

New legislation for workplaces

Mine operators should familiarise themselves with the new Work Health and Safety (WHS) laws, which came into effect on 1 January 2012.

The WHS laws replaced the Occupational Health and Safety (OHS) laws in NSW. The WHS laws were developed using the model WHS laws developed by Safe Work Australia and apply to all mining workplaces.

The new WHS legislative framework includes:

- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulation 2011*
- Codes of Practice

NSW Trade & Investment Mine Safety regulates the WHS laws with respect to mining workplaces. The *Coal Mine Health and Safety Act 2002* and the *Mine Health and Safety Act 2004* and their supporting regulations continue to apply, just as they did under the repealed OHS legislation.

This mining-specific legislation supports the new WHS laws.

Mining operations should become familiar with the new WHS laws, in particular new concepts such as persons conducting a business or



New Work Health and Safety legislation applies to all mining sectors.

undertaking (PCBUs), primary duty of care, reasonably practicable, officers and worker duties.

Some provisions of the OHS Regulation 2011 continue to apply, including registration requirements for the use of plant and the requirement for notification before the start of

electrical work on energised electrical equipment. (Refer to schedule 18B Savings and transitional provisions of the WHS Regulation 2011 for further information.)

What does this mean for mine operators, workers and others?

See more on pages 4, 5

Drug screening services tackle synthetic cannabis

Drug screening services have been targeting the mining industry in an effort to keep the synthetic drug Kronic out of the workplace.

The synthetic cannabinoid was detected in as many as one in 10 of West Australian miners last year, prompting NSW and Queensland mines to also begin testing workers.

The drug is a mix of herbs and chemicals, containing synthetic cannabinoids which mimic the effect of cannabis, giving users feelings of euphoria and relaxation. Health experts have warned that Kronic use can also result in paranoia, nausea, high blood pressure and hallucinations.

Allan Tisdell, who runs a drug screening program has tested many miners in the Hunter Valley region.

"When you look at the symptoms, it's paramount that companies educate their workforce to minimise the risk of employees using (Kronic) and presenting for work. Allan has been conducting Tool Box Talks for eight months for companies around the country on these issues."

Mr Tisdell said it was a difficult problem because the companies who produce the drugs change the chemical make-up on a regular basis.

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Information is provided in this newsletter to promote the enhancement of the safety culture of NSW mining and to alert a wide range of people to potential risks and to potential risk controls. Each site must manage its own risk according to its own hazard identification, risk assessment, control systems and monitoring process. Whereas all care is taken in producing NSW Mine Safety Update, NSW Trade & Investment accepts no responsibility for accuracy of information supplied. Inclusion of any product, service or company in NSW Mine Safety Update does not imply NSW Government or NSW Trade & Investment endorsement.

New branch safety logo

The Mine Safety branch of NSW Trade & Investment is your best source of information and advice on health and safety in mining workplaces.

To easily identify our published information look for the Mine Safety logo. It can be found on all new publications produced by the Mine Safety branch of NSW Trade & Investment. The Mine Safety branch regulates work health and safety legislation for all mining and onshore petroleum workplaces. We have a broad range of publications to help you maintain a safe and healthy workplace and can offer assistance in implementing programs.

Our mines inspectors and Industry Assistance Unit have a practical depth of knowledge and experience in safety and health and it is all freely available.

Our mines inspectors can help you to keep your workplace safe, our Industry Assistance Unit can help with health at work. If in doubt, talk with one of our people. The unit can be contacted at minesafety.assistance@industry.nsw.gov.au. For offices see www.minerals.nsw.gov.au/safety/mine-safety-offices



Risk Management course aims to initiate change

University of Queensland Professor Jim Joy will deliver a Risk Management course equipping managers, executives and strategic leaders to initiate change within their companies.

The five-day course will be run as a series of modules with interactive exercises to demonstrate adequate competency in risk management.

The course will be held at NSW Trade & Investment's office in Orange from 18 - 22 June.

The course is designed to provide mining professionals with the ability to apply harm-avoidance technology as applied in mining and minerals processing.

For any enquiries, please contact either Lisa Tracey on (02) 6360 5333 or John Parolin on (02) 6360 5353.

Both legal and illegal substances take toll on safety of workers

Continued from page 1

Director of Mine Safety Operations, Rob Regan, from NSW Trade & Investment says the Work Health and Safety legislation imposes a duty on a Person Conducting a Business or Undertaking (PCBU) to ensure, so far as is reasonably practicable, the health and safety of workers and others at work. The *Work Health and Safety Regulation 2011* requires that hazards are identified and the resultant risks eliminated or controlled.

The *Work Health and Safety Act 2011* has duties for workers and others at the workplace. They must take reasonable care for their own health and safety and take reasonable care that their acts or omissions do not adversely affect the health and safety of others. They must also comply with any reasonable instruction by the PCBU and the worker must co-operate with any reasonable policy or procedure of the PCBU.

"Our mining specific legislation requires the operator to provide a health and safety management system that identifies and controls risks to the operation," Mr Regan said. "A good operator will recognise that Alcohol and Other Drugs (AOD) may present a risk and have policy and procedures, as part of fitness for work, to control these risks. However, those policies and procedures must have been developed through, and with, the consultation of the workforce."

The *Coal Mine Health and Safety Regulation 2006* clause 148 specifies the coal operation must have a fitness for work program that includes measures to eliminate or control risks from the consumption of drugs at the coal operation.

The *Mine Health and Safety Regulation 2007* makes similar provision at clauses 82 and 83 that a person must not take drugs into a mine without the mine operator's authority.



The use of the synthetic drug Kronic among NSW miners has prompted specialised drug screening.

Kronic is a synthetic cannabinoid product being sold in some states of Australia. Kronic contains a leafy green material adulterated with one or more compounds that convey similar pharmacological properties as Delta9-Tetrahydrocannabinol (THC), the primary psychoactive constituent of marijuana. Compounds which appear to be highly popular are the ones known as AM2201, JWH250 and AB001. Australia has banned eight synthetic cannabinoids at a national level and a review is due this month. Brands which are currently legal in NSW, including Kronic Black Label and Pineapple Express, have been banned by the WA government.

"AOD policy should recognise that both legal and illegal substances may have an impact on the competency of people who work at a mine," Mr Regan said. "Good procedures establish behaviours of people at the mine so they recognise that they may not be fit for duty and inform their supervisor. This happens through education and positive reinforcement. Kronic is just another AOD that mine operators should give information about to their workforce."

Mr Regan said the second layer of control was to train others, and in particular supervisors, how to detect that a person may not be fit for duty. AOD may not always be the reason a person may not be fit for duty.

"A further control measure may be AOD testing. This would have been established through workplace consultation.

"The AOD testing may take many forms, such as pre-employment

medical, random and unannounced tests, notified testing for 'at risk' groups, requirements for AOD tests post-incident for certain people such as people operating machinery.

As to the investigation of an incident by Mine Safety, AOD may be identified as a contributing factor in an incident, Acting Senior Investigator Mark Freeman said.

"Investigators may review the AOD policy and procedures as part of the investigation and review and take copies of any test results that are at the mine. Where a death has occurred, we may receive toxicology and other test results from the Coroner.

"Investigators do not have powers to require a person to undergo AOD testing.

"We do have the power to take and remove for analysis a sample of any substance at the workplace. Investigators also have the power to seize anything they consider evidence."

What the changes will mean

Continued from page 1

The new legislation creates particular responsibilities for people in the metalliferous, extractives and opal mining sectors.

PCBU

A PCBU may be an individual people or an organisation conducting a business or undertaking.

Examples of PCBUs who are individuals include:

- partners in partnerships
- sole traders and self-employed people
- individual trustees of trusts (as with some family businesses)
- committee members of unincorporated associations if they employ someone.

Examples of PCBUs that are organisations include:

- public companies
- private companies
- trustees that are companies
- cooperatives that are companies
- government departments and authorities
- incorporated associations if they employ someone
- local authorities (municipal corporations or councils)
- independent schools
- universities.

A health and safety duty is owed by a PCBU if it arranges, directs or influences work to be done, or contributes something towards the work being done.

This duty also applies to principals, contractors and sub-contractors within the supply chain. A PCBU is not the individual worker or officer and does not apply to purely social, domestic or recreational activities.

Primary duty of care

A PCBU has a primary duty of care to ensure workers and others are not exposed to a risk to their health and safety.



New WHS legislation introduced on 1 January 2012, applies to all mining operations.

A primary duty of care is owed by a PCBU when it directs or influences work carried out by a worker, engages or causes to engage a worker to carry out work (including through subcontracting) or has management or control of a workplace.

The PCBU must meet its obligations, so far as is reasonably practicable, to provide a safe and healthy workplace for workers or other people by ensuring:

- safe systems of work
- a safe work environment
- accommodation for workers, if provided, is appropriate
- safe use of plant, structures and substances
- facilities for the welfare of workers are adequate
- notification and recording of workplace incidents
- adequate information, training, instruction and supervision is given
- compliance with the requirements under the work health and safety regulation
- effective systems are in place for monitoring the health of workers and workplace conditions.

PCBUs must also have meaningful and open consultation about work health and safety with its workers, health and safety representatives and health and safety committees. PCBUs must consult, cooperate and coordinate with other PCBUs with whom they share duties.

A PCBU has further obligations if involved in specific kinds of activities such as the management and control of workplaces, or fixtures, fittings or plant at workplaces, the design, manufacture, import or supply of plant, substances or structures, installation, construction or commissioning of plant or structures.

Reasonably practicable

Reasonably practicable means doing what is effective and possible to ensure the health and safety of workers and others. All people must be given the highest level of health and safety protection from hazards arising from work, so far as is reasonably practicable.

A PCBU should always seek to eliminate, so far as is reasonably practicable, any health and safety risks. If a risk cannot be eliminated, the PCBU must minimise the risk, so far as is reasonably practicable, by:

- substituting (wholly or partly) the hazard with something with a lesser risk
- isolating the hazard from any person exposed to it
- implementing engineering controls.

If these controls do not fully eliminate or minimise the risk, the PCBU must implement administrative controls and then, if appropriate, ensure the provision of suitable personal protective equipment.

A combination of controls may be used to minimise a risk if a single control is not sufficient.

to mine safety across NSW

In determining control measures, the PCBU should identify and consider everything that may be relevant to the hazards and risks.

The PCBU, when determining what is reasonably practicable, should take into account the likelihood of the hazard or risk occurring, the degree of harm, knowledge about ways of eliminating or minimising the hazard or risk and the availability and suitability of ways to eliminate or minimise the risk.

In most cases the cost of eliminating or minimising the hazard or risk will have little weight.

Officers

Officers, including company directors, are individuals who have specific obligations for work health and safety. These obligations are important as health and safety commitment and leadership from the top levels of the business or undertaking is critical to health and safety outcomes. Therefore, officers must ensure the PCBU has arrangements in place to comply with its legal obligations. It is an officer's duty to exercise due diligence to ensure their business or undertaking fulfils its health and safety obligations.

The essential elements of due

Mine Safety has prepared a list of Frequently Asked Questions on the new legislation. They can be viewed at www.minerals.nsw.gov.au/safety/legislation/legislation-2012
For more information about the new WHS laws check out the Workcover website at: www.workcover.nsw.gov.au/newlegislation2012

diligence for an officer mean keeping up-to-date with work health and safety matters to gain an understanding of the operations of the business and the hazards and risks involved. Officers ensure appropriate resources and processes are provided to enable hazards to be identified and risks are eliminated or minimised. They make sure the information is responded to in a timely way and ensure the PCBU has, and implements, processes for complying with any legal duty or obligation to ensure processes are verified, monitored and reviewed.

* The Department has developed this information based on content on the new WHS laws prepared by WorkCover NSW and Safe Work Australia.

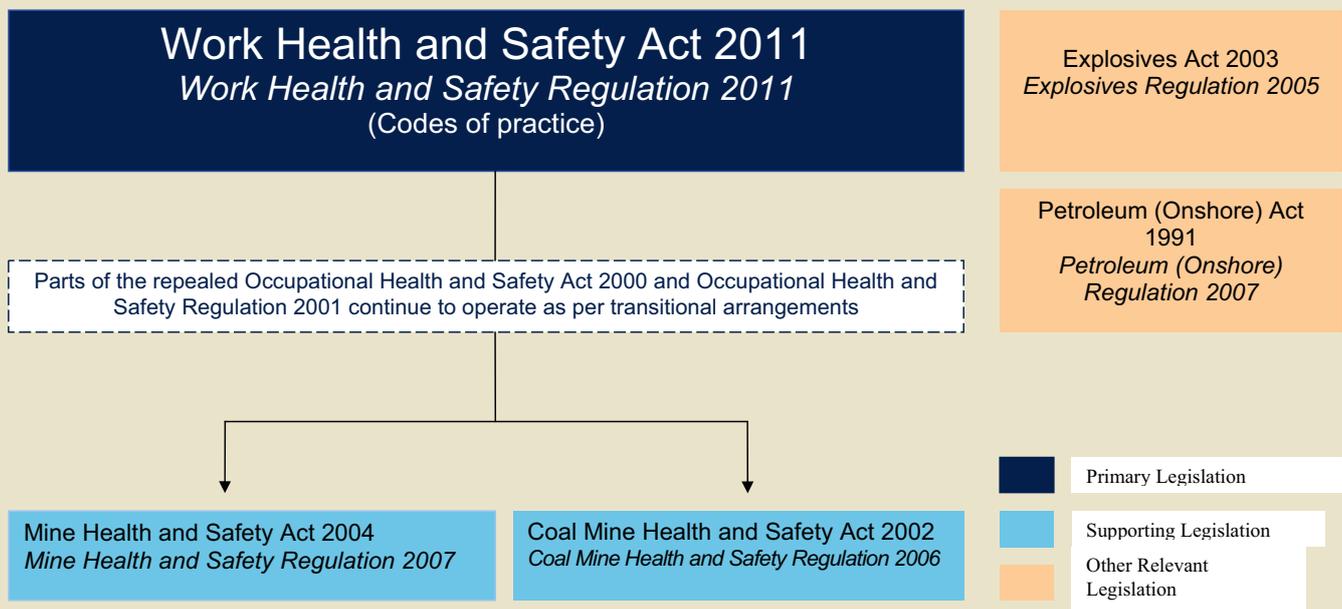
Taking care on the job

The definition of a 'worker' includes any person who carries out work for a PCBU. This term worker includes any person or PCBU who works as an:

- employee
- trainee
- volunteer
- outworker
- apprentice
- work experience student
- contractor or sub-contractor
- employees of a contractor or sub-contractor
- employee of a labour hire company assigned to work for a PCBU.

A worker must, while at work: take reasonable care for their own health and safety, take reasonable care for the health and safety of others, comply with any reasonable instruction by the PCBU, cooperate with any reasonable policies and procedures of the PCBU.

Mine Health and Safety Legislative Framework in NSW



Leaders demonstrating by example

by **Tony Anthony**

Practice Leader WHS
Management Systems

What is it that makes health and safety work? Ask 100 people and you will probably get 100 different answers. Some likely answers include a good health and safety management system, a positive health and safety culture, good policies and procedures, meaningful consultation, clear roles and responsibilities, a well executed risk management process and regular review.

It would seem to many people that all these things are indeed important and it is not the purpose of this article to argue the merits of one or the other but rather discuss what these answers have in common.

Senior management commitment is the common link, without which, none

of these things will be very effective. This should come as no surprise.

Senior managers are, after all, the decision makers. They set the agenda and priorities, and they allocate and approve resources. They are the leaders, and while some are natural leaders others can struggle with the leadership role. Regardless, when senior managers set the agenda either by example, inference, anecdote or simply the tone of their voice, others tend to listen and act.

It stands to reason then, that if they don't genuinely believe in health and safety or if at times they prioritise it below production or profit, then that is the message they will send out.

Attentive middle managers will receive this message loud and clear. Middle managers then propagate and reinforce these same values down through the supervisors and on to the workers.

If the message is relayed often enough it will become the norm and you end up with a workplace culture which has scant regard for health and safety.

Unfortunately, this is still the case in too many organisations today. How do we arrest this trend and protect our organisations from this fate? Maybe we need to redefine the meaning of commitment.

Is it simply signing cheques, approving training and hiring experienced and qualified people or is it something more? Is it more about regular visible action and less about platitudes and slogans?

It should be interesting to see what effect the new Work Health and Safety laws have in this regard. With new positive duties for officers and more consultation with workers it is like a step in the right direction since we have a responsibility to show our leadership qualities.

Fatigued Freddy inspires workers

"Freddy the Fatigued Flamingo" was the inspiration for a poster about how to manage fatigue at a recent workshop in Cobar.

The group of 15 participants came up with the innovative idea of Freddy as the poster boy for education about fatigue and its effects in the workplace.

Mining Industry Education Officer Stacie Kendall said the Mine Safety Advisory Council (MSAC) program had been so popular that the program was repeated in Maitland and extended to Narrabri.

Workshops were also held in Cobar, Broken Hill, Wollongong, Lithgow and Dubbo.

The program is delivered in three modules where participants learn the physiology behind fatigue, a practical approach in fatigue risk management and further skilling on implementing a fatigue management plan.

The program was designed to not only build the skills of the NSW mining industry in fatigue risk management, but to also capture information that may assist in identifying skill or

knowledge gaps and cultural trends toward fatigue risk management.

The mastering fatigue management program analyses the physiological aspects of fatigue, investigates the need for sleep, the effects of monotonous tasks and the impacts of our working environments on individuals.

The success of the workshops has led to a series of regional fatigue forums for the NSW mining industry.

The forums will provide the industry with an opportunity to network and share information on overcoming barriers, fatigue management trends and resources for fatigue management.

The forums will also include advice from specialist fatigue management service providers.

The forums will be held at Wollongong on 27 March, Maitland on 29 March, Dubbo on 9 May, Cobar on 22 May and Broken Hill on 24 May.

To register, visit: www.minerals.nsw.gov.au/safety/resources/seminars-and-conferences



Freddy the Fatigued Flamingo - the Cobar posterboy for education about the dangers of fatigue in the workplace.

Minister welcomes Hannaford

The peak health and safety body for the NSW mining industry, the Mine Safety Advisory Council (MSAC) has convened its first meeting for 2012 with a new Chairman.

Minister for Resources and Energy, Chris Hartcher has welcomed the appointment of John Hannaford as Chairman of MSAC.

"I'm delighted we have been able to secure John as Chairman of this important advisory committee," Mr Hartcher said.

"John has extensive government experience, which will be essential in his new role focusing on the health and safety of mine workers across NSW.

MSAC provides advice to the Minister for Resources and Energy on occupational health and safety



New Mine Safety Advisory Council Chairman John Hannaford.

in the NSW mining industry.

Mr Hannaford has held several senior roles in State Government including; the Leader of the House, Minister for Industrial Relations and Vice President of the Executive Council, Minister for State Development, Minister for Health and Community Services as well as Attorney General.

Mr Hannaford's appointment as Chair of the Council follows the death of Mr Norman Jennings late last year, having held the role since 2006.

The Council includes senior officials from some of the most respected bodies in the mining industry including the CFMEU (Mining and Energy Division), Australian Workers Union, NSW Minerals Council and Cement Concrete and Aggregates Australia.

Initiatives led by MSAC aim to improve the health and safety culture in the State's billion dollar mining industry.

Some recent initiatives include workshops for driver safety, promoting safety beyond the mine gate and special health and safety grant programs such as the Mudgee Community Grants program.

Joint project to look into workplace culture, stressors

A new study will delve into workplace culture, factors that increase worker stress, their impact on commitment to the goals of the organisation and their relationship to production and health and safety outcomes.

The stress factors include lack of job certainty, role clarity, resources to do the job, opportunity to participate, feedback, reward and recognition .

The project is a joint venture between NSW Trade and Investment and Centennial Coal with two purposes.

First, to explore the relationship between stress factors, organisational commitment and production on the one hand and health and safety results on the other.

Second, the project will promote the use of self-assessment tools as a method of evaluating the impact of culture improvement programs and driving continuous improvement in the mining industry. This will help determine the value of the self-assessment approach.

The first project task will be to refine the method for assessing the interaction between organisational culture, stress factors, commitment to the goals of the organisation

and production and health and safety outcomes.

For NSW Trade & Investment, the primary aim is to promote the use of the culture self-assessment program to the industry. A secondary benefit would be to demonstrate a common 'originator' to both production and workplace health and safety.

For Centennial Coal the long term aim is to evaluate the impact of a management intervention framework on organisational commitment and workplace culture.

Manager Mining Industry Assistant Unit, Heather Jackson, said the project outcomes would provide a better understanding of the precursors to production and health and safety and determine if a single set of actions by supervisors/managers can positively influence both production and work health and safety outcomes.

"Through Centennial's use of the culture self-assessment tools, we will be able to begin to build some data to support and promote the use of the self-assessment method in the NSW mining and extractives industry and help achieve the vision of a world-leading WHS culture and performance."

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Creating an electrical engineering identity

The NSW Trade & Investment Mine Safety team has been undertaking an assessment of electrical earthing systems and the application of functional safety in NSW mines during the past two years.

The aim was to benchmark the management of mine earthing installations, the application of technology used to protect people and to identify areas requiring improvement in the management of electrical engineering safety in general.

Earthing has always been a fundamental element of mine safety, the only thing that has changed is our improved understanding and through this, our improved ability to design effective earthing systems.

Functional safety is relatively new, however, the use of this approach is now a fundamental requirement to manage the technology that is used to protect people.

Senior Inspector Electrical Engineering – Special Projects John Waudby presented the results of the assessments at the Department's annual Electrical Engineering Safety Seminar in November.

"Mines need to create an electrical engineering identity. Our current management of electrical engineering safety is often more reliant on individual engineers than mine management systems. This imbalance needs addressing if long term sustainable management is to be achieved." Mr Waudby said.

"This will be extremely important where legislative environments do not support the employment of statutory engineers."



Mine Safety inspectors (from left) Stan Maginnis, Bob Kennedy, Owen Barry, Alan Sweeney, John Waudby, Bernard Gittins, Robert McKenzie and (back from left) Peter Sunol and Paul de Gruchy.

The assessment program found that while earthing was a critical risk control, earthing problems from 30 years ago were starting to re-emerge and lightning earthing continued to be problematic. It also found anecdotal evidence that sustainable management was not a high priority and there was a lot of work being done outside of electrical engineering management plans, or being done in a manner to 'fit' the system.

The assessment of functional safety also found that while it was often applied at the design stage, electrical engineers often drove functional safety and it was generally not fully integrated into mine management systems.

During his presentation, Mr Waudby recommended that electrical

engineering safety needed to be ingrained in mine management systems and should not be compromised to fit into the systems.

"Management systems must support electrical engineering risk controls being identified, implemented and maintained to the latest standards and good practice", he said.

Further detailed information on the assessment of earthing and functional safety is available in Mr Waudby's presentation from the 2011 Electrical Engineering Safety Seminar 'Earthing and Functional Safety'.

The presentation can be accessed, along with other electrical engineering presentations from the same event, from the NSW mine safety website at: www.minerals.nsw.gov.au/safety/publications/seminar-presentations



The 21st Electrical Safety Seminar attracted a large number of attendees.

2012 Engineering Safety Seminars

The 22nd Mechanical Engineering Safety Seminar will be held at the Waterview Convention Centre, Sydney Olympic Park on 8-9 August, 2012. The 22nd Electrical Engineering Safety Seminar will be held at the Sydney Exhibition and Convention Centre Darling Harbour on 7-8 November, 2012. For more information on speakers and presentation topics, or to register, visit:

www.minerals.nsw.gov.au/safety/resources/seminars-and-conferences

Proactive approach needed to manage workplace injuries

by Kylie Newton

Practice Leader

Health and Human Factors

The mining and extractives sector has a very limited understanding of musculoskeletal disorders, a recent survey conducted on behalf of the NSW Mine Safety Advisory Council (MSAC) has found.

A key area of concern for MSAC and the Department's Industry Assistance Unit is that individuals are still sustaining musculoskeletal injuries in the mining and extractives industry. Data indicates that in a five-year period 3747 people sustained a workplace musculoskeletal injury with an average total cost of \$1.2 million (gross incurred).

Alarming only 37 per cent of respondents were able to answer positively when site management representatives were asked if they had a program to identify risks in musculoskeletal disorder.

The survey also found that 62 per cent of respondents used a mixture of a reactive and proactive approach to musculoskeletal disorder with 21 per cent of respondents indicating they only used a reactive approach.

A quarter of the respondents were monitoring musculoskeletal disorder in their workforce. In comparison, dust, hazardous substances, fatigue and noise are more likely to have formal documented procedures.

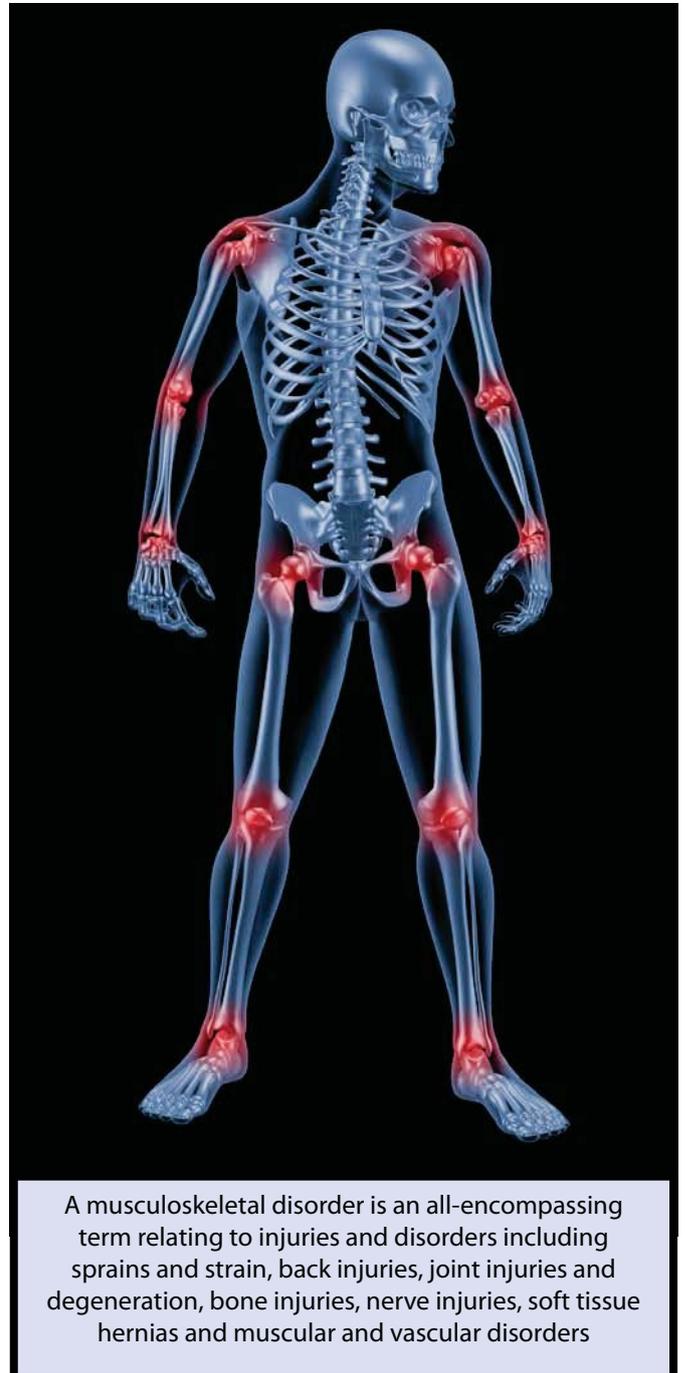
Only 12 per cent of the mines surveyed always referred to the MSAC guidance material on musculoskeletal disorders.

On a positive note, the industry has identified musculoskeletal disorders as a risk and is including it in health and safety planning.

It is evident that the mining and extractives sector needs to adopt a proactive approach to help manage musculoskeletal injuries.

This will require an integrated approach to reduce the incidence of musculoskeletal injuries including significance placed on:

- the range of tasks completed by the workforce
- the equipment required to complete the tasks
- the hazards in each workplace including the provision for slips, trips and falls that can result in a musculoskeletal injury
- the demographic, experience, physical and psychological capacity of each workforce
- knowledge and understanding of each workforce
- demonstrated management commitment particularly with respect to due diligence and consultation to resolve musculoskeletal injuries.



A musculoskeletal disorder is an all-encompassing term relating to injuries and disorders including sprains and strain, back injuries, joint injuries and degeneration, bone injuries, nerve injuries, soft tissue hernias and muscular and vascular disorders

The focus also needs to change from musculoskeletal disorders being placed in the "too-hard basket", to a greater emphasis being placed on the benefits of reducing incidents. This includes reduction in workers' pain, reduction in workers compensation premiums, reduction in production costs, decrease in absenteeism and wages and assist workers to return home at the end of each shift the way they arrived at work.

Norman remembered for strong leadership

The NSW Mine Safety Advisory Council (MSAC) Chairman, Norman Jennings, passed away on Friday 28 October 2011 after several weeks in hospital.

Norman was the independent Chairman of MSAC from March 2006 until his death.

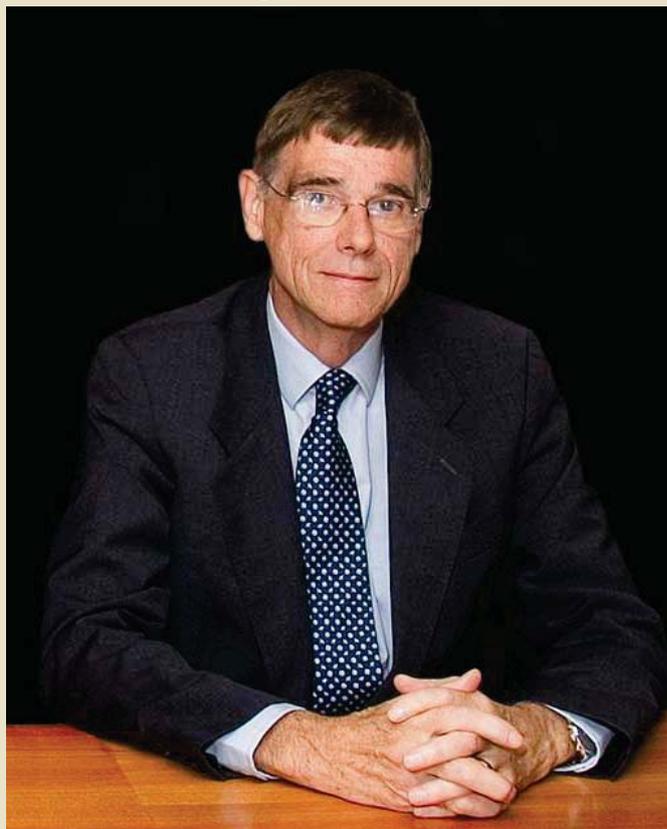
He showed strong leadership and a commitment to improving mine safety during his time as Chairman of MSAC and he made a significant contribution to the safety of the NSW mining and extractives industry.

As a staunch advocate for improvement of health for workers, Norman was particularly concerned with the prevention of musculoskeletal disorders and developing fatigue and health management plans. Norman also promoted improving the health and safety culture through the development of non-technical skills of all who work in the industry.

His ability to bring industry stakeholders together and reach agreement to set world-leading standards has resulted in a range of initiatives to improve industry health and safety in NSW and will be a long lasting legacy.

Norman was the driving force in having a summit of industry and union leaders in 2008 and getting them to agree on the industry in NSW striving to be world-leading.

During his tenure as Chairman he laid out a road map for OHS cultural development so MSAC could lead the way to improve the quality of health for workers in the NSW mining industry.



MSAC Chairman Norman Jennings led the way in improving health and safety standards.

MSAC initiative teaches young drivers safety message

The young driver's road safety program held recently in Parkes brought tears to the eyes of participants who listened to the story of a crash survivor.

The NSW Mine Safety Advisory Council (MSAC) initiative aims to assist young drivers appreciate the issues and consequences associated with driving. This can be done by improving road user respect, safety behaviours, and developing an awareness of the consequences of poor driving attitudes and carrying this through to their workplace safety behaviour.

The cost of a road fatality, from the moment an ambulance is called, until after the funeral, exceeds \$1.5 million per fatality, according to the Australian Bureau of Transport Economics. The bureau estimates that road crashes cost Australians \$41 million per day.

Feedback was received from 24 of



Nicole Sugden shares her experience of surviving an accident with young drivers.

the 25 participants with 75 per cent rating that the program was good to excellent. The young drivers, aged between 16 and 21 listened to reports on local road safety issues as well as presentations from the Lachlan Area Command police and local SES controller.

Nicole Sugden gave a compelling

personal account of surviving an accident and how serious accidents on roads can affect young people.

The program covered topics such as drugs and alcohol, crashes and rescues, hazard perception and risk taking, insurance, road rage, licensing and demerit points, the police and emergency first aid.

Safety alerts issued since October, 2011

SA 11-11 Faulty Sabre CABA units

Two dual Sabre brand BA Compressed Air Breathing Apparatus (CABA) units were delivered to the Mine Safety Technology Centre for examination in October 2011. These units are reported to have been abandoned underground during an escape from an incident in January.

On examination, it was noted that there was flexibility in the T-piece that joins the two compressed air bottles (located near the bottle valves).

On one unit there was an obvious curve in the T-piece between the two bottles.

Both CABA units exhibited flexibility in the T-piece.

It is possible that the T-piece could be stressed every time the equipment is moved or bumped.



Faulty Sabre CABA unit.

SA 11-13 Supervisor crushed by long haul dump machine attachment

A deputy sustained an injury when the bumper bar of a stone duster pod attached to a load haul dump machine (LHD) crushed him against the side of the roadway in December. This resulted in a compound fracture of the left femur.

The LHD operator had completed stone dusting at the face and was about to clear the roadway with the bulk stone duster pod attached to the QDS of the LHD. The deputy stopped the LHD, approached the LHD operator on the machine, and issued instructions to the LHD operator to wait for a shuttle car to clear the area of intended travel.

The shuttle car cleared the travel route and the LHD operator commenced to turn right to clear the roadway. The LHD operator was facing in the direction of machine travel and was not aware that the deputy had not cleared the No Standing Zone of the machine.

The deputy was still in proximity to the moving machine in a position of danger. The deputy was struck by the bumper bar of the stone dust pod as the LHD articulated to negotiate the right hand corner.

Safety bulletins issued since October 2011

SB 11-04 Electrical hazards associated with variable speed drives and earth fault current limited systems

Variable Speed Drives (VSDs), also known as Variable Voltage Variable Frequency (VVVF) drives, often cause relatively large capacitively coupled currents to flow in the earthing systems of the associated drive motors, plant and machinery during normal operation. These capacitive currents are associated with the switching frequencies of the output of the VVVF drives.

These high frequency currents are a source of electromagnetic interference (EMI or noise) that can cause unreliable and sporadic operation of electronic control equipment. To minimise the impact of this noise on surrounding plant and equipment, it is common practice to use filter circuits to localise the currents to a specific area of the electrical network.

However, the use of VSDs and associated EMI mitigation techniques may (in certain circumstances) have a detrimental impact on the effectiveness of the current limitation system as used in underground mines. This phenomenon appears to be amplified when two or more machines fitted with VSDs and EMI filters are supplied from the one substation/transformer which utilises a neutral earthing resistor (NER).

SB 12-01 In-Service failures of explosion protected diesel engine systems during 2010-2011

Mine Safety has conducted an analysis of the in-service failure of the explosion protection characteristics of diesel engine systems (ExDES failures), as reported under clause 56(1)(m) of the NSW Coal Mine Health and Safety Regulation 2006.

There has been an improvement in the reliability of ExDES's over the last 2 years. During 2009 there were 345 reported incidents, in 2010 there were 269 and during 2011 there were 230 reported incidents. This is encouraging - assuming the proportion of reported incidents to actual incidents has not decreased.

The top 5 failures were: Control system – valve sensor fault (32%), Control system – wrong settings (12%), All fixed joints – bolts nuts & studs (10%), Wet conditioner – sludge holding up floats (7%), Control system – circuit contamination (7%)

Mechanical ExDES failure rates are unacceptable in view of contemporary engineering standards. Like Ex electrical equipment, explosion protected characteristics of an ExDES must have a very low probability of failure. There have been several mine explosions in history where a diesel engine may have been the source of ignition. The consequence of such a failure is potentially multiple fatalities.

There is a need to continue improving the reliability of explosion protection characteristics of diesel engines systems.

CALENDAR OF EVENTS

Mastering Fatigue Management forum, 9 May Dubbo, 22 May Cobar, 24 May Broken Hill. The registration form is available from www.minerals.nsw.gov.au/safety/resources/training-and-workshops

Site check inspector training course, 28 March- 5 April 2012, Newcastle Mines Rescue Station, Argenton. 20-28 June, Southern Mines Rescue Station, Woonona. 21-29 November, Newcastle Mines Rescue Station, Argenton. Forward an expression of interest to: coalcompetence.board@industry.nsw.gov.au

NSW Minerals Council Occupational Health and Safety Conference, 29 April-May 2, 2012, Crowne Plaza, Hunter Valley, NSW.

Mechanical Engineering Safety Seminar, 8-9 August, 2012. Sydney Olympic Park. An agenda and information on accommodation options will be available when registrations open prior to the event.

Electrical Engineering Safety Seminar, 7-8 November, 2012. Sydney Convention and Exhibition Centre, Darling Harbour. An agenda and information on accommodation options will be available when registrations open prior to the event.

Check Inspectors Safety Seminar, September, 2012. Date and venue to be announced

Mine operators workshops, next workshop 25 October 2011, Miners Association Building, Morilla Street, Lightning Ridge. Contact Janet Town, NSW Trade & Investment, 02 6829 9208.

Mine safety awareness course, next course 15-16 Nov 2011, Lightning Ridge Bowling Club. Contact Janet Town, NSW Trade & Investment, 02 6829 9208.

Hunter Valley underground mine mechanical engineers meeting, held quarterly at the Mine Safety Technology Centre. Contact Paul Drain, Inspector of Mechanical Engineering, NSW Trade & Investment, 02 4931 6652.

Hunter Valley open cut mine and coal preparation plant mechanical engineers meeting, held regularly. Contact Peter Sunol, Senior Inspector of Mechanical Engineering, NSW Trade & Investment, 02 4931 6655.

Hunter Valley electrical engineers meeting, held on the first Friday of every second month at the Mine Safety Technology Centre. Contact Owen Barry, Inspector of Electrical Engineering NSW Trade and Investment 02 6571 8708 or Peter Davidson, Mandalong Mine 02 4973 0922.

Southern and Western Coalfields mechanical engineers meeting, held quarterly. Contact Graham Johnston, Inspector Mechanical Engineering, NSW Trade & Investment NSW 02 4222 8307 or Wally Koppe, Inspector Mechanical Engineering, NSW Trade & Investment, 02 4222 8303.

Southern and Western Coalfields electrical engineers meeting, TestSafe, Londonderry, held quarterly (limited numbers). Contact Stan Maginnis Inspector of Electrical Engineering NSW Trade & Investment, Lithgow Office 02 6350 7891 or Wollongong Office 02 4222 8300 or 0417 223 875.

HIESN (Hunter industry electrical safety network) meeting, held on the first Thursday of each month, venues change. Contact Peter Henderson, Tomago Aluminium 0408 683 544.

Remote control equipment advisory group meeting, invitation required, held quarterly. Contact Steve Bentham, Inspector of Electrical Engineering, NSW Trade & Investment, 02 4931 6653 or 0409 836 286.

MEMMES (Mining electrical and mining mechanical engineers society of the IEAust) meeting, held monthly. Contact Peter Whipp, President, 02 4946 7817

For more information go to: www.minerals.nsw.gov.au/safety/resources

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