



## MARCSTA's core safety and health package

The availability of the *Conduct Local Risk Assessment* program, designed for employees at all levels of the workforce, rounds out MARCSTA's safety and health core package. This is considered by the Management Committee to be fundamental to meeting the duty of care obligations contained in occupational safety and health legislation throughout Australia.

These duty of care obligations, which apply to both employers and employees, require that the workforce be provided with information, instruction and training to enable them to perform their work in such a manner that they are not exposed to hazards. They also require that employees take reasonable care to ensure their own safety and health at work and also the safety and health of other persons they work with.

MARCSTA's Management Committee believes that completion of the three programs which comprise the core package will provide employees with a sound preparation for entry into the mining workforce.

The core training package comprises:

- General Safety Induction
- Managing a Shiftwork Lifestyle
- Conduct Local Risk Assessment

All three one day programs are presented in national training format by licensed providers and are competency based. Certificates of completion are awarded and every assistance provided to achieve Statements of Attainment.

In keeping with MARCSTA's low cost commitment, the three programs can be completed for a total cost of less than \$450 per employee, surely a worthwhile investment in the safety and health of the mining and resource industries' workforce.

## Progress of the amendments to occupational safety and health legislation

The passage of the legislative amendments to both the Occupational Safety and Health Act and the Mines Safety and Inspection Act, while proving somewhat tedious, is still expected before the end of this year.

With the introduction of:

- the power to issue provisional improvement notices (PINS) for safety and health representatives
- increased penalties for misdemeanours
- the establishment of a safety and health tribunal
- a Mining Industry Advisory Committee under the Commission to replace the existing MOSHAB, which will subject the mining industry to Commission scrutiny,

the amendments will have far reaching effects for all workplaces.

The changes, according to the responsible minister, John Kobelke, are "in keeping with the philosophical position that those at the workplace are best placed to deal with safety and health matters affecting that workplace."

In the meantime rapid progress is being made in the training area with the development of:

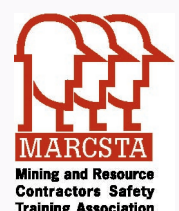
- revised introductory requirements for safety and health representatives
- transitional training for existing safety and health representatives to meet their increased responsibilities and
- revised accreditation guidelines for training providers.

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## Ensuring continuing professional development of providers

In early September nineteen MARCSTA providers spent one of two days finessing their presentation skills with Leigh Farnell, a Perth-based presentation specialist who has worked in several countries. Using “the video of truth”, without prior warning each MARCSTA provider was asked to present a short segment of the MARCSTA induction to the rest of the group. After self critiquing, their peers were asked to comment, with Leigh further adding salient points, in an engaging style. A good trainer should be able to train “on the edge” and keep the heat on the group through the right questions and responses, he noted.

Leigh draws from a range of theories of learning including Aristotle, Socrates, Erickson and the concept of neurolinguistic programming, remembering the part the subconscious mind plays and the ways it can be activated. Important in this are the candidates’ “state” and the need to be aware of the “energy level” throughout a presentation – the shift can be felt, and it often occurs as candidates become involved in a true story or scenario.

He showed how better use of the trainer’s movements within the trainer’s space can improve rapport with the candidates. He emphasised the importance of the non-verbal aspects of training, and he discussed how to avoid the “Ground Hog Day” feeling (rerun of the last induction) for trainers who run many inductions, the value of a smile, laughter and the word “you”. Acknowledging their feelings openly or careful use of parody can be used to deal with candidates who don’t want to be there.

Leigh emphasised the importance of getting group ownership if the group is showing signs of disinterest in a topic.

Even subtle differences count such as opening the manual at the page yourself while asking candidates to do so. There was much more besides.

Feedback from attendees was excellent with most commenting that the program was of value to them personally and adamant that their presentational skills would be improved as a consequence of their participation.

Other professional development opportunities arranged by MARCSTA in 2004 include moderation meetings, legislative amendment updates and in November the Extended Working Hours Workshop to be conducted by Mark Rosekind.

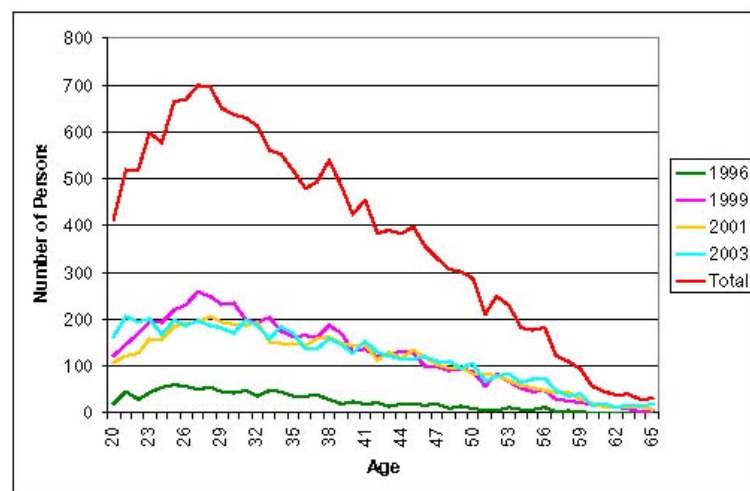
## Where has all the experience gone?

An analysis of the age of persons completing MARCSTA’s General Safety Induction over the last eight years has provided some useful, if not predictable, information on the age distribution of the workforce, while raising some important issues.

The exercise involved a random selection of candidates from the years 1996, 1999, 2001 and 2003/04, approximately one quarter of those processed in each year/s.

Results for each of the groups showed a consistent trend with the aggregate results providing a clear picture of the age of the workforce as represented by attendees at MARCSTA’s General Safety Induction.

Age Distributions - 1996, 1999, 2001, 2003 Ages 20-65



### Observations:

- The age group most represented was 25-32 years
- The average age of all attendees was 34.79 years.
- After about age 31 there was a consistent decline in numbers employed.
- The number of persons employed at age 40 was one third lower than at 30 and those at 50 one third lower than at 40.
- Persons employed beyond the age of 50 represented only 10% of the workforce.
- The number of females employed varied little over the period, remaining at about 10% of the workforce.

**MARCSTA stresses that the results should be treated as indicative only as they are not derived from an industry survey of the workforce.**

The loss of skills and experience, however, which commences in the early 30’s warrants attention at a time when the industry is expressing grave concern at the available skills shortage.

MARCSTA would welcome any input as to the reasons for what seems to be a short career in the industry for so many.

The data suggests that a significant level of skilled workers simply don’t stay in the industry.

# Editorial



Geoff Taylor

## Large and small approaches to prevention

The relatively recent escape of nine prisoners from the Western Australia Supreme Court holding area is a timely reminder of a range of health and safety issues which apply just as much to the mining and resource contracting industry as they do to the corrective system of Western Australia. The escape had potential health and safety consequences not only for state government employees, police, and potentially judges but also for employees of contractors, and for non-employees, that is members of the public who may have been affected by the work of these employers, and for the prisoners themselves.

The incident reminds us firstly that prevention involves both taking steps to avoid an unwanted incident in the first place, and secondly, having the means in place to limit the effect if the unwanted incident does occur and then return the system to a stable safety state.

Approaches to this can involve both small and big ticket items. For instance, without going into a debate about contemporary views on handcuffs, they are a small ticket technology option in the hierarchy of control in the corrections arena and can both prevent an unwanted incident, and limit the effect if it does happen.

At the other end of the scale are big ticket items like totally new or substantially revamped court facilities, (e.g. the use of virtual reality - court appearance by video) which again may prevent an incident or limit its effect and may also assist in recovery of a system to a stable state. But they may include an intangible cost, for instance video may radically alter courtroom dynamics, just as it may not give a full picture of part of a plant to a viewer in a control room, and whose attention may not be as focused on the task as those watching a witness.

Most health and safety practitioners will recognise this choice of big fix or small fix as a dilemma which they face quite often. Even with a generous safety budget, all the pluses of "small" should still be considered. Both will require an effective interaction between technology, the management of it, and the people concerned.

The management of the small scale technology often has the benefit of taking place at a low level, while the technology is simple to understand and operate, relatively glitch-free and more or less obvious to those concerned.

That may not be the case with some of the more sophisticated health and safety solutions, which may also throw up unintended secondary issues. For example why, on the night shift in the control room of a computer controlled plant, are the overhead lights dimmed?

So turning E.F.Schumacher's 1973 view into a question: Is small beautiful (in OHS)?



## Who's who?

### Chief Executive Officer

Patrick Gilroy AM

### Chairperson

Terry Condipodero  
Roche Mining (JR)

### Vice Chairperson

Joe Maglizza  
Readymix Holdings

### Committee of Management

Warren Claydon  
Ross Graham  
Peter Luobikis  
Arlene Roe

### MARCSTA Monitor Editor

Geoff Taylor

## Fatally injured miner buried to conceal accident

A report in the Asian Labour Update claimed that bosses at a private coal mine in China asked a miner to bury the body of a fatally injured worker and agreed to pay him a "hiding fee".

The truth was only revealed when miners who had not received their wages told the family who reported the matter to the police.

The report says that this case is not unique in China.

# Extended Working Hours

## Managing the Health and Safety Consequences

A one-day intensive workshop for safety, health and human resource professionals

**Mark R Rosekind, PhD., President and Chief Scientist, Alertness Solutions**

**Wednesday, 17 November, 2004**

Duxton Hotel, Perth

**The workshop will be officially opened by the Minister for Consumer and Employment Protection, John Kobelke MLA.**



Dr Mark Rosekind is a Founder, President and Chief Scientist of Alertness Solutions, of Cupertino, California.

He is internationally recognised for translating scientific knowledge on sleep, circadian factors, human fatigue, performance and alertness into practical strategies and public policy that improve safety and productivity in our 24 hour society.

From 1990 until 1997 Dr Rosekind led the Fatigue Countermeasures Program at the NASA Ames Research Center and made many important contributions to applied research, accident investigation, aviation policy, and many operational environments through education and other activities. During the last two years of his tenure at NASA Dr Rosekind was also the Chief of the Aviation Operations Human Factors Branch. Prior to his NASA work he directed the Center for Human Sleep Research at the Stanford University Sleep Disorders Center.

Dr Rosekind's academic credentials include an undergraduate degree with honours from Stanford University, a Ph.D from Yale University and postdoctoral training at Brown University.

Further details of Dr Rosekind's practical experience and affiliations are available at [www.alertness-solutions.com](http://www.alertness-solutions.com).

### Program:

This full day program will consist of an educational workshop to review the physiological mechanisms that underlie fatigue and then focus on the latest scientific research related to sleep, circadian rhythms, performance, alertness and safety.

Operational issues related to schedules, alertness strategies, fatigue factors in incident/accident investigation and regulation/policy will be presented.

The educational focus will be complemented by a half-day of structured and facilitated development of an industry fatigue management plan.

Registration is essential and must be received by 3 November.

**The workshop has been organised by:**

**International Society of Mine Safety Professionals (Australia) Inc (ISMSP)**



**Institute for Research in Safety and Transport Psychology, Murdoch University**

To register complete the form below and fax/post to:  
MARCSTA, Suite 5, 12 Brodie-Hall Drive, Bentley WA 6102.

T: 08 9355 1400 F: 08 9355 1499 E: [pfs@marcsta.com](mailto:pfs@marcsta.com)

Name: \_\_\_\_\_

Company: \_\_\_\_\_ Company position: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_ ABN: \_\_\_\_\_ Purchase Order #: \_\_\_\_\_

Cost:  \$250 (GST inclusive) or  ISMSP/MARCSTA Members: \$200 (GST inclusive)  
 Cheque enclosed (payable to ISMSP)  Please invoice me

**ABN & Purchase Order # (if applicable) MUST BE SUPPLIED**



## Conferences and courses

Extended Working Hours: Managing the Health and Safety Consequences, 17 November, Perth. Contact: pfs@marcsta.com

Orebody Modelling and Strategic Mine Planning. 22-23 November 2004, Perth. Contact: phone 07 3365 3473. Email brc@uq.edu.au.

# International Society of Mine Safety Professionals (Australia) Inc

The ISMSP is dedicated to development of mine safety professionals throughout the international mining community, to save lives and reduce injuries through better leadership and understanding of the mining industry in all countries of the world.



**Jim Torlach**  
ISMSP Chairman

### Extended working hours workshop

As detailed on page 4, the ISMSP, in association with MARCSTA and the Institute for Research in Safety and Transport Psychology, Murdoch University, has arranged for Dr Mark Rosekind to present a one-day intensive workshop for safety, health and human resource professionals on managing the health and safety consequences of working extended hours.

The Minister for Consumer and Employment Protection is expected to open the event. The workshop will provide a platform to address the issues currently under consideration by the Commission working party drafting a Code of Practice on Working Hours.

### ISMSP "Olympics"

Four people have now completed the stringent requirements to become certified mine safety professionals of the International Society of Mine Safety Professionals Australian Chapter.

Our congratulations go to Vicki Jones, Ray Kennedy and Will Roche of Alcoa, and Joe Maglizza of Readymix. Their route to "Gold" has involved a testing law examination independently set and marked, submission of a portfolio detailing their depth of experience and versatility, and then an interview on a range of aspects of professional health and safety practice with a four-person panel of experts.

We encourage the others who have passed the law examination to move forward to completion of the full requirements and we also encourage more people to apply for professional certification.

The goal is ever improving standards in mining safety and health.



*Above: Congratulations to Ray Kennedy, Vicki Jones and Will Roche*



*... and to Joe Maglizza*



**BGC** Contracting is the national contract mining, civil construction, maintenance and material processing arm of BGC (Australia) Pty Ltd, one of Australia's most diverse privately owned companies.

Safety is a key focus for the BGC team. Through the implementation of its in-house safety initiative "**BGC TriSafe**", the Company has moved to the forefront of safety management and innovation in the mining and civil engineering industries. This is evidenced by its accreditation to the recognised Australian Safety Standard AS 4801 and its recent WorkSafe Gold Award.

BGC Contracting has recently achieved the significant milestone of 21 months without a Lost Time Injury across the business. This achievement recognises BGC Contracting as a leader in safety management in Australia and is a result of an extremely strong commitment to safety and a progressive change of culture throughout the company. Additionally, insurers recognise this performance by assignment of a 2.94% annual workers compensation premium. This again is 'best in class' performance.

BGC views workforce safety as a fundamental value. All field supervisory staff undertake nationally accredited 'Front Line Management' training in order to maximise their safety awareness and effectiveness. Core values and behaviours are communicated to all levels of the organisation.

The key drivers that will achieve exceptional safety and sustainability for future projects are:

- Total commitment from all BGC people linked to performance
- A safety management system that provides the necessary checks and balances
- An effective induction and safety training program
- Communication to all stakeholders on safety performance with employee input and ownership
- Regular workplace safety inspections, systems audits and close out reviews
- Communication through safety teams that meet daily and weekly and continually "Walk the Talk"
- Identifying and eliminating unacceptable risks
- The provision of nationally accredited operator training
- Compliance with applicable legislation, acts, regulations, codes of practice and standards
- Development of an Injury Management Plan that supports rehabilitation.

The BGC Safety and Health Policy emphasises a commitment to continual improvement - in this light BGC has established a "10 Point HSE Plan" that sets realistic targets and objectives aimed at delivering the critical requirements above.

## New publications...

Davies, B and Rogers, A. *A Guideline for the Evaluation and Control of Diesel Particulate in the Occupational Environment*. Melbourne, Australian Institute of Occupational Hygienists

Taylor, GA, Easter, KM and Hegney, RP. *Enhancing Occupational Safety and Health*. Oxford, Elsevier.

WorkSafe WA. *Code of Practice: Prevention of Falls at Workplaces, Code of Practice: Masonry and Concrete Cutting, Guidance Note on Material Safety Data Sheets*.

WorkSafe WA. *Guidance Note on Preparing for Emergency Evacuation at the Workplace*.

## 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 Engineering  
Thiess Pty Ltd  
Total Corrosion Control  
Westrac Equipment Pty Ltd

### ASSOCIATE MEMBERS

AVELING  
Mandurah Safety and Training Services

This list is current at the time of going to press but for further information contact the Secretariat on (08) 9355 1400 or Fax (08) 9355 1499



Above: Jayson Aveling, Barbara Best, Jim Dandie and Tony Aveling - some of the AVELING team

**“In all the time that I’ve been running MARCSTA courses there have probably only been a couple where I didn’t learn something”.** Peter Tynan, MARCSTA Provider since 1998.

This comment, which typifies the attitude of a dedicated team of trainers, has enabled AVELING to form strong industry partnerships.

Established in 1996 as Tony Aveling & Associates, AVELING, a Registered Training Organisation, is now the leading provider of MARCSTA Safety Training in Western Australia. AVELING also provides a suite of Frontline Management and Leadership programs.

Ten MARCSTA providers are currently helping to meet the demands for public and in-company safety training programs conducted throughout Western Australia. A very energetic and efficient administration team supports them.

AVELING have two women on their MARCSTA team, Linda Elezovich and Barbara Best who together with John Preston, Peter Tynan, Jim Dandie, Mitch Talbot, Ray Hargreaves, Victor Roberts and Jayson Aveling provide the backbone of the team. Ray Hargreaves and Victor Roberts have also worked for AVELING internationally.

Tony Aveling is MARCSTA’s longest serving provider and in the past more than a dozen other providers have worked with AVELING. The quality of Provider that MARCSTA demands is very high and AVELING continues to support aspiring Providers to achieve accreditation.

The team meets regularly– **“With so many providers on the team, we are able to share information and keep abreast of what’s happening in the industry”**, Tony says.

It’s also the opportunity to swap amusing stories like that of the young miner-to-be who was asked for some practical housekeeping tips and replied “Haven’t got a clue, my mum does all my housekeeping!”

And another: The South African miner who was in Australia on a short assignment and asked whether Personal Protective Equipment (PPE) meant a 9mm rifle like they used back home!

**AVELING conducts the MARCSTA General Safety Induction six days a week from its Victoria Park Training Centre and every Monday and Saturday in Rockingham.**

## MARCSTA REGISTERED PROVIDERS

Mark Adam  
 Jayson Aveling  
 Tony Aveling  
 Graham Bailey  
 Ron Baker  
 Tom Bateman  
 Catherine Benato  
 Carl Berglin  
 Barbara Best  
 Danny Bogнар  
 Clive Brindley  
 David Campbell  
 Dale Cocker (U) (S)  
 David Collins (S)  
 Jim Dandie  
 Geoff Day  
 Peter Dowding

Joe Duyvestyn  
 Linda Elezovich  
 Helen Fleming (S)  
 Ashley Gilbert  
 Ross Graham  
 Ray Hargreaves  
 Ralph Keegan (S)  
 Guy Le Noir  
 Joe Maglizza  
 Malcolm McFarland  
 John Preston  
 Graeme Richards  
 Merryn Richards  
 Darren Ridley  
 Jason Roberts  
 Victor Roberts  
 Des Shaw

Brian Smith  
 Peter Stoneman  
 Wayne Sullivan (S)  
 Kim Sutton  
 Mitchell Talbot  
 Peter Tredgett  
 Peter Tynan (U)  
 Graham Wall  
 Graham Williams

All listed above provide general inductions.  
 U denotes underground trainer as well.  
 S denotes shiftwork lifestyle trainer as well.  
 This list is current at the time of going to press

# News and Views

According to *Australian Journal of Mining* for July August 2004, Dieci produce an all wheel drive **telescopic handler**. Imported by AWD of Homebush, it can lift up to seven tonnes and has 9.65 metres of lifting height. It is a compact machine and features include 360° visibility, little rear overhang, a safety overload system, ROPS and FOPS cabin, safety bars on the front screen, a safety load indicator alert, emergency escape through the rear window, and a level indicator on the boom. The carriage is side shifting assisting load placing, and there is frame levelling and a stabiliser for use on uneven ground. It has three choices of steering -- four-wheel, crab, and front two wheel. There is full road lighting too.

The same *Australian Journal of Mining* also contains two articles on **diesel particulate emissions**. The first is on the effect of fuel quality. Use of ultra low sulphur fuel and additional filtration on fuel lines and breathers, both of storage tanks and mobile equipment, can help to stop water and dust damaging injectors, which in turn causes poor atomisation. The second article by Ray de Jersey discusses DPM filters. Work by Brian Davies at BHP's Elouera mine on actual equipment showed that a Micro Fresh DA 100 filter achieved 85 to 89% particulate capture. This is important because the US EPA considers DPM to be a carcinogen. Mammoth Filters use a ceramic filter which catalyses carbon combustion if the filter is above 375°C for 20% of the duty cycle.

In *Australia's Longwalls* for June 2004, Beitzel Corporation have a **belt vision system** which uses cameras and a computer mounted on a conveyor to monitor mechanical splices. Vulcanising a belt is effective but lengthy and expensive, while mechanical splices are quick and cheap with a life of about three months.

The same *Australia's Longwalls* carries an interesting story of the challenges facing Alterrain in successfully **salvaging equipment** from an idle colliery in New South Wales. Parts of the mine had to be restored to working mine status to meet operational, safety and environmental considerations.

*AusIMM Mining Technology* for March 2004 has a long article by John S. F. Dunlop on **contract versus owner mining** giving an update on Australasian open pit mining practice.

He says that there is now a marked trend among the larger open pit operations back to owner operated. The owner is prepared to accept the risk in exchange for not paying the contractor's profit margin. The "schedule of rates" is being replaced with less adversarial and more entrepreneurial contract alternatives which involve operating and risk sharing in a spirit of fair dealing. "Hold harmless" clauses are of particular interest as they transfer very significant litigation risk to the contractor, even where the owner themselves is found guilty of a breach of safety provisions. The article includes case studies at KCGM, Lihir, Tarmoola, Sunrise Dam, Cadia, Ernest Henry, Boddington Wandoo, Ravensthorpe Nickel, Morobe Gold and Macraes.

In *World Mining Equipment* for July August 2004, Mike Woof reviews the latest **conveying technology**. He discusses scrapers, transfer points control technologies, new belt joins, magnetic separation and rollers and pulleys. Following that Bernd Kusel comments on belt design and manufacturing improvements.

*South African Mining* for January 2004 has Zarina Parak discussing the dispute between the National Union of Mineworkers and the Chamber of Mines over mining safety. The National Union of Mineworkers is particularly concerned about the **effect of bonus schemes** on injury. The Chamber maintains that no member can introduce a system which will endanger the safety of the workers. However, the push to make target in one mine was so extreme that an injured employee was hidden underground for over 24 hours by a crew. The employee died. On another mine a crew works 24 hours straight.

## Triple fatality leads UK agency to issue warning about confined spaces

The United Kingdom's Health and Safety Executive (HSE) issued a warning to the manufacturing industry about the dangers of entering confined spaces after three people were asphyxiated in a slurry tank.

The three farm employees were overcome by carbon dioxide in the tank. That problem, compounded by a lack of oxygen, resulted in the workers drowning in less than a metre of liquid, according to the HSE. A fourth worker narrowly escaped death.

James Barrett, head of HSE's Manufacturing Sector said "In the last four months alone, three people from manufacturing industries have died as a result of entering confined spaces. This latest incident highlights the risks common to all industries and everyone - employers, trade unions and workers themselves - needs to be alert to the dangers."

He added "It is not as if the risks from confined spaces are new. Workers need to stop and think before they enter any confined space, even those with an open top. Toxic gases can build up, or the space may contain little or no oxygen."

"Workers need to be carefully trained and supervised by a competent manager. Senior management must carry out regular checks to be sure the correct procedures are always followed."

## MARCSTA Monitor

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