



Noise Induced Hearing Loss and Tinnitus

Guest Writer: Dr Brian Galton-Fenzi, Occupational Physician - Mine Health

There is continuing and overwhelming evidence that noisy environments make you deaf. The long term effects are frustration at your poor hearing, difficulty when with groups in meetings, pubs or public places, reduced lifestyle enjoyment, and most of all, permanent ringing (tinnitus) in your ears - enough "to drive you barmy".



Dr Galton-Fenzi

Mine health records show that there are 5% more people who work in the mining industry with hearing loss than those who join the industry. When we then looked at the 14,500 mine workers who have come back for a second medical assessment (within 4-6 years of the first medical assessment) we found that a further 4% of these mine workers had an increased hearing loss.

A possible major factor in the increase could be the increased shift length and inadequate hearing protection. These increased shift lengths leave no opportunity to get over the 'temporary threshold shift' in hearing loss usually seen, which occurs in all noisy environments.

The shift length is important in regard to noise exposure. 85 decibels A-weighted (dBA) is the maximum acceptable level of noise for an exposure of eight hours per day. However, if you work a 12 hour shift, then no more than just over 83 dBA is the maximum acceptable level to prevent any hearing loss.

Working at 90 dBA exposure without hearing protection means a maximum exposure duration of 2.5 hours providing further noise exposure is minimal.

A noise level of 100 dBA will cause hearing damage to unprotected ears within 15 minutes, and at 105 dBA noise level, damage will occur within five minutes.

On an eight or 12 hour shift, taking off your hearing protection in high noise areas, even for a few minutes, will have a significant effect on your cumulative hearing loss.

We now have specific noise exposure measurements for many jobs in the mining industry obtained from the recently introduced personal noise dosimetry program. Underground drillers are exposed to an average noise level of 105 dBA (five minutes of exposure without ear protection can cause damage to your hearing).

With bidders averaging noise levels of 101 dBA, only 12 minutes exposure is necessary to do the same. Surface truck drivers average 90 dBA (2.5 hours exposure). Therefore on an eight or 12 hour shift even a few minutes of exposure, at say 103 dBA, will affect your hearing without hearing protection.

It is equally important to realise that music in the car, at home or in the pub with a heavy bass is loud, often over 100-105 dBA. A few minutes of this on top of an already noise filled work day will definitely contribute towards any long term hearing loss.

Frequent and intermittent exposure to loud noise of **any** kind does lead to deafness, and with time, to tinnitus (ringing in the ears similar to the summer cicada). The worst thing for most individuals is the incessant ringing in the head and there is no way to stop it.

"Speak up, I can't hear you!" It's no joking matter for most individuals with hearing loss and tinnitus.

In this issue...

Review of Extended Working Hours	page 2
Access to Cardholder Details	page 2
Integrating OHS Competencies	page 2
FastTrack	page 2
Conduct Local Risk Control	page 2

Editorial.....	page 3
ISMSP	page 3
Industry Safety Performance.....	page 4
Conferences and Courses	page 5
Aches and Pains	page 5
USA Mining Deaths Decline.....	page 5
Vision Warning.....	page 5

Industrial Manslaughter Law	page 5
Test Your Knowledge	page 5
Member Profile: TCC.....	page 6
New Publications	page 6
MARCSTA Members.....	page 6
Provider Profile: Danny Bognar.....	page 7
News and Views.....	page 8

Extended Working Hours Review

The final report of the Extended Working Hours Review Panel has been forwarded to the Minister for Consumer and Employment Protection, John Kobelke. He will consider its recommendations and determine whether and how they are to be implemented.

The Review Panel was established in May 2003 to receive and consider public comment and make recommendations for the improvement of the State's occupational safety and health framework as it applies to issues arising from extended working hours.

Access to MARCSTA Cardholder Details

MARCSTA General Safety Induction certificate holders can now access their certificate numbers and expiry dates via the MARCSTA website www.marcsta.com.

This facility enables individuals and employers alike to verify the currency of certification at any time day or night. Full training history from commencement of MARCSTA training programs is recorded for each individual, including refreshers and other programs such as Managing a Shiftwork Lifestyle.

Integrating OH&S Competencies

An international conference on the integration of occupational safety and health competencies into vocational and technical education was held in Canada late in 2003. It became very clear that on a comparative basis Australia is way ahead of most western countries in the integration process and importantly is doing so at the national level.

At the same time we should acknowledge that we have a long way to go to achieve that objective.

One important message to come from the conference was provided by Professor Richard Gagnon from Laval University, Quebec who had this to say:

"Healthy and safe working conditions can be developed and maintained:

- *if the interests, knowledge, know-how and generic skills of individuals, groups and organisations are harmonised through negotiation rather than coercion.*
- *if health and safety training is a systematic process permeating all levels of an organisation to create a sustainable individual and group movement in favour of health and safety"*

With minor modification this statement would make an admirable company policy.



Above: Members of the Extended Hours Working Review receiving representatives from the Mineral Drilling Association of Australia.

FastTrack to be Available to Experienced Candidates

MARCSTA will shortly introduce a skills recognition process for employees with substantial workplace experience and knowledge of current occupational safety and health practices. This will enable them to access the Fast Track certification option.

Eligible employees, and there are many, with long industry experience will be able to apply to a licensed provider for recognition of their acquired knowledge and experience and sit the written answer one-hour FastTrack examination. Fees will apply for both the skills recognition and the examination.

In keeping with current practice all applicants will be advised to obtain and study a copy of the current Training Manual prior to the examination. Acknowledgement that such advice has been received will form part of the signed Acceptance of Terms and Conditions.

Risk Control Training Program

MARCSTA's basic risk control processes training program is being trialled during March in the workplace and with regulatory and industry representatives.

When released for general use in April, successful completion of the training program together with the workplace demonstration of competency will entitle candidates to a Statement of Attainment for the national metalliferous package unit Conduct Local Risk Control.

The work described in the unit is equivalent to the work covered in the extractive industry unit MNQMN1200A.

The program is genuinely 'hands on' and requires candidates to work in teams to identify, eliminate and manage residual risk in a simulated workplace environment.

Editorial

Over 30% of our providers have been audited while presenting a general induction course in the last four months. The audit was unannounced and covered a range of sessions dealing with Element 1 to Element 5. Both city and country venues were audited.

Each provider has then received verbal feedback (including advice on opportunities for improvement) with a chance to respond, as well as a written report.

The overall quality of training presentation has been found to be very high. Providers' intimate knowledge of safety and practices in the mining and associated industries was very much in evidence. (Just to give two examples - sixteen types of tags on one site, how earplugs joined by cord can in some circumstances cause ear damage).

Trainees were canvassed about the course and the presenters and the reactions were strongly favourable. One Victorian trainee said in his opinion MARCSTA training should be a model for the rest of Australia.

No doubt some providers breathed a sigh of relief when the auditor took his leave, but almost to a person they welcomed the objective look at the standard of their training presentation.

So congratulations to our providers who have been audited. We know they will keep up the excellent standards that overall they are setting.



Geoff Taylor



Who's who?

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MARCSTA Monitor Editor
Geoff Taylor



Jim Torlach,
ISMSP Chairman

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.

Extract from the Chairman's AGM Speech

This Society which has in excess of 700 members in America and Canada, has undergone some reorganisation during 2003 and a close association with them is being maintained by the Australian chapter.

The first law examination in the Australian chapter was conducted recently and the Society is confident that the first professional certification of members will occur during 2004.

A recognised qualification for mine safety and health professionals is long overdue in Australia where the mining industry has been operating for more than 100 years.

The requirements are demanding and the standards high. This is what professionalism is all about.

We look forward to recognising the first recipients at the 2004 AGM.

ISMSP Critical Issues Conference USA

The Trainer (T3) and Critical Issues Conference — three meetings in one from May 24–28 in Salt Lake City, USA — is turning into an international event.

“Right now, we have four or five speakers from Australia, one from Scotland, another from Canada and perhaps one from South America,” said Elaine Cullen, CMSP and program chair for the CIC and T3. “And there are a lot coming from the United States, of course.”

Confirmed speakers: Assistant Secretary of Labor for Mine Safety and Health Dave Lauriski, National Institute for Occupational Safety and Health (NIOSH) Director Dr. John Howard, National Mining Association (NMA) Vice President of Safety and Health Bruce Watzman and CEOs of Consol Energy and Phelps Dodge Corp.

For updates on May 24–28 plans and to register go to www.minesafetyconference.com.

Industry Safety Performance 2002/03

The release of injury statistics for 2002/03 by DoIR early in 2004 is to be commended. The publication is supported by a useful wall chart. The value of having current data available at such an early date is immeasurable to organisations like MARCSTA who are able to modify training programs to reflect current safety performance and focus on today's problems.

The concern expressed in the Monitor in 2003 regarding what appeared to be an entrenched problem with serious injuries was justified.

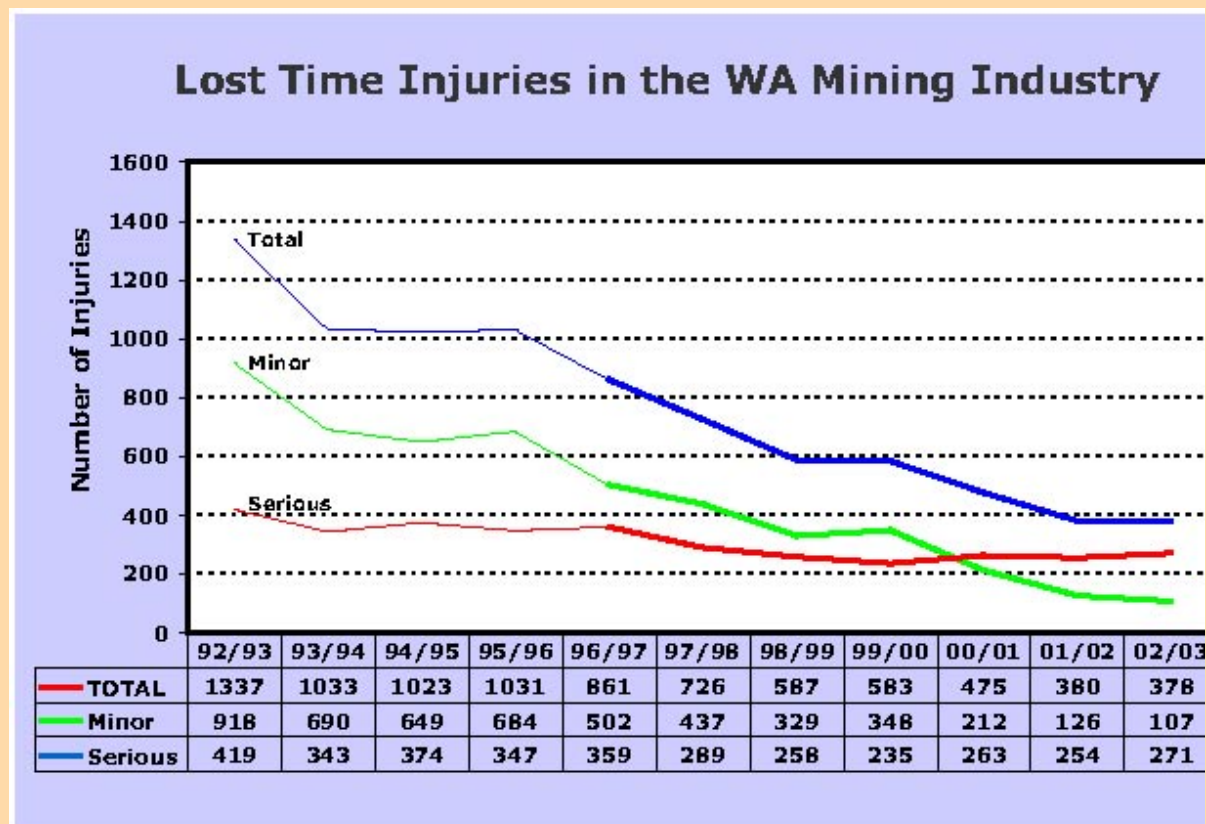
The industry, despite its outstanding performance in overall injury reduction, has been unable to reduce the incidence of serious injuries which consume most of the workers' compensation premiums and have significant human and social consequences.

Not since 1997/98 when a 20% reduction in the number of serious injuries was achieved has any meaningful reduction been achieved. In 2002/03 there was an increase of 7%. The graph below shows the plateauing effect.

Some sectors have continued to perform admirably while others have made little progress and are major contributors to the plateauing of the last six years.

A focused and concentrated effort at the industry level is needed if the hard won reputation of the mining sector is to be retained.

Surface	Employees	Serious Injuries	Incidence Rate
Iron Ore	10,635	33	3.10
Bauxite/Alumina	6,627	25	3.77
Mineral Sands	2,050	10	4.88
Gold	8,573	50	5.83
Salt	659	4	6.07
Construction Materials	305	2	6.55
Nickel	5,343	40	7.48
Coal	640	7	10.93
Tin, Tantalite, Lithium	456	7	15.35
Diamonds	1095	18	16.43
Base Metals	1148	19	16.55
Others	1625	11	6.76
Underground Metalliferous	4129	45	10.89



Injury Reduction Over 10 Years

All Injuries	71.72%
Minor Injuries	88.34%
Serious Injuries	35.32%

Conferences and Courses

Series of one-day seminars driven by industry case studies aiming to equip mining personnel with geotechnical competencies relevant to their area of expertise. 27 – 30 April 2004, Perth. Australian Centre for Geomechanics, Tel: +61 8 9380 3300 , Fax: +61 8 9380 1130

Day 1: Dilution Control in Underground Mines

Day 3: Mine Backfill

Day 2: Blast Design for Underground Openings

Day 4: Mine Seismicity and Rockbursting

ISMSP Conference on Mine Safety and Health, Utah, 24-28 May 2004. Contact www.minesafetyconference.com

Aches and Pains Impact on Worker Productivity

Nearly 13% of the US workforce experiences a loss of productive time due to common pain conditions according to a recent article in the Journal of the American Medical Association. The loss in productive time costs US employers an estimated US\$61.2 billion per year.

The majority of the lost productive time was explained by reduced performance at work, not by absence from work.

Researchers found that the most common causes of lost productivity due to pain were (not in order):

- arthritis pain
- back pain
- headache
- musculoskeletal pain

In what order would you place these pain types as the most common causes of lost production at work. (Worst 1, Least 4). See answers on page 7.

USA Mining Deaths Decline to Record Low in 2003

According to preliminary numbers released by the US Mine Safety and Health Administration (MSHA) mining industry deaths were at their lowest levels since statistics were first recorded in 1910.

In 2003 a total of 55 miners died in work related incidents compared to 67 in 2002. This is the third consecutive year of decreased fatalities for the mining industry.

Vision Warning About Prolonged Computer Usage

A new national survey for the American Optometric Association has found that 75% of adult Americans are concerned about vision problems caused by prolonged computer use.

According to the study nearly two thirds of the public believe an eye condition called Computer Vision Syndrome (CVS) is a major vision problem that will worsen in the future.

CVS can result from spending three or more hours a day working on a computer and its symptoms range from eye dryness, burning and irritation to blurred vision and extreme eye strain.

The study conducted on behalf of the American Optometric Association shows that 75% of all Americans polled believe that eye and vision problems associated with prolonged computer use should be considered a workplace condition.

First Industrial Manslaughter Law Passed in Australia

Despite opposition from business and the national government a new industrial manslaughter law has been passed in the ACT.

The ACT Industrial Relations Minister, Katy Gallagher, in welcoming the law said "... if a workplace death occurs and that death can be attributed to the employer then the death should be treated with the seriousness it deserves."

The legislation took effect on 1 March 2004. Canada passed a similar law in November 2003.

Test Your Knowledge - Serious Injuries 2002/2003

Occupations with the highest incidence of injury. Rank from Highest (1) to Lowest (6)

Development Miners	<input type="checkbox"/>	Mobile Equipment, Truck Drivers	<input type="checkbox"/>
Electricians	<input type="checkbox"/>	Process Plant Operators	<input type="checkbox"/>
Fitters	<input type="checkbox"/>	Supervisors	<input type="checkbox"/>

See answers on page 8



Total Corrosion Control

TCC Group is a well known Western Australian service provider looking to establish long term business relationships in industrial surface finishing.

As a group, it is committed to providing a safety culture in the workplace that is transportable from site to the family home. People are the most important key to their success. Every TCC employee has equal opportunity in an environment that fosters communication, involvement and teamwork.

Due to the continued expansion of the varied business units, a decision has been taken to change the name of the company from Total Corrosion Control to TCC Group. This better reflects the diverse business areas and services that we deliver to industry.

The core business areas associated with corrosion control are:

- abrasive blasting
- protective coatings
- rubber lining
- scaffolding
- insulation - thermal
- asbestos and lead removal
- PUF application
- training
- double rope access
- asset management
- polyurea coating
- fire proofing - Chartek, Thermolag, Mandolite



In addition, the company has two other major divisions which operate under the TCC Group umbrella. They are:

- the Total Corrosion Control Skills Training Centre, which is a leading training provider for Industry. The Skills Training Centre is a Registered Training Organisation
- the TAM Group, a leading provider in the supply of condition monitoring and total asset management services.

The training centre is the only registered skills training provider for the surface finishing and corrosion control industry within Western Australia. It provides company employees and TCC's clients with access to accredited and customised training packages.

TCC Group is able to provide the synergy of services and specialised expertise to meet the needs of clients with a broad range of projects. With its strong management team and diverse range of skills it has successfully carried out a large number of projects, as well as its regular maintenance services.

While TCC is based in Kwinana, just south of Perth in Western Australia, it has provided industry training as far away as Townsville.

New publications

De Pilla, S: *Slip and Fall Prevention - A Practical Handbook*. Boca Raton, Fla. Lewis Publications.

DOCEP- Guidance Notes: *Working Safely with Forklifts, Powered Mobile Plant, A Family Farm Safety Kit* (Kit only by internet to public).

DoIR: *Safety Performance in the WA Mineral Industry - Accident and Injury Statistics 2002-03*.

Taylor, G.A., Easter, K.M. and Hegney, R.P.: *Enhancing Safety - A Workplace Guide 1*, 4th edn. Perth, WestOne Publications.

MARCSTA members

FULL MEMBERS

- Ausdrill Ltd
- Australian Raise Drilling
- Barmenco 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



Danny Bognar

Danny Bognar is the Manager for Tom Price and Sons (TPS) and has over 22 years experience in the mining and construction industries.

He holds a range of tickets and licences, is a Registered Assessor for WorkSafe, has completed a Diploma in Occupational Health and Safety and for the past three years has been conducting MARCSTA training around the south west region.

TPS is located in the south west and has been in business for over thirty years providing training, assessing and statutory inspections for mobile plant. All the employees of TPS have extensive experience in the mining industry and this gives them a good insight into the type of training needed.

TPS provide nationally accredited training as a registered training organisation (RTO) in the fields of dogging, rigging, scaffolding, cranes (to open class), forklift, skid steer loader, front end loader, elevating work platform and MARCSTA inductions.

All training can be customised to suit clients needs and can be delivered on site anywhere required. TPS is sure it can meet all a client's needs in the delivery of quality training.

TPS also provide statutory inspections for mobile plant and lifting equipment and are now registered Cranesafe inspectors. TPS staff have over 100 years experience and at the top is Tom Price who has over 50 years in the mining industry.

Howard Price has over 20 years, Bennett Price over 20 years and our new addition Mark Frayne over 25 years. The future looks bright for TPS and they will continue to strive in providing a quality service and in improving safety for all who work in the mining and construction industries.



Danny Bognar

Welcome to New Provider ...

MARCSTA welcomes Kim Sutton as a provider

From page 5 ...Aches and Pains Impact on Worker Productivity - Answers

1 headache, 2 back pain, 3 arthritis pain, 4 musculoskeletal pain

MARCSTA REGISTERED PROVIDERS

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

Joe Duyvestyn
 Linda Elezovich
 Helen Fleming (S)
 Ashley Gilbert
 Ross Graham
 Andrew Hamill
 Ray Hargreaves
 Ralph Keegan (S)
 Guy Le Noir
 Chris Logan
 Joe Maglizza
 Malcolm McFarland (S)
 Greg North
 Patrick O'Sullivan
 John Preston
 Graeme Richards
 Merryn Richards (S)
 Darren Ridley

Jason Roberts
 Victor Roberts
 Des Shaw
 Brian Smith (U)
 Peter Stoneman
 Wayne Sullivan (S)
 Kim Sutton
 Mitchell Talbot
 Stephen Taylor
 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

Australian Mining for February 2004 has eleven articles with a health and safety flavour. Let's look at some of them.

Manitowoc have a **new rough terrain crane**, where the cab can tilt forward 20 degrees for better vision. The control ergonomics sound good, and they include a graphic display of key equipment parameters with audiovisual warnings of approach to preset limits for eg. load moment and anti two-block. The operator can preselect and define safe working areas.

There's mention of a **new Australian Standard for vehicle mounted cranes** following a mining industry fatality.

Placer Dome's response to a poor LTIFR at the **Henty Gold Mine in Tasmania** which it took over has paid off. Starting at 20, it was slashed to 5 and now 1. Using the message "safety before gold", methods have included more JSA's for non-routine work, better hazard reporting, better supervision, getting the workforce to believe that injuries in mining are not acceptable, and "100% intact" shift start meetings.

A prototype remote controlled keyhole mining dredger the size of a medium station wagon is on the way from WA-based SORD with help from CSIRO. Alluvial resources in a continuously collapsing environment are the target, below the level of conventional dredging and without large holes. This avoids placing workers in high risk underground situations.

A thin sprayed support liner from MBT with quick strength gain helps rock surfaces to support themselves early, and is an adjunct to rock bolting and concrete or shotcrete. Application equipment is cheap and small enough not to block underground roads.

Stored carbon dioxide in a tube which weakens readily if exposed to fire at the point closest to the fire, hence directing the gas where it is most needed, is a Wormald offering for electrical enclosures. No power is needed and no piping or nozzles.

CSIRO features once more with Sirovision, which allows prediction of rock behaviour using digital cameras mounted up to 700m away, feeding data to Matlab software.

And there is a four page coverage of the results of the inquest into the North Parkes airblast which killed four miners.

World Mining Equipment for January/February 2004 contains an article by Bruce Sheets about the **recent fatality at Cody Mining's No 1 Mine** near McDowell, Kentucky. The inquiry found excessive entry and crosscut widths, undersized pillars, misaligned openings, failure to identify obvious hazards at preshift, altering the accident scene by removing a non-permitted drill, detonation of excessive amounts of explosives, and a packet of marijuana at the accident scene.

South African Mining for October 2003 notes that Calidus von Roll Isola have introduced a range of halogen free composite materials to enhance safety in hazardous zones. Fire prevention and protection is aided by their low smoke emission, low toxicity, and flame retarding action combined with high mechanical and electrical strength.

In the same issue Palabora copper mine, it notes, uses a block caving approach, which leads to poorly fragmented and large rocks. Palabora will stick to a slower rampup of an expansion. Previous methods of freeing oversized rock hangups at draw points by manually placing small explosive charges in blocked drawbells can be, they have found, "fatally dangerous". Further on the journal describes how DuPont helped Palabora with contractor safety, pushing LTIFR down from 0.9 in 1999 to less than 0.3 in 2003.

The issue also carries an article on **Throughtec training simulators** for low profile underground equipment, drill rigs, and roof bolters.

In *Australia's Longwalls* for September 2003 Marian Hookham reports on an **overhaul of Queensland's mine emergency testing procedures**. Developed in the wake of the Moura tragedy, the testing procedures used mock scenarios and were found to introduce artificial complexity. The new approach involves two separate phases, and was given its first trial at Crinum mine in July.

The Monitor is published quarterly by:

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From page 5 ...Serious Injuries- Answers

1. Process Plant Operators
2. Mobile Equipment, Truck Drivers
3. Fitters
4. Development Miners
5. Electricians
6. Supervisors