



NSW

mine safety update

Promoting safety in the NSW mining industry

'No room for error' in workplace safety

NSW Minister for Resources & Energy, Chris Hartcher, committed to working with the industry to achieve the NSW Government's policy

of zero tolerance of workplace accidents, when he addressed more than 500 delegates at the NSW Minerals Council Occupational Health and Safety conference in the Hunter Valley.

"You don't engage in workplace safety to save money. The fact is we have fundamental responsibilities to each other", the Minister reminded delegates.



Chris Hartcher, NSW Minister for Resources & Energy

"A culture of safety needs to be developed in cooperation with all industry players", he added.

"This conference is being held with the clear message that the industry has not yet reached world-leading health and safety

standards even though the industry has shown constant improvement in safety performance during the past 10 years."

The theme for the conference, the premier safety event on the industry's calendar, "No Room for Error" was underpinned by a series of outstanding presentations focusing on legal, risk and emergency response.

Keynote speaker, Wayne Bennett captivated the audience with his insights into leadership and people and warned that the biggest risk in any industry is to stop caring. He said we all know what needs to be done we just need the courage to do it.

The annual conference has at its heart the keenly contested Innovation Awards. Industry participants submit their safety projects for scrutiny by a panel of expert judges and this year miners from the State's Central West, Far West and Illawarra were awarded top honours.

The NSW Minerals Council CEO Dr Nikki Williams said that innovation was alive and well in the NSW minerals industry and that the winners were not just tweaking old ideas but proved themselves to be true innovators.

See page 7 for a list of Innovation Award winners.



Keynote speaker Wayne Bennett

New national work health and safety laws are coming

Model work health & safety laws are being developed by the commonwealth, state and territory governments, to harmonise work health and safety across Australia. NSW is a partner in the harmonisation process and has passed the new model work health and safety act which will commence in 2012. Model work health and safety regulations will go before parliament before the end of the year.

The work health and safety harmonisation process is being coordinated by the federal government agency Safe Work Australia.

The model Work Health and Safety (WHS) Act sets out work health and safety obligations with which all industry must comply. Safe Work Australia released the draft model WHS Regulation for public comment for four months. Over 1300 submissions were received.

Changes to the regulations have been approved in principle and each state and territory government will make a decision on final approval over the coming months. The majority of the general draft regulation will apply to the mining industry.

Safe Work Australia has also released draft model WHS Regulations for the Australian mining and extractives industry for public comment, along with draft model Codes of Practice and an Issues Paper.

For public comment period closing dates, information on making a submission or to download any of the public comment documents, please visit the Safe Work Australia website at:

www.safeworkaustralia.gov.au

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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.

Improve your ANTS

A series of factsheets have been developed by the NSW Mine Safety Advisory Council, in conjunction with NSW Trade & Investment, to promote the use of Associated Non-Technical Skills (ANTS) within the NSW mining industry.

ANTS are the cognitive, social and personal skills that complement the more traditional technical skills used in the mining industry. They contribute to the safe and efficient performance of tasks and help people to interact more effectively. They include;

- Situation awareness
- Leadership
- Teamwork
- Communication
- Decision making

Research into incidents in high risk industry sectors indicates that when work systems fail to produce OHS outcomes, it is often due to a lack of ANTS skills. These high risk sectors include aviation, oil & gas, medicine and mining.

The factsheets are part of the Mine Safety Advisory Council's World Leading Action Plan, which aims to build the capacity of the NSW mining industry and work in partnership with employee representatives, industry and government to achieve world leading OHS.

They are available from the Mine Safety Advisory Council website at:

www.nswminesafety.com.au

and the NSW Trade & Investment website at:

www.dpi.nsw.gov.au/minerals/safety/world-leading-ohs/ants

Teamwork

Associated non-technical skills for the NSW mining and extractives industry

FACTSHEET

9

What are associated non-technical skills?

Associated non-technical skills are mental, social and personal skills that support technical and management skills. They help staff do their work safely and efficiently.

These skills include:

- Situation Awareness (Factsheet 5)
- Decision Making (Factsheet 6)
- Leadership (Factsheet 7)
- Communication (Factsheet 8)
- Teamwork (Factsheet 9)

Teams and teamwork

Teams are made up of two or more people who work together to achieve a goal. For a team to work people must be willing to adapt, to understand one another and have a positive attitude. Teamwork succeeds through shared effort, clear aims and coordinated action. Each member has a special role to play in achieving the team's goal.

Breakdown in teamwork can cause serious incidents. Breakdowns can come from misunderstanding team roles, poor coordination, disagreements, conflicting objectives and communication problems.

Team performance

Teams have four basic functions:

- Supporting others
- Solving conflicts
- Exchanging information
- Coordinating activities

The following model shows how individual and organisational inputs, added to the dynamic interactions within the team, influence performance and outcomes.

Team performance is influenced by:

Individual inputs – individual contributions to the collective work, performance strategies and how well they match the task, knowledge and skills applied by each team member.

Leadership inputs – leadership style, knowledge and skills, personality (see Factsheet 7 Leadership).

Organisational work task and environmental inputs – design of the task, availability of information, resources, rewards, management style, culture, appropriate make-up of the team.

Team structure inputs – team size, actual roles and responsibilities, status of each team member, balance of personality types, unity of the team.

Inputs

- Work task & environment
- Individual
- Leadership
- Team structure
- Organisational characteristics

➔

Throughputs

- Team dynamics & processes
- Communication
- Cooperation
- Decision making

➔

Outputs

- Productivity
- Safety
- Quality
- Job satisfaction

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www.nswminesafety.com.au

Crashing out - a fatigue problem

If you're reading this and starting to nod off, then it's likely you are one of the thousands of miners whose work arrangements involve working shifts and/or long rostered hours.

Research into the working arrangements of NSW miners consistently shows that they are significantly above the national average for weekly working hours. While there are other occupations from a range of industries that also work long hours, added factors in NSW mining combine to increase the risks of developing fatigue.

Effective planning in fatigue management is the best way to reduce the impacts of this hazard on communities.

The problem with fatigue is that it doesn't just impact upon the individual, it hits everyone. The loss of loved ones, friends and colleagues and increased health and insurance costs leading to a drain on community resources are all the net result of fatigue incidents. It's becoming a burden everyone is forced to share.

Think about the working arrangements you have at your site and consider what impact this may be having on your immediate safety (and those you work with) and ultimately your long-term health. Ask yourself, how far you commute each day and whether you have nodded off, even for a moment, on the way home after a long shift? If you are alarmed by the answer, then ask yourself what are you going to do about it?

Effective fatigue planning and management requires your input. Don't place that responsibility in someone else's hands and expect they will get it right, because the consequences to you and your family if they get it wrong are likely to be serious.

Be part of the change in your workplace toward better fatigue management. By working with your mates and your boss you

can identify the fatigue risks to your site and begin the process of lowering those risks.

A good place to start is by using the *Guide to the Development and Implementation of a Fatigue Management Plan*. This will give you some ideas on how to assess fatigue as an issue at your site and will guide you through the development of a planned and systematic approach to fatigue management. The guide was developed after much research and has been endorsed by the industry's peak OHS body, the NSW Mine Safety Advisory Council.

The guide and other information on fatigue is available from:

www.dpi.nsw.gov.au/minerals/safety/world-leading-ohs/fatigue



NSW miners are consistently above the national average for weekly working hours and are at increased risk of fatigue related incidents.

Mastering fatigue management programs available

If you are implementing a fatigue management plan in your organisation, or would like to implement one, you can attend one of the Mastering Fatigue Management Workshops being held around NSW from September to November 2011.

The workshops will analyse the benefits of a systematic approach toward managing fatigue risks. They will also help with delivering worker awareness/educational campaigns, developing skills toward implementing a fatigue management plan and working towards the continuous improvement of fatigue management.

During the workshops you will also discuss the physiological aspects of fatigue and investigate the need for sleep, the effects of monotonous tasks and the impacts of our working environments on individuals.

The workshop program consists of a 2 day educational workshop and a 1 day voluntary fatigue site evaluation. During the site evaluation the NSW Trade & Investment Mine Safety Industry Assistance Unit will conduct an evaluation of your fatigue management plan and provide feedback. The information gathered during the site evaluations is de-identified, collated and made available for viewing on our website.

The workshops will enable you to better enact change within your mines and improve fatigue management outcomes.

They are suited to managers, OHS professionals, site check inspectors, industry check inspectors, contractors or anyone that has the ability to influence change.

If you would like more help with developing a fatigue management plan, a tailored assistance program can be developed for you. A tailored program is currently being delivered at a coal mine in the Hunter Valley that includes an onsite awareness raising program.

The awareness raising program is the first step in a systematic plan to better manage fatigue as a hazard and will be followed by an evaluation of the mines fatigue management plan and a fatigue survey to the workforce. This will be followed by a participative planning session, using the future inquiry workshop method, and the development of an action plan.

If you would like to discuss a tailored fatigue management program, please contact the Industry Assistance Unit on 02 4931 6406.

To download a registration form for the Mastering Fatigue Management Workshop, visit the department's website at:

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

Mines rescue teams challenged in Cobar

NSW Trade & Investment Area Manager & Senior Inspector, John Moss, highlighted the unique 'Esprit de Corps' nature of the Cobar Mines Rescue Challenge when he opened the event in early September.

The bi-annual challenge differs from the traditional mines rescue competition format as it does not award points to competing teams. The nature of the challenge is to share knowledge and experience while developing teamwork, leadership and rescue skills.

The challenge provides a novel opportunity for mine rescue teams learn new skills in a realistic rescue environment and under the watchful eyes of experienced adjudicators. It also allows the local community to get an eagle-eye view of a simulated mine rescue.

This year, participating teams were mostly made up of new members who had not previously competed in the event. They gained valuable experience after being challenged with scenarios involving fire fighting, vertical and vehicle rescue, confined space search and rescue, endurance and triage in multi-casualty situations.

The major Esprit de Corps award for helping others to learn, sharing equipment and providing advice was won by CSA mine. The encouragement award went to New Gold Peak Mine.

Other winners included Julie Smith of Barrick Lake Cowal (Champion First Aider) and John Forster of CBH Endeavour (Best Captain). Best squad members from each team were Fred Palmer (Endeavour), Jamie Peters (New Gold Peak Mine), Jamie Barber (CSA), Jenta Wellard (North Parkes), Sharon Lee Richardson (Olympic Dam), Shannon Cousins (Drayton), Jane Graham (Barrick Gold) and Lincoln Morris (Tritton).

For more information, contact dean.mchardie@newgold.com



Mines rescue teams were faced with simulations based on real-life emergency scenarios.

Community benefits from safety grants

The NSW Mine Safety Advisory Council (MSAC) recently awarded community grants to fifteen organisations in Mudgee for their ideas to improve community health and safety in the local area.

Most people are very safety conscious at work, particularly in the mining industry, but don't necessarily apply the same principles when they get home. The MSAC Mudgee Community Grants Scheme aimed to get Mudgee residents to consider the health and safety of everyone in the community. Not just the people they work with, but also their family and others living in their local community.

The program was announced earlier this year by the Minister for Resources and Energy, Chris Hartcher and provided individual grants of up to \$2000 each.

"Sound health and safety principles are as important within the community as they are at the mine site. This program works to promote those fundamental principles in the Mudgee mining community. It makes sense that the world-leading principles which apply in the mine are also carried out both at home and within the community" Mr Hartcher said.

The MSAC Chairman, Norman Jennings was pleased to have received so many submissions highlighting the importance of safety both in and out of the mine.

"All the ideas will help improve community health and safety in the Mudgee area. MSAC is aiming to raise awareness within mining communities that health and safety issues do not stop at the mine gate, and that the high health and safety standards in the NSW mining industry should also transfer to mining communities," Mr Jennings said.

The program encouraged community groups and schools to get involved in health and safety and the number of submissions received showed a real depth of recognition that safety is important at work, at home and in the wider community.

The community safety grant winners are:

St Matthews Catholic School - peer mentoring program

Rylstone Public School - new drinking bubblers

Mudgee High School - machine to make safety signs, development of a Mudgee specific iOS app, purchase of a training defibrillator and upgrade of cricket nets

Pioneer House Aged Care - aged care pedestrian signs

1st Mudgee Scouts - first aid equipment

Australian Rural Education Centre - safety equipment for volunteers, youth safe driver training

Gulgong DC Rural Fire Brigade - thermal imaging camera to pinpoint fires and first aid training equipment

Mudgee Hockey Association - first aid equipment

Mudgee Police & Community Youth Club - "dare to be aware" defensive low-risk driving program



Winners of the MSAC Mudgee Community Grants Scheme receiving their grants.

New virtual reality training leads the way

The latest version of Mines Rescue Pty Ltd's virtual reality training module was launched at their training facility in Argenton in late July. The spectacular 360 degree wall of video technology can be shown in 3D and is a valuable training resource for the mining industry.

With a significant investment over six years, the technology is no toy and is at the leading edge of virtual training worldwide. This type of training allows participants to experience the consequences of their decisions without being put in harms way.



Virtual reality training can safely expose participants to disaster scenarios.

The virtual reality experience of a simulated outburst in an underground coalmine is an eye opener, and caught the attention of the everyone present at the launch. The extent of damage that can occur in an instant is a stark

reminder of the dangers that are constantly lurking in the workplace.

This kind of wake-up call can help to remind trainees of the need for constant vigilance.

It is also an excellent way to be exposed to virtual dangers and their consequences with the added advantage of walking away intact.

Virtual reality is, of course, not the beginning and end of training at the facility but an integral part of a three-stage program which also includes classroom and reality training.

If you would like to know more about the training facilities and programs available please visit:

www.minesrescueservices.com



The virtual training facility includes a 360 degree 3D video wall.

Training is critical for effective emergency response

Mining emergencies demand a coordinated response from a range of agencies, including NSW Trade & Investment Mine Safety Operations. NSW Trade & Investment is usually one of the first agencies to be notified of a mine emergency and the knowledge and experience of its mine inspectors forms an integral part of the emergency response. However emergency response, and any ongoing rescue and recovery, can expose inspectors and all involved to stressful circumstances for a prolonged period. Exposure to simulated emergency situations and training in emergency response policies and procedures helps inspectors to effectively deal with mining emergencies.

An emergency response exercise for NSW Trade & Investment mine inspectors was held at Western Mines Rescue Station at Lithgow earlier this year. The aim of the exercise was to practice emergency response in stressful circumstances, including initial site control, scene preservation, analysis of changing circumstances, assessment of potential rescue and planning for safe recovery.

Nineteen mine inspectors, including the Chief Inspector, participated in the exercise. Industry input was provided by Mick Cairney, Manager at Newstan colliery, and Trevor Schram, the western district Industry Check Inspector.

On the first day of the exercise, the inspectors were divided into two teams. One team observed while the other was taken into the virtual reality simulator and exposed to a simulated mine explosion.

They were then brought back into the 'control room' and given details of an explosion scenario, including the number of men in the mine, figures from gas monitoring and mine ventilation status.

The inspectors were asked to interact with the mine manager and union official to initiate the emergency response, decide on whether to mount a rescue of the men still underground and to identify and address issues arising from the changing circumstances.

The scenario information was changed and updated as the emergency progressed and roles such as a police officer, company lawyer and journalist were added.

The inspectors then discussed the emergency scenario exercises and identified the relevant strategies, procedures and policies for effective emergency response.

The updated *MDG1020 (Guidelines for underground emergency escape systems and the provision of self-rescuers)*, *MDG1022 (Guidelines for determining withdrawal conditions from underground coal mines and Guidelines for in-seam response using CABA for events where life is at risk)* and *MDG1029 (Guidelines for agency coordination during body recovery)* were also discussed.

In the afternoon of the third day, a team of inspectors took part in another emergency response scenario to put into practice relevant policies and strategies identified during the discussions.

Participation in the training exercise allowed inspectors to apply their knowledge and test a range of responses in a safe environment. It is expected that the training exercise will increase confidence and the ability to make effective decisions should an inspector be faced with difficult circumstances on site. This will benefit not only the inspector and the department, but also industry and the community as a whole.

Further training in emergency response is being planned for NSW Trade & Investment mine safety inspectors during the year, along with another emergency response exercise next year.

You can download emergency response MDGs from:

www.dpi.nsw.gov.au/minerals/safety/publications/mdg

If you need help with emergency response planning, please contact your local NSW Trade & Investment Mine Safety Inspector at any time. See the back page for office contact details.

Look out! Prevention of vehicle collisions

Proximity detection is one of the latest technology advances designed to save lives, reduce injuries and prevent damage.

With literally thousands of large vehicles criss-crossing mine sites all over the country at any given moment, the potential for collision is enormous. The risk of a collision increases in proportion to the size of the vehicle. The bigger the vehicle, the less vision the driver has. You can't exactly hang your head out the window or look in the rear vision mirror when reversing an enormous dump truck. So, if something's in your way which you can't see - well ...you know the rest.

Avoiding a collision by detecting an obstacle that you can't see has to be something that would greatly benefit the mining industry. Proximity detection or collision avoidance systems (CAS) are two of the names used to describe such systems.

So, what can be done to assist you with this problem - and it is a problem given that 75% of incidents on mine sites are vehicle related.

At a recent NSW Trade & Investment seminar on proximity detection, over 300 delegates and a number of manufacturers took part in a lively and robust open debate on the topic. This shows that people are keen to know about this technology. It can't have been the lure of cream buns alone!

The open debate highlighted many diverse areas of concern such as cost, need, legislation, design requirements, technology limitations and operator interaction. Clearly there are still many questions to be answered.

The debate showed there are mines that:

- have the resources to install systems in every vehicle and are keen to do so.
- have the resources to install systems but are not keen to do so.
- do not have the resources but would like the systems.
- won't do anything unless it is a legislated requirement.

Should it be made compulsory through legislation? Well, you could argue that it already is since the OHS Act imposes a duty of care that implies you use all available means to provide a safe work place. It is unlikely that legislation will ever state directly that CAS are a compulsory requirement in vehicles, as prescriptive legislation is a last resort.



The risk of a collision increases in proportion to the size of the vehicle. The bigger the vehicle, the less vision the driver has.

Vehicle collisions on mine sites are a worldwide problem. Interestingly though, while Australia leads the way in many health and safety aspects of mining this is one area where we lag behind. Certainly there are some Australian companies who have embraced the technology but we have a long way to go towards gaining full acceptance of its benefits and equally far to go to have it implemented at all mine sites.

It is beyond the scope of this article to answer all the questions or cover all the available information. So what can you do to find out more? Well, as a first step you can download the presentations from the seminar on the department's website. Among the downloads are a number of presentations from manufacturers showing what is currently available. There is also a download called 'Proximity Detection Workshop - Butcher Paper Notes' which provides a dot point summary of the presentations.

This is useful when considering and scoping up a proximity system and is aimed at providing some useful triggers or words.

If you want specific technical information you can contact the manufacturers directly. At the seminar they all indicated a willingness to listen to your requirements and some a willingness to work with their competitors to develop better systems.

If you would like to talk to someone to get general information you can contact the seminar convenors. They are passionate advocates for proximity detection and CAS and have conducted a lot of research.

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Mining remains one of the most dangerous occupations in the world and it's every miner's duty to contribute to a safe workplace. What is your site doing to protect its workers? Engage in the CAS debate and inform yourself. There are people and information available to assist.

The seminar organisers would like to thank all those who provided feedback. Your suggestions have all been compiled in a spreadsheet and are being considered as part of the future direction for CAS.

An example of some of the feedback from the seminar:

"I would like the regulator to release a minimum standard of proximity detection for underground and surface mining. This will stimulate the industry into action as well as assisting the machine OEMs with development and partnership with product OEMs".

"I believe a 'press release' should be written up for communicating the seminar objectives and outputs. This could be aimed at the business press so CEOs become aware of why these safety systems are required to meet OHS legislation".

"Industry must control and drive to an 'open architecture' design. Hardware can be common, algorithms can vary depending on needs. Legislation must lay foundation on which technologies should be used to design CAS systems".

Seminar presentations are available on the department's website at :

www.dpi.nsw.gov.au/minerals/safety/publications/seminar-presentations/2011-proximity-detection-workshop

NSW Mineral Council Innovation Award winners

Innovation Award **Perilya – Broken Hill**

Hand rail testing device

A measuring device that tests whether handrails are fit for purpose – transferable not just across the mining industry but potentially right throughout the community.

People’s Choice **Newcrest – Cadia Valley Operations** **Magneticmoil guide**

A new mechanical hammer guide that eliminates the risk of injury to workers by replacing a manual task with a mechanical solution.

Highly Commended Health **BHP Billiton Illawarra Coal**

Helping workers lower their occupational health exposure risk

A new testing regime for standard personal protective equipment to ensure it fits individual users. Bespoke solutions were developed where standard gear was not suitable.

Highly Commended Safety **Centennial Coal – Angus Place Colliery** **Modified spyder longwall face drill**

A new drill design that removes workers from a high-risk working zone in longwall mining.



John Braes accepting the Innovation Award for Perilya, Broken Hill



L-R. Andrew Brown -Newcrest, John Braes - Perilya, Dr Nikki Williams, Peter Corbett - Centennial Coal, Jen Hines & Melanie Cocoa - BHP Billiton



Peter Corbett accepting the Highly Commended (Safety) Award for Centennial Coal, Angus Place Colliery

Complete gas monitor testing now available

The Mine Safety Technology Centre (MSTC) at Thornton has recently been accredited by the National Association of Testing Authorities (NATA) for performance testing of gas monitors and analysis of respirable and inhalable dust.

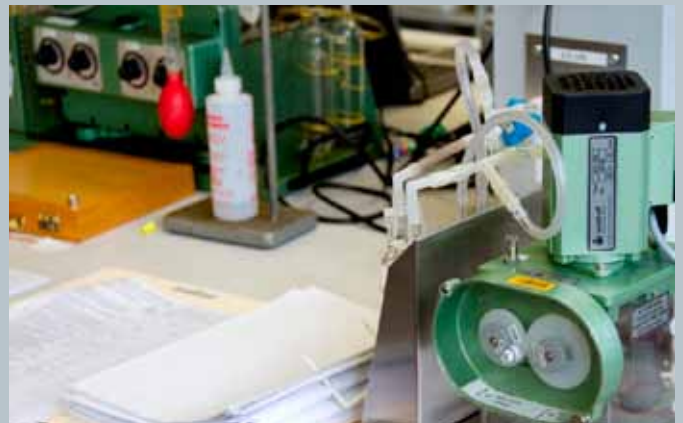
The MSTC is the only facility in Australia that is accredited for all of the testing required for gas monitors in *AS/NZS 4641 Electrical Apparatus for detection of oxygen and other gases and vapours at toxic levels* and *AS/NZS 60079.29.1 (IEC 60079.29.1) Explosive atmospheres – Gas detectors Performance requirements of detectors for flammable gases*. Testing under these standards is required for the registration of gas monitors in NSW.

There are over 30 tests required per gas sensor on a monitor. The tests include accuracy, effects of pressure, temperature, electromagnetic immunity and vibration.

In the area of respirable and inhalable dusts, the MSTC now has accreditation in the determination of respirable dust as per AS2985, inhalable dust as per AS3640 and the determinations of quartz in respirable dust.

NATA accreditation is underpinned by technical auditing to give confidence in calibration, testing and inspection activities.

For further details on the work of the MSTC contact Geoff Slater, Manager Mine Safety Technology Centre on 02 4924 4001.



A wosthoff pump, used by the MSTC when testing gas monitors.

How to apply for a blasting licence in NSW

If you need to undertake explosives blasting as part of your work in the NSW mining industry, you need to apply for a Blasting Explosives Users Licence (BEUL).

BEULs are administered through WorkCover NSW under the Explosives Act 2003, and can be issued with or without restrictions. If you are in the mining industry, your application must be accompanied by a reference from the mine safety branch of NSW Trade & Investment or it will not be approved.

The reference is a letter of recommendation to WorkCover NSW to issue a mining-related licence and will only be issued after you have been assessed by a NSW Trade & Investment NSW Mine Safety Inspector.

How do I apply for a reference?

If you are working in a metalliferous or extractives mine you need to complete an application form. The form includes guidance on what is required prior to application, including the minimum number of blasts required, the competency units to be held and certified documents to be attached. It also includes a mining questionnaire.

The reference application form is available on the department's website at:

www.dpi.nsw.gov.au/minerals/safety/resources/qualifications

If you are working in a coal mine, you need to contact the Coal Inspector, Graham Cowan on 02 6571 8788 for details on how to apply.

Once your NSW Trade & Investment reference application has been assessed, a reference letter addressed to WorkCover NSW will be returned to you so that you can add it to your BEUL application. If you have already applied for a BEUL, you can forward the letter to WorkCover NSW to be added to your application.



If you need to do explosives blasting as part of your job, you need to apply for a BEUL.

How do I apply for a BEUL?

The application form for a NSW BEUL is available on the WorkCover NSW website (follow the explosives links). Once completed you will need to lodge the application with Australia Post and provide proof of your identity.

If you already hold a WorkCover NSW Unsupervised Handling Licence (UHL) you will need to provide a copy when lodging your BEUL application form.

If you do not already hold an UHL, you will need to attach an application with your BEUL application, along with a National Probity Assessment Form so that a police check can be conducted. Once the police check has been completed your UHL will be issued first, followed by your BEUL.

You will also need to attach proof that you are over 18 years of age, authorised photographs, a medical report and a non-refundable fee of \$250.00.

What if I already hold a different or inter-state blasting licence?

If you already hold a valid blasting licence for a type of blasting other than the one you want to apply for (i.e. for transport, supply, storage or manufacture of explosives) you still need to complete the application form, but the application process is quicker as national police checks should already have been conducted.

If you hold an inter-state blasting licence you can view the relevant equivalent licence in the state that you want recognition in by visiting the national licence recognition website at: www.licencerecognition.gov.au/default.aspx and going through the search function.

What class of licence can I apply for in the mining industry?

The list of licence class types for blasting licences are open cut coal, underground coal, below ground and above ground. The below ground and above ground mining classes are for use in the metalliferous mining and extractive industries only and do not allow for blasting in coal mines.

What does a BEUL for mining look like?

A BEUL looks similar to a NSW drivers licence and almost the same as an Unsupervised Handling Licence (UHL), which is also issued by WorkCover NSW. A BEUL has a photo image of the holder and the licence type for which it is issued and lists the UHL number and any other licence classes for blasting held by the licence holder. This information also includes whether a person is able to purchase explosives.

Where can I find out more information?

Further information about the application for a reference to WorkCover NSW is available on the Mine Safety website or by contacting the Mining Industry Competencies Unit on 02 4931 6625. Visit the mine safety website at:

www.dpi.nsw.gov.au/minerals/safety/resources/qualifications

Further information on blasting licences issued by WorkCover NSW for explosives can be found by following the Licensing then Explosives and Fireworks links on the left hand side of their webpage or by phoning the contact centre on 13 10 50.

Visit the WorkCover NSW website at:

www.workcover.nsw.gov.au

Engineering solutions will affect our future

A record number of delegates attended the 21st Mechanical Engineering Safety Seminar at Homebush in early August.

Recognised as the leading mechanical engineering seminar on the calendar, this year's theme was 'Engineering towards a safer tomorrow'.

As stated by Rob Regan, Director of Mine Safety Operations, NSW Trade & Investment, in his opening address, "the engineering decisions we make today will have a big effect on our safety tomorrow. Our good decisions will make the future a breeze and our bad decisions will make it hard work.

It is therefore important that engineering solutions are not rushed – it is best to take our time and get it right in the first place rather than retrofitting solutions later on."



Rob Regan, Director of Mine Safety Operations, NSW Trade & Investment, opened the seminar.

Given that financial cost is often a factor when considering engineering solutions, Ian Cribb, Chief Operating Officer, Xstrata Coal NSW, advised that "you can't just look at the cost of doing something, you also have to look at the cost of not doing something." Not doing something can have a serious financial impact but more importantly it can have a devastating human impact. A loss of life is in nobody's interest.



John Parolin, Matt Blanch, Brad Noble and Don Noble enjoying the 2011 Mechanical Engineering Safety Seminar at Homebush.

With the speed of technological advances it is impossible to predict what will be required in five years time. All the more reason then to think of the future and put more time and effort into engineering today for tomorrow.

Part of the engineering solution is the use of safety integrity levels (SIL) in the design phase. SIL provides a method of defining the level of risk-reduction provided by a safety function.

While it may not be possible to engineer out every possible safety risk we should focus our resources on the most critical elements, that is, the things that can cause the most damage or injury if they fail. An overview of the SIL determination and verification process was given by Chris Van Berendonck, Associate Director, AMOG Consulting.

Standardising brake testing, investigating fire causes, tunnel boring and legislation changes were also among the range of topics covered. You can download all the seminar presentations from the department's website at:

www.dpi.nsw.gov.au/minerals/safety/publications/seminar-presentations

This year's conference dinner guests saw a presentation to two long serving inspectors who have recently retired. Gordon Jervis and Matt Willoughby were lauded for their contributions to the industry over many years. They leave behind a legacy of unparalleled engineering safety in the NSW industry. May they enjoy many years of fruitful retirement.



NSW Trade & Investment Mine Safety Inspectors and Mine Safety Officers from around NSW were at the seminar to answer questions and provide advice, including; (L-R) Gordon Jervis, Sarfraz Hassan, Chris Page, David Gordon, John Parolin, Rob McLaughlin, Robert Jay, Wally Koppe, Angus McDouall, Peter Sunol, John Tsallos, Matt Willoughby, Jeffrey Glasson and Paul Drain.

Electrical Engineering Safety Seminar

The 21st Electrical Engineering Safety Seminar is being held at Homebush on 9-10 November 2011. For more information on speakers and presentation topics, or to register, visit:

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

PROSECUTIONS UPDATE

Gujarat NRE Coking Coal Limited [2011] NSWIRComm 71

Justice Kavanagh delivered judgment on 26 May 2011. This prosecution concerned an incident in September 2008 at the defendant's coal mine where one employee was crushed by a continuous mining machine, whilst another was placed at risk of being crushed.

Prior to the incident, the prosecutor had issued a notice under s.150 of the *Coal Mine Health and Safety Act 2002*, requiring the defendant to review its work procedures to eliminate and control the risk which eventuated, and to consult with employees and bring the notice to the attention of the Occupational Health and Safety Committee.

The defendant pleaded guilty to contravention of s. 8(1) of the *Occupational Health & Safety Act 2000*. The particulars of the defendant's omissions constituting the offence included the following:

- failing to require employees to remain outside a No Go Zone surrounding the machine, unless the machine was isolated so that it was unable to move.
- failing to require the machine operator to ensure that the work area was clear of obstacles.
- failing to prevent the machine being operated without tilt switches being enabled.
- failing to comply with the statutory notice

Her Honour was satisfied that the defendant had its attention specifically drawn to the need to develop and enforce a safe working zone; failed to properly risk assess and devise a safe work method for the flitting task; failed to properly train its crews. There was therefore a foreseeable element to the offence, making it more serious.

As the defendant continued to operate the coalmine, her Honour took specific deterrence into account, despite safety procedures introduced since the incident. Her Honour also took general deterrence into account as a significant element in penalty, as coal mining is a known dangerous occupation, requiring extra vigilance and rigour from employers.

Her Honour gave the defendant the benefit of subjective factors including the early plea of guilty, the safety measures it introduced after the incident and the expression of remorse.

The defendant was found guilty of the offence as charged. The defendant was fined \$180,000.

Perilya Broken Hill Limited [2011] NSWIR Comm 13

On 2 March 2011, Backman J of the Industrial Court of NSW handed down judgment on penalty in a prosecution concerning an incident in November 2007 at the defendant's underground silver, lead and zinc mine.

An employee, who was part of an underground maintenance team, was working on an elevated walkway which was approximately 2.5 metres above floor level when he fell through the walkway's guardrail onto the floor below.

As the employee fell, he attempted to grab hold of a ladder but it and the guardrail gave way. The employee sustained serious injuries and was not found until some hours later.

The defendant pleaded guilty to a breach of s. 8(1) of the *Occupational Health and Safety Act 2000* by:

- not having addressed the risk of serious injury through falling more than 2 metres from a raised walkway, that was not guarded by functional guard rails;
- failure to ensure the plant was safe and without risks to the health of its employee.
- failure to ensure safe systems of work.

Her Honour found that there was a number of deficiencies in the defendant's system of inspecting the handrails and that, despite the existence of work orders from 2007 to repair or replace the guardrails and ladders, they were not replaced but allowed to further deteriorate; the risk to safety was both obvious and reasonably foreseeable (in particular, the defendant was aware of the risk of corrosion of structural steel in wet and humid conditions, which was the case in this particular area of the mine); and, that simple and straightforward remedial action could have been taken by the defendant to obviate the risk presented by the corroded guardrails and ladders.

The defendant was convicted of the offence and fined \$115,000.

Liddell Coal Preparation Pty Ltd [2011] NSWIRComm 46

On 15 April 2011, Staff J of the New South Wales Industrial Court gave judgment following a plea of guilty under the *Occupational Health and Safety Act 2000* ("OH&S Act").

The prosecution concerned an incident in November 2007 at the defendant's coal preparation plant. A preparation plant technician employed by the defendant suffered an electric shock when he touched a live high voltage (3.3kV) electrical circuit while accessing a switchboard located in a switch room. The defendant pleaded guilty to a breach of s. 8(1) of the OH&S Act, specifically:

- not preventing the employee's physical access to and contact with a high voltage electrical circuit in not having a high voltage permit system restricting access to 3.3kV high voltage electrical plant to those trained and qualified to access such plant.
- not installing an interlock system that prevented the door of the 3.3kV cabinet from being opened until the electrical power feeding into the cabinet was isolated.

Staff J applied the relevant sentencing principles enunciated in *Morrison v Coal Operations Australia Ltd (No 2)* [2005] NSWIRComm 96; (2005) 141 IR 465, including consideration of the objective seriousness of the offence, determined partly by reference to the reasonable foreseeability of the risk, and general and specific deterrence.

Staff J accepted the submissions made by the defendant that this was a not a case in which there had been a total disregard for safety or lack of safety systems. However, the risk was serious, reasonably foreseeable and there were simple steps that could have been taken to avoid the risk. As such, the breach was a serious one. His Honour determined that, whilst it was relevant to consider general deterrence, the remedial steps taken by the defendant since the accident meant that consideration of specific deterrence was unnecessary. The defendant was fined \$90,000.

The Investigation Unit publishes information from major incident investigations to assist industry to become better informed of causal factors and industry best practice. The information is available from the department's website at:

www.dpi.nsw.gov.au/minerals/safety/major-investigation

Safety alerts issued since January 2011

SA11-10 Park brake malfunction leads to crush injuries

A telehandler operating in an underground mine was parked in a decline drive, facing downwards. As the driver stepped from the cabin the park brake disengaged and the telehandler rolled down the decline drive. The driver was caught between the telehandler and the wall of the drive, suffering serious injuries.

SA11-09 Stockpile dozer lodged in reclaim valve

A dozer tipped into a reclaim valve when the operator misjudged the valve location. The operator was unable to sight the valve location due to the steepness and height of coal left near the valve.



SA11-09 Stockpile dozer lodged in reclaim valve

SA11-08 Fall of rib results in fatality

A miner was fatally injured when a large slab of coal rib, estimated at 4 tonnes in weight, fell and pinned him to the floor.

SA11-07 Transport service brake failure

The service brake failed to stop an underground man transport vehicle while travelling around a corner at slow speed when the operator applied the service brake. The transport vehicle was on full steering lock.

SA11-06 People put at risk inside blast exclusion zone

Employees and infrastructure were put at risk when a face-burst projected flyrock material up to 450m from the blast area. This incident became even more serious when it was discovered that not all personnel had been removed from the exclusion zone.

SA11-05 Failure of explosion protected diesel engine systems

Operators witnessed sparks being emitted from the diesel engine system of an underground man transport vehicle, when an after market extension tube (1/4" copper pipe) fitted to an exhaust manifold gas sampling point catastrophically failed.



SA11-03 Material from a stockpile collapse partly filling a loader cabin

SA11-04 Electrician receives arc flash burns

An electrical tradesman received severe burns to both hands and left forearm when he turned on a circuit breaker to conduct phase voltage tests.

SA11-03 Stockpile collapses on loader driver

A 17 year old trainee front end loader driver suffered deep lacerations to the forearm.

The injuries occurred when the face of a stockpile he was loading, collapsed and crashed through the front windscreen. Material from the stockpile, consisting of shale and gravel, partly filled the loader cabin.

SA11-02 Field technician trapped between vehicle and stock gate

A four wheel drive service vehicle rolled forward from a parked position and pinned the driver, a field technician, between the vehicle's bull bar and a stock gate. The field technician did not suffer serious injuries but the outcome of this incident could have been fatal.

SA11-01 Water inrush from raisebore hole

An inrush of water and mud occurred at the base of a raisebore hole that was approximately 270 metres deep and 5 metres in diameter, while bogging operations were being undertaken at the base of the raisebore hole. Fortunately no one was injured during the event, however, there was potential for fatalities and/or serious injuries to occur.

Safety bulletins issued since January 2011

SB11-03 240V Portable welding machines

Recent inspections of 240V powered portable inverter welding machines in use at different coal operations have identified numerous failures of voltage reduction devices (VRDs) incorporated within the welding machines. VRD's are a type of



SB11-03 A 3 pin plug with the earth pin filed down to enable use in a 10A socket outlet

hazard reduction device (HRD) that reduces the output voltage of a welding machine to safer levels.

SB11-02 Failure of explosion protection characteristics of flameproof equipment

There have been several incidents recently where explosion protected (Ex) electrical equipment has been supplied for use at underground coal mines with non-Ex blanking plugs fitted to gland entries. The equipment has subsequently been installed on plant and used in hazardous zones at those mines without the non-Ex blanking plugs being replaced with appropriate certified blanking plugs.

SB11-01 Drill rig operator sustains a serious hand injury

An operator of a drilling rig sustained a serious injury to his right hand, losing his finger, when 6 rods of a drill string weighing approximately 24 kg's fell from the drill hole in the roof.

CALENDAR OF EVENTS

Mastering fatigue management, Sep-Nov 2011, Broken Hill, Lithgow, Wollongong, Dubbo, Maitland and Cobar. The registration form is available from www.dpi.nsw.gov.au/minerals/safety/resources/training-and-workshops

Site check inspector training course, 21-29 Nov 2011, Newcastle Mines Rescue Station, Argenton. Forward an expression of interest to: coalcompetence.board@industry.nsw.gov.au

Electrical engineering safety seminar, 9-10 Nov 2011 WaterView Convention Centre, Sydney Olympic Park. Contact minesafety.seminars@industry.nsw.gov.au

Mine operators workshops, next workshop 25 Oct 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 & coal preparation plant mechanical engineers meeting, held regularly. Contact Matt Willoughby, Inspector of Mechanical Engineering, NSW Trade & Investment, 02 6571 8788.

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 I&I NSW 02 6571 8708 or Peter Davidson, Mandalong Mine 02 4973 0922.

Southern & Western Coalfields mechanical engineers meeting, held quarterly. Contact Graham Johnston, Inspector Mechanical Engineering, I&I 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, invite 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 or 0488 495 620.

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

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