep at odd hours, in buildings such as schools or churches, if they could, but often on open ground, in cars, in fetid, crowded shelters or other unsafe areas. Physicians from one hospital slept in infectious waste-bags using stacks of nappies for pillows. Sleep deprivation has been blamed for lowered vigilance to their surroundings.

Assuring that rescue and relief workers get enough sleep to maintain their alertness and decision-making skills is crucial to successful management of catastrophic events. The American Academy of Sleep Medicine (AASM) issued public service announcements urging responders to schedule periodic naps to avoid extreme fatigue.

Normalisation of sleep can help people in crisis cope better with their waking lives. Early treatment of acute stress disorder often prevents progression to post-traumatic stress disorder. The AASM created a hurricane disaster relief fund to help repair damaged sleep centres and sleep specialty practices. It coordinated donations of therapeutic equipment from manufacturers and other sleep centres, including continuous positive airway pressure devices needed by patients with sleep apnea.



news and views

INFORMATION ON GENERAL NEWS AND VIEWS
WITHIN THE MINING INDUSTRY,
BOTH NATIONAL AND INTERNATIONAL.

There is now a Federal Safety Commissioner to oversee safety in the building and construction industry. The website is at www.fsc.gov.au.

As if to offset Greg Barns' criticism of the Diggers and Dealers Conference in the September *Gold and Minerals Gazette*, the Canadian Institute of Mining is holding a **family friendly conference** on coal and oil sands at Lake Jasper from 12-16 October 2006, with a children's program. There is a **review of Diggers and Dealers** in the September issue of *Australian Journal of Mining (AJM)*, as well as a report on the **nickel laterite conference** in Sydney in September. Also in *AJM*, how the Independence Group of geologists bought accident-prone Long Victor, and used **explosive tests** to improve ground support. *AusIMM Bulletin* for September 2005 has a **summary of the 8th International Mine Ventilation Conference**, thoughts on **sharing Australian mining education** with Latin America by WASM's Prof. Philip Maxwell, and Shirlene Standish writing on the **costs of noise and vibration**. *CIM Bulletin* for September 2005 carries Part 2 of Mining Metallurgy and the Industrial Revolution by Fathi Habashi, development of **North America's first underground diamond mine** (Koala North), and work by T. Eger and four others on 13 design improvements to **line of sight on LHDs**.

The *Australasian Driller* for September-October 2005 notes the 135th anniversary of the Hobart tannery which produces Blundstone boots, which is celebrating with the **new No. 490 very comfortable boot**. Blundstone makes 1.5 m pairs per year and exports to 25 countries. *Driller* also reports on the research on the **2000km long palaeobeach** straddling the WA-SA border which is rich in mineral sands.

Longwall Magazine for September 2005 writes on Queensland Mine Rescue Service's use of a **GAG jet engine** on a trailer which can release carbon dioxide and water vapour into a mine atmosphere to douse a fire, ARRB Group research on **road trauma getting to and from mine work**, risk-e company's approach to **changing mine safety culture**, SIMTARS's sales of **Australian mine safety equipment** to Indian and Chinese coal mines, and how a heating in an underground coal mine at Dartbrook in NSW was **prevented from becoming a fire**. *Longwall* also notes work by Anglo Coal and Queensland Department of NR&M on comparing equivalence of skill sets in relation to **employing mine managers from other countries**. UQ MISHC's Carmel Bofinger has also compared **knowledge and skills of new Australian graduates** with the national competency framework for the mining industry. *Longwall* also notes an ACARP-funded study on **communicating safety**, based on work at six surface and six underground coal mines in two states.

The *West Australian* reports that Bryce Courtenay's latest novel *White Thorn* includes a "stereotypical mine safety officer who is sure to raise a laugh".

conferences and courses

CIM Conference and Exhibition. Vancouver 14-17 May 2006. Web:www.cim.org

Green Processing 2006. Newcastle Australia 5-6 June 2006. Email: conference@ausimm.com.au

6th International Mining Geology Conference. 21- 23 August 2006, Darwin. Email: conference@ausimm.com.au

Metallurgical Plant Design and Operating Strategies MetPlant 2006, 18-19 September, 2006. Perth. Email: conference@ausimm.com.au

International Mine Management Conference, 16 -18 October 2006, Melbourne. Email: conference@ausimm.com.au

Delivering Outcomes: A Case for Safety, 13-14 March 2006. Perth. Email: cmewa@congresswest.com.au



Who's who?

Chief Executive Officer
Patrick Gilroy AM

Chairperson
Joe Maglizza
Rinker Australia Pty Ltd

Vice Chairperson
Ross Graham
Komatsu

Committee of Management
Warren Claydon
Allaine Coleman
Terry Condipodoro
Peter Luobikis
Arlene Roe

MARCSTA Monitor Editor
Geoff Taylor

Training Provider Profile *Vic and Jason Roberts*



It has been a long way from an agricultural engineering education in the UK to running a safety and training consultancy in Australia. Like so many of us it took some time and life experiences before Vic Roberts ended up on the career path where he wanted to be, that is in OHS and training.

Ever since arriving in Australia in 1969 he has been involved in mining and chemical processing industries during the construction, commissioning and operation stages of the projects. His first working position in Australia was involved in the setting up of mine maintenance plans that ensured equipment was serviced when convenient rather than when it broke down. During the past 40 years he moved on to many different and varied plant start-up and operational roles. One of the more significant roles was as the Superintendent of Operations Training in 1984 at the start up of a gold mine in PNG. When this difficult task

was complete, he was asked to stay on as an Operations Superintendent. This was confirmation of his ability to actually operate effectively in what is commonly referred to as "the real world". During this time whilst helping others to gain skills he was also gaining skills himself to adequately and competently carry out his various roles.

His role as Quality Services Manager for a large organisation brought him in contact with MARCSTA whilst it was in its infancy. He recognised the value of MARCSTA and so became the first Training Subcommittee Chairman. An election confirmed the appointment in 1997 and he has the distinction of running the very first MARCSTA induction course on the 18th July 1996. This induction was carried out with a photocopied manual. That manual has been reviewed and updated over the years and has ended up as the present day professionally printed induction manual.

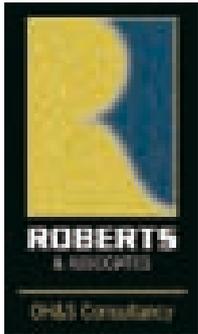
Vic Roberts launched Roberts & Associates in 1999 with the purpose of providing professional and cost effective occupational health and safety and training solutions to wholesale and retail clients.

Vic was joined in the business by his son Jason in 2002. Jason has had a shorter but, in every aspect, similar education and work experience and is also a current MARCSTA training provider. He has over 18 years experience in operations, construction, safety, training and plant start-ups learning how best to apply practical and effective safety and management strategies in the workplace.

Jason has held management, OHS and training positions and has developed an excellent grounding in the mining industry. He has consistently demonstrated an ability to competently assist management and the workforce in achieving production and safety goals.

His roles in the commissioning and start up of several mining and chemical processing plants has given Jason the opportunity to demonstrate his ability to apply best practice from a production and safety viewpoint. Jason is a Certified Safety Practitioner. He is continuing his studies in the OHS field.

Roberts & Associates meet a wide range of clients' needs in all areas of OHS and training by having a number of associate consultants who work with them to provide a complete service in all areas. They also offer a wide range of training packages.



NEARLY 40,000
EMPLOYEES
ARE CURRENT
MARCSTA
INDUCTION HOLDERS



92% OF INDUCTEES
ARE MALE WITH
THE REMAINING 8%
FEMALE

MARCSTA members

FULL MEMBERS

Ausdrill Ltd
Australian Raise Drilling
Barmingo Mining Contractors
BGC Contracting
Brambles Ltd
Charles Hull Contracting
Cooks Construction Ltd
Readymix Holdings Pty Ltd

GRD Minproc
Komatsu Pty Ltd
Macmahon Pty Ltd
Roche Mining
Roche Mining (JR) Pty Ltd
Skilled Group Ltd
Thiess Pty Ltd
Total Corrosion Control
Westrac Equipment Pty Ltd

ASSOCIATE MEMBERS

AVELING
Mandurah Safety and Training Services
QFS Australia

This list is current at the time of going to press. For further information contact the Secretariat (08) 9355 1400

Member Profile *Rinker Australia*

Rinker Group Limited (Rinker) is an internationally focused heavy building materials group. Rinker is made up of Rinker Materials Corporation (Rinker Materials) in the US and the Readymix Holdings (Readymix) businesses in Australia and China.

Rinker was established in March 2003 following the demerger of the heavy building materials businesses of CSR Limited.

In Australia, Readymix is one of the leading producers of aggregate, concrete, concrete pipe and other concrete products, and has a concrete business in China. Readymix also holds substantial joint venture interests in cement and asphalt operations.

Including joint ventures, Readymix operated 389 plants in Australia and four in China, as at March 2004. Of these, 85 quarries and sand mines were wholly owned, as were 247 concrete plants and 17 concrete pipe and product plants.

As well, Readmix had a 50% interest in 29 asphalt plants and a 25% interest in three cement mills and 8 cement terminals.

The safety and welfare of employees and the environment are core values of the Rinker group.



The safety, health and environment process is driven by the adoption of a zero for life philosophy with the overall goal of eliminating recordable injuries and illnesses.

A current initiative is the adoption of the Extractive Industry "Working Safely Competency". Where employees and contractors have a current MARCSTA certificate, assessments have been introduced to ensure transfer of this training which enables persons to achieve the required competency. Recent experience indicates that this process is relatively advantageous for all involved.

Rinker focuses on community and environmental concerns both during and after its quarrying operations. Rinker Australia recognise that it is important to work in partnership with our neighbours.

Rinker Australia operate systems to ensure all our operations abide by all legal requirements including ensuring that the local ecosystem is protected, that nearby water supplies are not contaminated, and that noise, dust and other pollutants are minimised. Community expectations often exceed these requirements and Rinker strives to meet this need.

World work related deaths on the rise

Some 2.2 million people die of work-related accidents and diseases each year, the International Labour Office (ILO) said in a new report issued at the 17th World Congress on Safety and Health at Work, adding this number may be vastly underestimated due to poor reporting and coverage systems in many countries.

While the number of work-related illnesses and deaths has lessened somewhat in the industrialised countries, the ILO report said the number of accidents - in particular fatal accidents - appear to be increasing, particularly in some Asian countries despite poor reporting, due to rapid development and strong competitive pressures of globalization.

The ILO report, entitled Decent Work - Safe Work, also warns that hazardous substances cause the deaths of an estimated 440,000 workers each year. Of these, asbestos alone kills some 100,000 workers worldwide each year. The number of people killed by asbestos in the United Kingdom, according to that country's own estimates, is some 3,500 every year - more than ten times the number of workers killed in accidents there.

The European Union, meanwhile, recently in its own Statistical Portrait Report estimated a total of 120,000 fatalities (EU 15) attributed to work while the ILO's estimate is now at 122,000 work-related deaths annually. The United States number is estimated to be 103,000.

The ILO said reporting systems and coverage of occupational safety and health in many developing countries are poor and in some cases deteriorating. For example, India reports 222 fatal accidents while the Czech Republic, which has a working population of about 1% of India, reports 231, the ILO said, adding that it has estimated the true number of fatal accidents in India at 40,000. The report said such statistics suggested that only a fraction of the real toll of work-related death and disease is covered in a number of developing countries.

While work-related diseases are the main problem in industrialized countries, accident hazards are more prevalent in the developing economies where workers are frequently dying in mishaps that occur in such sectors as mining, construction and agriculture. In the industrialized countries, the share of the workforce in such hazardous sectors has declined while that of safer service industries (office work, banking, commerce) has grown. The full report can be found at www.ilo.org/public/english/protection/safework/wdcongrs17/intrep.pdf.

Why nobody likes safety training

An interesting paper by Larry Wilson, a US behaviour-based safety consultant raises some salient points, as reported in *Occupational Health and Safety*, October 2005, Stevens Publishing:

Why does everybody look like he's going to the dentist when walking into the safety training room? And if you think there's any truth in the old "You can fool some of the people all of the time, and all of the people some of the time, but you can't fool all of the people all of the time," then maybe, just maybe, there's a reason all of the people, all of the time, don't like safety training.

Perhaps it isn't the "safety" part of the training that they mind so much; it's the "nothing new" part they object to. Imagine how you would feel if you were (finally) given sex education at 60, or golf lessons after you had already played 90-95 percent of the golf you were going to get to play in this lifetime. Now, compare that to how you'd feel if you were given the golf lessons when you still had 90-95 percent of your games left to play. Understandably, there would be more resentment from the folks who only have 5-10 percent left.

Isn't that what happens to people when they get safety training? Think about it: How old would you have been by the time you had already experienced 85-90 percent of the injuries-- the total number of injuries - you were going to experience

in this lifetime? Keep in mind that little kids get hurt, in terms of a visible cut, bruise, or scrape, about 15-25 times per week, or 80-100 times per month. Eventually, of course, you, me - all of us - started doing a better job with eyes on task, mind on task, line-of-fire, and balance, traction, or grip. But this did not happen until we managed to sustain thousands of minor injuries. However, even though all of us have improved about 5,000 percent from the time we were children (15-25 per week vs. 15-25 per year as adults), we also have been increasing the amount of hazardous energy we get to play with and eventually work with. We learned how to ride a two-wheeled bicycle, we got to go out on the lake with the little aluminium boat, and then came snowmobiles, trail bikes, and eventually, at around 16 or 17, we got to drive a car. Compare this improvement with the amount of hazardous energy we get to work with or play with, examine the interval between 15 and 25, and ask yourself, "How many serious injuries did I experience during this time?"

If you're like most people, more than 50 percent of your serious injuries happened during this time period. And when do they finally get some safety training? After they're 25. It's no wonder they're only so keen.

There are four critical errors that can increase the risk of contact with hazardous energy. There are also only four states that cause the vast majority of these errors. The state to error risk pattern is involved in more than 90 percent of all serious acute injuries on or off the job (excluding contact sports). Teaching people about these state to error risk patterns is just one of the things they need to learn. Coincidentally, there are also only four critical error reduction techniques:

1. Self-trigger on the state (or amount of hazardous energy) so you don't make a critical error.
2. Analyse close calls and small errors (to prevent agonizing over big ones).
3. Look at others for the patterns that increase the risk of injury.
4. Work on habits.

Teaching employees these four critical error reduction techniques has helped more than 1,000,000 adults in more than a dozen countries reduce workplace injuries by more than 50 percent in two years, which is good. But how much more effective would it have been if these adults could have learned these techniques before they hit that high-risk/high-injury period from 15-25? If we could get the employees to teach these concepts and techniques to their children, if we gave them the tools they need to be able to teach these concepts to their children, we might be able (finally) to get them more interested and more involved in safety and accident prevention.

There are good reasons why people don't like safety training. And don't try to scare adults into being safer, either. If it worked, it would have worked by now. Instead, look for where the water is running downhill. They do care about their kid's safety. When you ask them whether they worry about whether their kids will be as lucky as they were, all of them put up their hands.

So unless you are one of those trainers who actually likes to hear the sound of your own voice over and above the snoring and fidgeting in the room, turn the boat around and start paddling downstream, toward home. It's so much easier.

MARCSTA licensed training providers

Mark Adam
Graham Bailey
Ron Baker
Tom Bateman
Carl Berglin
Danny Bogнар
Clive Brindley
Dale Cocker (U) (S)

Jim Dandie
Geoff Day
Peter Dowding
Joe Duyvestyn
Linda Elezovich
Ashley Gilbert
Ross Graham
Ray Hargreaves

Jeffrey Hickin
Ralph Keegan (S)
Rob Lewis
Joe Maglizza
Neil McMeekin
Malcolm McFarland
Katherine Montague
John Preston

Merryn Richards
Jason Roberts
Victor Roberts
Grant Shearwin
Brian Smith
Peter Stoneman
Mitchell Talbot
Marcus Taylor

James Titmus
Peter Tynan (U)
Graham Williams
Paul Willoughby
Terry Young

All training providers listed above provide general inductions.

U denotes the underground program.
S denotes the extended working hours program.

new publications

- ▶ POTVIN, Y, STACEY, R, AND HADJIGEORGIOU, J (EDS). SURFACE SUPPORT IN MINING. AUSTRALIAN CENTRE FOR GEOMECHANICS, PERTH. (REVIEW IN AUSTRALIAN JOURNAL OF MINING SEPTEMBER-OCTOBER 2005)
- ▶ CRAIG, RANDALL. LEAVING THE MOTHER SHIP - CAREER PLANNING AND WORK LIFE BALANCE. SEE WWW.LEAVINGTHEMOTHERSHIP.COM.
- ▶ DOCEP RESOURCES SAFETY: 17 MINE SAFETY MATTERS (NOW IN HARD COPY)
- ▶ TAYLOR, G.A., EASTER, K.M., AND HEGNEY, R.P. (2006). MEJORA DE LA SALUD Y LA SEGURIDAD EN EL TRABAJO. (ENHANCING HEALTH AND SAFETY AT WORK). MADRID, ELSEVIER ESPANA SA. (FOR THOSE WITH SPANISH SPEAKING OPERATIONS)
- ▶ DOCEP WORKSAFE: COVERT AND DANGEROUS OPERATIONS IN THE WA POLICE FORCE (ELECTRONIC ONLY)
- ▶ WWW.ENHANCINGSAFETY.COM - OHS ACTIVITIES AND ASSESSMENTS FOR LECTURERS, TRAINERS AND STUDENTS (ELECTRONIC ONLY)

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