



NSW mine safety update

Promoting safety in the NSW mining industry

Industry sets an agenda for culture change

Minister for Mineral Resources Ian Macdonald brought opinion leaders from the NSW mining and extractives industry, unions and the public service together in late November to set an agenda for culture change to improve occupational health and safety (OHS) performance.

The CEO OHS Culture Change Summit is the leading initiative of the Mine Safety Advisory Council (MSAC) in working toward the mining and extractives industry in NSW being recognised as a world leader in occupational health and safety. MSAC has been developing the strategy of working towards world-leading health and safety and has identified drivers for further improvement are OHS culture change and development non-technical skills at all levels.

Mr Macdonald said improved health and safety standards will be developed for mining and extractive industries as a result of the summit.

"I compliment the industry on performance improvements to date, but injuries are still occurring and industry still has some way to go to reach our objective of zero harm," Mr Macdonald said.

"The summit agreed that a culture change was the priority and an agenda has been set to implement strategies to encourage changes to occupational health and safety culture."

The summit has issued a communiqué that outlines a joint vision for the industry and an agreement on a set of guiding principles that will help ensure the industry has a dynamic culture to address key health and safety issues. The communiqué calls for the development and implementation of joint strategies to:

- Foster non-technical skills through education programs to improve OHS culture
- Educate communities about good OHS principles at and beyond the workplace
- Promote the value of non-technical skills of consultation, communication, situational awareness, teamwork, decision making and leadership.

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Senior representatives from the NSW mining industry employers, unions and NSW Government agencies share their views at the CEO OHS Culture Change Summit in Sydney during November.

Stakeholders commit to the following principles

- Our personal commitment to health and safety values and to world-leading performance and outcomes is evident at all levels, and health and safety is at the forefront of all decisions.
- We support the promotion of:
 - World-leading health and safety culture
 - A regulatory policy framework that encourages and fosters a relationship of transparent, open and honest communication among all stakeholders.
 - Adequate resources across the industry – including human resources – for both establishing and maintaining world-leading performance and outcomes.
- All stakeholders work together in a cooperative environment to make the workplace safe and healthy.
- Accountabilities and responsibilities of all persons in the workplace are clear and within their control.
- Having systems and processes that build continuous improvement in OHS performance and regulation, with reliable information, data, auditing and benchmarking.

The Summit's 11-point vision

1. Zero harm.
2. Demonstrated commitment at all levels that OHS is authentic and innate. Everyone has a leadership role.
3. All people are competent and have the authority and resources to complete the job safely.
4. Best practice consultation that is meaningful and effective.
5. No tension between productivity and OHS.
6. OHS implementation at regulatory, industry, site and individual levels is achievable, fair and just.
7. An effective enforcement policy that is applied in a consistent, fair and proportionate manner.
8. Accountabilities and responsibilities of all persons in the workplace are clear and within their control.

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Information 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 Department of Primary Industries 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 Department of Primary Industries endorsement.

The Summit's 11-point vision

from front page

9. Stakeholders understand that a perceived problem for one stakeholder is a problem for the whole industry and needs resolution.
10. Industry stakeholders collaborate to achieve common goals. Collaboration provides a mechanism to appreciate the perceptions of other stakeholders.
11. The industry has 'effective' consultation. There is no disconnect between systems and practice.



NSW Mine Safety Advisory Council Chairman Norman Jennings (left) summarises the day's discussion while Professor Richard Badham (right) from the Macquarie Graduate School of Management talks to summit delegates about change management.

Setting an agenda for culture change

from front page

"It is clear that addressing non-technical issues at all levels of the industry will enable continued improvement in OHS performance," Mr Macdonald said.

Non-technical skills are cognitive, social and personal resource skills that compliment technical skills and contribute to safe and efficient task performance¹. These skills may include consultation, communication, situational awareness, teamwork, decision making and leadership.

The MSAC will provide the forum for the development of collaborative approaches and oversee their progress. Participants at the summit have agreed to meet again in 2010 to review progress on OHS culture change and initiatives to achieve the industry's vision.

The summit communiqué is available at:

**[www.dpi.nsw.gov.au/minerals/safety/consultation/
ceo-culture-change-summit](http://www.dpi.nsw.gov.au/minerals/safety/consultation/ceo-culture-change-summit)**

¹ This definition is proposed in the publication Safety at the Sharp End, 2008 (page 1), authored by Rhona Flin, Paul O'Conner and Margaret Crichton.

NSW Minerals Industry OHS Conference

The 2009 NSW Minerals Industry OHS Conference will be held at Cypress Lakes Resort at Pokolbin in the Hunter Valley from 5-8 April.

The theme for this year's conference is *Fighting Fit - Building your health wealth*. Nominations for innovation awards close on February 6. For more information visit the NSW Minerals Council website at:

www.nswmin.com.au

Tool will help assess contractor OHS credentials

NSW DPI and the NSW Mine Safety Advisory Council have published a guide to assist industry in assessing a contractor's OHS performance before engaging them to work on site.

The Contractor OHS Assessment Tool has been developed to help evaluate a contractor's risk management system and ensure that a contractor's system complements the OHS system on site.

Under OHS legislation, every mine, quarry and extractive industry site must have a formalised system to manage health and safety risks.

Part of this process involves assessing risk for work undertaken by a contractor, informing a contractor of those risks and ensuring the contractor has appropriate risk assessment systems and safe work method statements.

The Contractor OHS Assessment Tool sets out an easy-to-follow chart for scoring different aspects of a contractor's OHS management system, including the working environment, equipment and materials, personnel and processes.

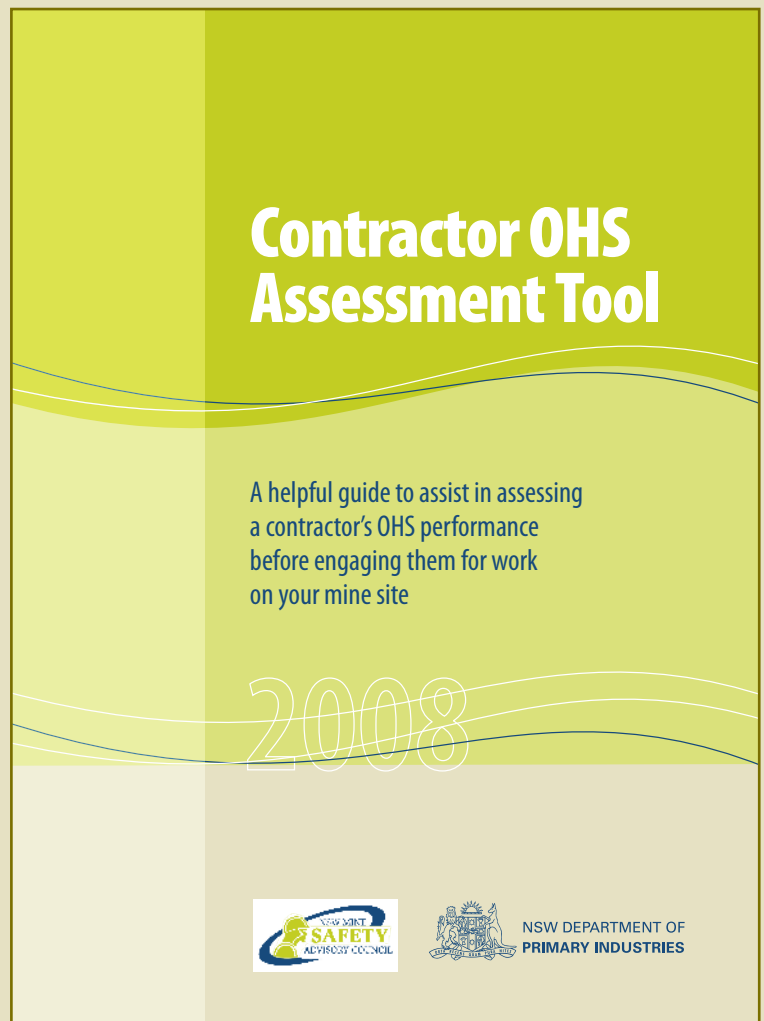
The scoring system can be used for prioritising competitive contractors and identifying areas for closer examination or supervision during a contract.

By identifying areas for further improvement, the tool supports consultation and communication between sites and contractors.

When used as part of a broader risk assessment process, the Contractor OHS Assessment Tool will help industry identify preferred contractors, not only on the basis of value for money, but also those who have OHS systems most suited to the work required and the OHS systems on site.

The tool is available on the DPI website at:

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



The Contractor OHS Assessment Tool will help mines of all sizes assess the OHS credentials of contractors before they are engaged for work on site. The document features useful assessment tools and guidance on how to assess a contractor's performance and credentials.

International mine fatality database is a valuable resource

Mining fatalities continue to occur regularly throughout the world. Although the reasons for these fatalities vary, world-wide analysis is helpful in preventing common repeated patterns.

The International Mining Fatality Review report and database has recently been reviewed and updated by Patrick MacNeill, an engineering student from the University of Wollongong undertaking industrial work experience for NSW DPI in 2007/08. The review was first completed by Russell Noon, a previous student who worked with NSW DPI in 2003/04.

The purpose of the International Mining

Fatality Review is to provide the mining and quarrying industries, equipment designers, manufacturers, suppliers and regulators with a readily accessible and easily searchable source of information. The database can provide assistance with identifying target areas for design, operational issues, maintenance, training, legislation development and enforcement action.

The updated database now incorporates information on more than 1200 incidents and 13,800 fatalities from 16 countries during the past 142 years. Comprehensive information is available from Australia and the United States, with a brief survey of data

available from countries including the United Kingdom, Canada, Poland and China.

The data and information within the International Mining Fatality Review is the work of Russell and Patrick and has not undergone detailed review by other NSW DPI officers. NSW DPI acknowledges there may be alternative interpretations to some of the categories selected by the authors.

The database is available free from the NSW DPI website. The International Mining Fatality Review report and a guideline for using the database are also available. For copies visit:

www.dpi.nsw.gov.au/minerals/safety/publications/statistical-publications

New form for notification of incidents to NSW DPI

Mines operating in the metalliferous and extractives sector have a new notification of incident form.

The new form has been created in accordance with the introduction of the *Mine Health and Safety Act 2004* and the *Mine Health and Safety Regulation 2007*.

The form has been amended to require further details regarding serious, reportable or notifiable injuries.

A form must be completed by the mine operator and sent to NSW DPI if an incident prescribed by the Act and Regulation occurs at a mine. Consider the following when completing and sending the form:

- Initial notice of a fatality or incident described by clause 145 of the Regulation must be made immediately by the quickest available means, normally by telephone
- Where an incident is reportable under multiple clauses, each clause is to be

referenced on the notification

- The mine operator must keep a copy of any incident form sent to NSW DPI for at

least five (5) years

- The mine operator must send the form to the nearest regional NSW DPI Mineral Resources office

- Forms can be sent by e-mail but the original form must also be sent unless a digital signature of an authorised person is attached to the email version

- Additional information may be sent with the form including sketches, photos, plans, etc

- Preliminary telephone advice will assist classification and prompt response.

The new form and guidance note for assistance completing the form can be downloaded from the NSW DPI website at:

www.dpi.nsw.gov.au/minerals/safety/resources/notifications/metalliferous-and-extractives-mines-notifications

OHS Regulation exemptions for mines

The *Occupational Health and Safety Regulation 2001* (OHS Regulation) was extended to apply to the mining industry from 1 September 2008.

While most of the OHS Regulation now applies to the mining industry, some provisions do not apply or have limited application.

The main exceptions to application of the OHS Regulation to the mining industry are:

- Chapter 6B, dealing with health and safety issues for major hazard facilities
- Part 9.1 requiring certificates of competency for carrying out certain types of work, does not apply to operation and use of loadshifting machines at coal and mining workplaces. Other requirements for certificates of competency under Part 9.1 will apply to coal and mining

workplaces from 1 September 2009

- Part 9.2, requiring a person to obtain a certificate of competency for formwork and operation and use of explosive-powered tools
- Part 12.1, requiring notification to WorkCover of certain incidents
- Part 12.2, defining 'serious incident' for the purposes of notification.

While these provisions of the OHS Regulation do not apply to coal or mining workplaces, many of the health and safety issues that they deal with are covered by the *Coal Mine Health and Safety Act 2002* and associated regulation and the *Mine Health and Safety Act 2004* and associated regulation. For more information visit:

www.nsw.gov.au/minerals/safety/legislation/general

Need more information or assistance?

NSW DPI has prepared a wide range of supporting material, guidance notes and forms to assist industry fulfil their obligations under the new legislation.

Visit the Mine Safety website for links to this information. The website address is:

www.dpi.nsw.gov.au/minerals/safety/legislation/mines/supporting-resources

Temporary appointment of a production manager

The *Mine Health and Safety Regulation 2007* (MHS Regulation) requires a mine operator to appoint a production manager before any extraction can take place (clause 16 (1)).

In a mine where 20 people or less are employed, a number of persons may be issued with a production manager permit by the Chief Inspector of Mines if that person is able to demonstrate the ability and experience to supervise production operations at the mine in question.

The Chief Inspector of Mines has made an order exempting an operator of a mine from complying with clause 16 (1) where a person who holds the specified level of competence required to be a production manager is not available to supervise extraction. This means that if a qualified production manager is not available at the mine, arrangements may be made to temporarily appoint another person as production manager.

NSW DPI has prepared *Guidance Note GNM-006 Temporary appointment of a production manager*. To access a copy visit:

www.dpi.nsw.gov.au/minerals/safety/legislation/mines/supporting-resources



NSW DPI Senior Inspector of Electrical Engineering John Waudy (centre) welcomed a record attendance at the 2008 Electrical Engineering Safety Seminar, including a delegation from Poland.

Record attendance at engineering seminar

A record number of delegates attended the NSW Department of Primary Industries 18th Annual Electrical Engineering Safety Seminar at Olympic Park, Sydney in November.

More than 300 delegates from all facets of the mining industry attended the two-day seminar to experience a variety of presentations surrounding the theme 'Safety starts at the design and concept stage'.

Chairman of the Mine Safety Advisory Council Norman Jennings opened the seminar with a presentation addressing the work of the council.

Delegates were taken on a journey through time in the mining industry thanks to David Clark from the Mining Electrical and Mining Mechanical Engineering Society (MEMMES). David's presentation, *History: Half a Century in Mining*, showed how things have changed during the past 50 years in many areas of mining, particularly safety.

Dr Alan McLucas from the Australian Defence Force presented *Canberra Implosion: thinking and decision making* about the implosion of Royal Canberra Hospital which showered spectators in debris and killed a 12-year-old girl. Dr McLucas detailed the challenges faced in risk management and how to understand and develop an awareness of when a breakdown in risk management process is likely.

Mine Safety Advisory Council independent member Dr Graeme Peel, the General Manager, Occupational Health and Safety with Qantas, delivered a paper on fatigue management. He discussed why fatigue should be managed and gave a background to their airline's Integrated Fatigue Risk Management Program.

Presentations were also held on specific topics such as explosion-protected diesel equipment, lighting safety on mining operations, electric welding machines and earthing in a mining environment.

The seminar is popular with people involved in the mining industry throughout NSW and this year saw the event's first international attendees with four delegates from Poland.



Delegates at the 2008 Electrical Engineering Safety Seminar enjoyed the surroundings of a new venue at Sydney Olympic Park (above).



David Clark from MEMMES (left) delivered a powerful presentation on the lessons that should be learned from the past during his '50 years of engineering in mining' presentation.

For a copy of seminar presentations from the Electrical Engineering Safety Seminar or the Mechanical Engineering Safety Seminar in August visit the NSW DPI website at:

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

Apprentice honoured by MEMMES for his safety innovation

Coal & Allied / Hunter Group Training apprentice Kris Andrews has been awarded the 2008 Albert Weeks award for safety innovation.

The annual Albert Weeks award, which is sponsored by the Mining Electrical and Mining Mechanical Engineers Society (MEMMES), is presented to an apprentice for excellence in achievement and safety.

Kris was nominated by the Coal & Allied apprentice group for his innovation in designing and manufacturing a handle system to improve operator safety while using a hydraulic torque wrench at the Bengalla coal mine.

Kris' innovation was judged the best of six nominations at the MEMMES annual general meeting.

The innovation is a handle system fitted to a R3 rapid torque head. The handle allows the tool to be handled without the operator placing their hands in the line of fire from hydraulic fluid or being in crush zones.

When extended, the handle can be used to reduce over-reaching on jobs including dozer segment bolts when torqued on the machine. Multiple handle mounting points allow the handle to be positioned to suit the task.

Twenty-two-year-old Kris is an apprentice plant mechanic employed by Hunter Group Training and sponsored by the Coal & Allied apprentice program. He is currently in the second year of his four-year



Coal & Allied/HGT apprentice Kris Andrews (centre) receives his Albert Weeks award from MEMMES treasurer Harold Lonsdale and committee member and past president Ron Rennex.

apprenticeship program, which will continue to see him train and work at various TAFE, mining and engineering facilities.

Kris is currently employed at Hunter Valley Operations where he will spend 12 months working in most sections of the maintenance department. At the completion of his third year, Kris will return to Bengalla mine to complete his training and finish his apprenticeship in January 2011.

TestSafe visit provides an insight to mine safety

The Mining Electrical and Mechanical Engineers Society (MEMMES) has continued its sponsorship of a visit to TestSafe at Londonderry for electrical and mechanical apprentices and engineering trainees within the Hunter Valley mining and support industries.

TestSafe Australia at Londonderry, NSW is recognised world-wide as an expert body in testing explosion-protected electrical equipment. MEMMES first embarked on an organised visit and inspection of the TestSafe facilities two years ago.

The industry support for the concept was very positive and the visit has become an annual event.

The visit is aimed at providing the industry's 'tradespeople of tomorrow' with an insight into the stringent testing conducted on equipment that is to be used and equipment that is in service at mines and general industry.

Coal mine explosions are high-risk events and as such require special electrical equipment to be used as a risk control. This is called explosion-protected equipment

and includes, among others, the principles of flame proofing and intrinsic safety. This is a key competency area for electrical tradespeople within the mining industry.

To develop future tradespeople MEMMES is contributing to the learning process through education in varying formats.

This year's TestSafe visit involved a half-day guided tour for 23 apprentices / trainees from the Hunter Valley and three apprentices from the southern area. They were accompanied by MEMMES president Peter Whipp, MEMMES treasurer Harold Lonsdale and NSW DPI Inspector of Electrical Engineering Robert McKenzie.

The companies that supported the trip were Anderson Industries, Ashton Coal Mine, Beltana, Bucyrus, Centennial Coal, Dynamic, M. I. Power, National Personnel Group, R&D Technology, United Group and Walter Engineering.

During the visit the apprentices were told of the Appin mining disaster, the resultant impact on the mining industry that was to be the catalyst for the founding of the testing centre and the centre's contribution

to the electrical safety within the coal mining industry.

The tour of the testing centre also included the:

- Intrinsically safe testing laboratory
- International protection
- IP-rated equipment test laboratory
- Diesel testing station
- Conveyor belt frictional testing station
- Conveyor belt and wire rope tensile strength testing station
- Explosive test rig
- Fire galley
- Test area.

Interest has been shown by other regions of the state and the concept is to be reviewed by MEMMES with the aim of providing the same opportunity to western and southern mining and support industries in the second half of the year.

MEMMES holds an annual convention.

For all inquiries contact Peter Whipp on 0488 495 620.

CCAA recognises health and safety initiatives



Ross Harper (right) from Blue Circle Cement congratulates Aaron Binnie from Hymix on the company's award.



Boral's Debbie Cook with the Quarry OHS Performance Award won by Boral Emu Plains for its 'A Decade of Learning' program.



NSW Mine Safety Advisory Council Chairman Norman Jennings was one of the judges for the CCAA Environment Health and Safety Awards.



NSW Department of Primary Industries Deputy Director-General Agriculture Biosecurity and Mine Safety Renata Brooks congratulated the CCAA on the Environment Health and Safety Awards and said NSW DPI and MSAC hoped they would become a signature event for the extractives industry.



An impressive array of heavy machinery created a lasting impression for guests at the awards night presentation.

Cement Concrete and Aggregates Australia (CCAA), the peak industry body representing the interests of Australia's cement, pre-mixed concrete and extractive (quarrying) industries, has been promoting best practice in environmental performance through its annual Environmental Awards for the past 30 years

In 2008 the awards were renamed the Environment Health and Safety (EHS) Awards in recognition of the vital importance of occupational health and safety and to highlight exceptional OHS performers.

The awards were sponsored by the NSW Mine Safety Advisory Council. Council (MSAC) chairman Norman Jennings assisted in the judging process.

NSW Department of Primary Industries representative and MSAC member Renata Brooks told those in attendance that the Department and MSAC were eager to see the awards grow and become a signature event for the industry.

CCAA member companies of all sizes were all encouraged to participate, resulting in record nominations and a presentation dinner that attracted in excess of 200 guests.

The Quarry OHS Performance Award for outstanding performance in the management of risk within a quarry was awarded to Boral Emu Plains for its 'A Decade of Learning' program.

The initiative resulted in significant cultural, work efficiency and process changes at the large quarry site and the judges noted that the OHS procedures and tools were particularly well documented and gave a clear indication of the significant cultural change that was instrumental in driving the OHS focus at the workplace.

Highly Commended was awarded to SCE Shoalhaven Quarries. The site used the Empower Management Program to achieve a robust system.

This system allows for consistent auditing with goal setting, resulting in continuous improvement in OHS management.

A new award was designed to recognise outstanding achievement in the management of electrical hazards within the workplace at a site level.

The joint winners - Concrete Narellan and CEMEX Albion Park - provided solutions that

are transferable to many other sites in the industry.

Concrete Narellan needed to remove overhead power lines at the site during the recent plant upgrade to a double alley. The overhead power lines were at constant risk of vehicular contact and carrying high voltages.

A 24 volt DC electrical system now powers all solenoids and there are limit switches on the site with an input/output system allowing electrical transmission by telephone cable, rather than conventional multi-core cable.

CEMEX Albion Park complied with new electrical standards and developed a practical electrical maintenance schedule through a documented safety system and the use of the latest concepts in switch board and lockout design.

The OHS Practical Innovation Award for outstanding achievement in developing and successfully applying an original solution to a key OHS management system was awarded to Boral Stockton - Windblown Dune Extraction.

The Boral Quarry at Stockton was faced with the challenge of interaction between the general public and workers on a new sand extraction area on frontal dunes located at Stockton Bight.

Boral Stockton not only demonstrated the need for seeking the highest level of safety innovation but maintained good relationships while undertaking a difficult project.

Highly commended was jointly awarded to Hymix Pyrmont and CEMEX Dubbo. Hymix received its award for a solution to removing a risk hazard that was created when a water hose was not returned to the rack after concrete trucks were serviced at the fill point at water tanks.

An overhead arm that was able to swivel to different positions and was suitable for all types of trucks was installed with the hose attached at the fill point.

CEMEX Dubbo received its award for the construction of an innovative mobile dedagging platform with a built-in compressed air manifold to allow an observer to turn the compressed air off should a dangerous arise.

Effective team response helps save miner's life

The emergency response team at Newcrest Mining's Cadia Valley Operations (CVO) near Orange have been praised for their efforts in treating Liam McCabe after he displayed signs of suffering a heart attack.

Mr McCabe was working at CVO during a shutdown, using a wrench to undo some piping, when he began to feel ill. He had chest pain and could not stop sweating. He walked to the first aid room where emergency response officer Jemia Flanagan commenced a full assessment of his condition.

She called on superintendent Shane Downer and station officer David Mayer to assist with Mr McCabe's assessment, who was found to be cold, pale and clammy. Not satisfied that the injury was only muscular, the attendees believed Mr McCabe was having a heart attack. They confirmed this with an ECG test and administered aspirin while waiting for the ambulance to arrive.

Mr McCabe was transported to Orange Base Hospital before being flown to Sydney to be treated at Royal Prince Alfred Hospital. Mr McCabe's heart attack was caused by a narrowing of an artery.

Having made a full recovery, Mr McCabe expects to be back at work early in 2009. His recovery was greatly helped by CVO's emergency response officers acting quickly and administering aspirin, which can be classed as the first line of heart attack treatment.

The reaction to this incident highlights the importance of mines' emergency officers responding immediately to anyone who is sweating unusually, has any sort of chest pain or is showing any other signs of heart attack. Aspirin has been known to save lives in cardiac arrest and should be on hand at mine sites. Furthermore, providing hospital treatment for the patient as soon as possible is vital in suspected heart attack cases.



Cadia Valley Operations emergency response officer Jemia Flanagan (right) checks employee Liam McCabe's vital signs.



Cadia Valley Operations employees David Mayer, Jemia Flanagan, Liam McCabe and Shane Downer are pleased that their quick response helped ensure that Liam was able to survive a heart attack while at work.

TYREgate opens the door to improved safety in mining

TYREgate is a new Causal Factors Database within MIRMgate (Minerals Industry Risk Management Gateway) which provides information, potential solutions and opportunities to improve safety of tyre and rim maintenance and the use of rubber-tyred equipment at any mine site, or related operation or service.

In 2006 a study was carried out to establish the root and contributing factors of tyre and rim-related incidents.

Because of the large energy involved, such accidents can easily result in serious injury, or even fatal outcomes. Even near misses, if properly assessed for their true risk potential, can often be classified as 'high potential' events.

To address these issues a comprehensive database of publications of available incidents and accidents was established, reviewed and analysed using the Incident Cause Analysis Method (ICAM). Using ICAM methodology allows an objective

examination into tyre and rim accidents and incidents, their root and contributing causes and industry adopted means of hazard and risk control.

TYREgate allows users to search the database using the ICAM methodology and an innovative graph tool in a three-step process. The ICAM methodology is based on the principle that incidents do not occur due to a single act or condition but rather a number of factors working together. TYREgate users select from four ICAM categories: less-than-adequate organisational factors, less-than-adequate task and environmental conditions, less-than-adequate individual and team actions and less than adequate absent/failed devices as contributors to a tyre or rim-based incident.

TYREgate users are then directed to an interactive graph featuring contributors appropriate to the selected ICAM category. Root and contributing causes are shown in a bar chart which allows identification

of the highest risk factors relating to the incident. The results page displays detailed information on records of tyre and rim-related incidents, including checklists for management of potential accidents and accepted steps of risk mitigation. Users can also search the TYREgate database by consequences, root and contributing causes and in relation to the Earth Moving Equipment Safety Round Table (EMESRT) risks.

Mine operators should use TYREgate in their maintenance and operation areas to understand and manage 'off the road' tyre and rim-related hazards, generate, download and print checklists and use the wide range of information available in risk assessments and to support decision making processes.

TYREgate has a direct link to EMESRT Tyres and Rims Design Philosophy.

Access TYREgate online at:

www.mirmgate.com/tyregate/index.php

SA08-07 Operator crushed between longwall roof support and AFC pan line

A shearer operator was crushed between the front of a longwall chock and the AFC pan line. He suffered multiple fractures of the pelvis and internal injuries.

The shearer operator said he was kicking spilled coal from the walkway when he slipped and fell in front of the chock. The chock advanced and crushed him against the AFC pan line.

Chock movement control was automatic, initiated by the shearer as it proceeded along the face. The chock had been primed to move when the operator slipped and fell in front of it.

The gap between the front of the chock and the pan line was sufficiently narrow that the potential for a person to receive fatal injuries was high.

Operators of longwall mines should review their work procedures with emphasis on; identification and implementation of hard barriers to prevent access of longwall personnel into hazardous areas; safe standing zones for shearer operators for each mining sequence across the face; safe access along the face at all times for longwall personnel and regular audits to ensure compliance with work procedures.

SA08-08 Overheated tyres require miners to use self-rescuers

While operating a RAM car (rubber-tyred mobile plant) in an underground coal mine, the driver heard a bang and noticed a distinctive smell and white smoke-like substance followed by a brown smoke-like substance, coming from the rear of the machine.

Miners at the face of the same heading smelt the substance in the ventilation current, put on their self-rescuers and walked out of the heading. A few miners became nauseous and complained of headaches. Some miners were sent to hospital.

Prior to the incident the rubber-tyred mobile plant travelled approximately 18km in total and was loaded on each trip. The tyres were fitted with high-pressure (HP) rubber liner (RL) inserts.

Investigations into the incident have revealed both rear tyres overheated internally creating internal pressures which subsequently burst the side wall of the tyre and allowed products of combustion gases to escape; the original tyres supplied by the mobile plant manufacturer (20.5R25) were replaced with a tyre of lower capacity (17.5R25) and the rubber-tyred mobile plant driver was not made aware of any duty cycle (speed, load or distance travelled) limitations of the tyre assembly.

A similar incident occurred six months earlier at the mine and have occurred previously at other mines with air-filled and urethane-filled tyres.

For detailed recommendations from NSW DPI refer to the full safety alert.

SA08-09 Workers injured on work platform attached to load haul dump

Two workers were injured while riding on a work platform when carrying out routine maintenance work in an underground coal mine.

Both suffered arm injuries (including a fracture) when the work platform suddenly pivoted upwards, causing them to be jammed between the mine roof and the top of the work platform.

The workers were hanging cables to the roof of the mine while

standing on the work platform which was attached to the front of a 913 load haul dump (LHD) via a quick detach system (QDS) and was being driven by the LHD operator.

While the LHD was being driven in reverse, one wheel traversed a 300mm step in the floor, causing the work platform to suddenly pivot upwards and contact the mine roof.

Poor roadway conditions made it difficult for the LHD operator to control the speed of movement of the work platform.

The work platform and LHD arrangement is considered an elevated work platform (EWP) under Chapter 5 of the OHS Regulation 2001. The work platform and LHD arrangement did not comply with the requirements of clause 142(3)(d) of the OHS Regulation 2001.

Mines should review their systems of work which require people or materials to be lifted, to ensure they comply with clause 142 of the OHS Regulation 2001. For detailed recommendations and applicable standards refer to the full safety alert.

SA08-10 Damage to oxygen self-rescue units

During a practical demonstration of self-rescue units (oxygen-generating breathing apparatus), a member of a mine rescue team attempted to activate and wear a unit. The team member found that the unit did not function and he was experiencing a burning sensation in his mouth. Upon inspecting the unit he noticed a yellow powder on the mouthpiece. The unit could not be worn due to the possibility of chemical burns and was subsequently sent for testing. Additional units were also found to be unserviceable during recent testing and training activities.

The investigation found that the compromised self-rescue units were approaching the end of their service life (approximately five years). The units displayed signs of substantial damage (dents) to the metal lid of the unit and to the plastic housing. The units tested appeared to have been frequently and significantly impacted/dented and each unit exhibited varying presences of yellow dust. This dust has originated from the chemical pellets used in the unit. It appears the pellets had deteriorated during prolonged abrasion within the self-rescue unit.

The damage to the self-rescue unit outer case is thought to have occurred during day-to-day handling underground, and also during the end of shift 'return' procedure which involved dropping the units into a storage box with a 'spring loaded' base. Dropping the self-rescue units on top of each other contributed significantly to the damage to their protective casing and the deterioration of the chemical pellets.

continued next page

Safety Alerts and Safety Bulletins

NSW DPI issues Safety Alerts following the occurrence of an event such as a fatal accident, dangerous occurrence or incident which is considered to be of significance to the industry, with the aim of preventing a similar occurrence. Safety Bulletins are also issued by NSW DPI. Like Safety Alerts, they contain information relating to safety issues but are not directly linked to a specific incident.

If you would like to receive an email copy of Safety Alerts and Safety Bulletins visit www.dpi.nsw.gov.au/minerals/safety/signup and enter your details.

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Mines using self-rescue breathing apparatus should review the mine's systems for managing the use, storage and inspection of these units and should develop a system of 'in-service testing' for self-rescue units.

Mines should conduct a review of training procedures to ensure mine personnel are aware of the importance of proper handling and storage of self-rescue equipment and the equipment supplier should provide an estimate of the service life expectancy of self-rescue units.

SA08-11 Worker crushed by sliding backhoe

A worker received severe bruising to the lower back and hip when he was crushed between a handrail and steel structure by a backhoe loader.

Workers were attempting to lift a steel floor plate into position with the aid of a backhoe loader. The backhoe was positioned on a 1-in-4.7 slope entry to a sump containing water and coal fines.

When the backhoe driver deployed the stabiliser jacks, the machine began to slide down the slope towards the other workers. The boom on the backhoe forced the handrail onto a worker, entrapping him and causing injuries. Evasive action by the backhoe operator averted a more serious outcome.

The incident is being investigated by the NSW DPI Investigation Unit.

Where earth moving equipment (eg backhoes, front end loaders, excavators, telescopic handlers, tool carriers and other similar units) have been selected to act as a crane for the purpose of raising, lowering or transporting loads, the requirements of *AS 1418.8-2002 Cranes, hoists and winches Part 8: Special purpose appliances* should be reviewed and considered as part of the risk assessment to select plant to undertake the tasks of lifting and/or transporting loads.

Work that is intended to be carried out using this type of equipment should be subject to risk assessment and the development of written safe work procedures.

Further recommendations are contained in the full safety alert.

Safety Bulletins

SB08-05 In-service failures of explosion-protected diesel engine systems

Following a number of incident investigations and audits there appears to be inconsistency in incident notifications from underground coal operations with regards to the reporting of 'the in-service failures of the explosion-protection characteristics of explosion-protected plant' on explosion-protected diesel engine systems.

Clause 56 (1) (m) of the Coal Mine Health and Safety Regulation 2006 requires notification to the Chief Inspector and the industry check inspector of any incident or matter involving the in-service failure of the explosion-protection characteristics of explosion-protected plant.

This Safety Bulletin clarifies the above notification provision, in relation to explosion-protected diesel engine systems, to provide a consistent approach for all underground coal mines.

Explosion-protected diesel engine systems are assessed (for the

purpose of registration) against the requirements of *AS 3584.2:2003, Diesel engine systems for underground coal mines, Part 2: Explosion protected*.

The AS 3584.2 standard stipulates the explosion-protection characteristics and defines the components (characteristics) which form part of an explosion-protected diesel engine system.

The NSW DPI requires the reporting of any incident or matter where it is evident an explosion-protected diesel engine system has been (or is likely to have previously been) operating in a non-explosion-protected condition.

Refer to the safety bulletin for further clarification and examples of incidents required to be reported.

SB08-06 Working near quarry benches

NSW DPI Mine Safety Inspectors have recently observed a number of mine employees and contractors working in and around the edge of quarry benches.

The workers appeared to be unaware of the hazards or attempting to control their exposure to potential falls.

In 2003 a drilling contractor working in NSW fell 9.5m from a bench and sustained multiple injuries. NSW DPI issued a Safety Alert SA 03-03 Driller falls over bench face (www.dpi.nsw.gov.au/minerals/safety/safety-alerts) made a number of recommendations regarding work around benches.

In May 2008 an explosives contractor working in Queensland fell 13m over a quarry bench, sustaining multiple injuries. In June 2008 the Queensland Mines Inspectorate issued Safety Bulletin 79 Activities on Narrow Benches at Mines and Quarries (www.dme.qld.gov.au/mines/mining_safety_health.cfm)

It is recommended that operators of quarries and drill and blasting contractors review the aforementioned safety alerts.

SB08-07 Failure of fire suppression system on rear dump truck

While operating a rear dump truck along the haul road of an open cut mine, the driver noticed flames emanating from the exhaust of the truck. As a precautionary measure the driver activated the engine fire suppression system by depressing the plunger switch located in the driver's cabin.

The suppression system failed to activate. Further investigation indicated that the engine turbo charge had failed and was the source of the flames. The operator immediately implemented a check on other equipment at the mine fitted with fire suppressant systems to ensure no defects were present.

All mobile plant should be assessed for fire risks, with appropriate risk controls being implemented to prevent a fire initiating. AS 5062 Fire protection for mobile and transportable equipment and MDG 15 Guideline for mobile and transportable equipment for use in mines provide guidance in fire risk assessment and fire risk controls for mobile plant

Information on mobile plant fire incidents can be found at www.dpi.nsw.gov.au/minerals/safety/publications/statistical-publications

For further recommendations and information on applicable standards, please refer to the full safety bulletin.

Find all Safety Alerts at: www.dpi.nsw.gov.au/minerals/safety/safety-alerts

Contractor supervision a significant issue for mine operators

The prosecution of two companies has highlighted the dangers of working at heights and the importance of supervision for contractors, which are two significant issues for the NSW mining industry.

JML Group Pty Ltd was the principal contractor on a construction site and engaged GPCC Pty Ltd to install pre-cast concrete panels on the exterior of a multi-storey apartment building. Each worker was provided with a safety harness and lanyard for working at height. The importance of wearing the fall protection equipment was heightened by the fact the perimeter fencing needed to be removed in order to guide each panel into place.

During an inspection of the site, a NSW WorkCover Inspector discovered a leading hand working approximately 20m from the ground without wearing his fall protection equipment.

The inspector had already issued a reprimand to the leading hand the day prior for the same action.

Despite GPCC revising their OHS site management plan and safe work method statement and arranging re-training for the leading hand and other workers, and JML

Group arranging supervision for roof workers, the leading hand was caught a second time removing his fall protection equipment.

The Industrial Court of NSW found that in this case the supervision of the contractors was not effective as the supervisor was required to accept deliveries on the ground throughout the day, so was not always present on the roof.

The leading hand had originally been wearing the fall protection equipment provided but had taken it off, claiming he felt safer positioning the panel without the risk of the lanyard getting caught. During the prosecution, the Court noted that the worker had not previously made any comment or complaint to his supervisor about difficulty performing his work while wearing the safety harness.

GPCC was prosecuted for a breach of section 8 (1) of the *Occupational Health and Safety Act 2000* and was convicted and fined \$50,000.

JML Group, as the principal contractor on-site, was prosecuted for breach of section 8 (2) of the same Act. They were also convicted and fined \$45,000.

The use of contractors is a major issue for the NSW mining industry, as highlighted

by the 2004 Wran Mine Safety Review. The NSW Mine Safety Advisory Council and NSW DPI are currently working together to address the review's recommendations and have produced the Contractor OHS Assessment Tool. Stronger provisions relating to contractor management have also been included in the *Coal Mine Health and Safety Regulation 2006* and the *Mine Health and Safety Regulation 2007*.

During the past few years NSW DPI has also issued a number of Safety Alerts regarding working at heights including:

- SA08-06** Worker falls through guardrail
- SA06-20** Working at heights – excavator
- SA06-17** Failure of scaffolding
- SA06-15** Unplanned movement of elevating work platform
- SA06-04** Working at heights
- SA06-02** Working at heights – prevention of fall and fall arrest
- SA04-25** Fall from elevated work platform
- SA04-20** Fall from truck while tarping

For a copy of these safety alerts visit the NSW DPI website at:

www.dpi.nsw.gov.au/minerals/safety/safety-alerts

First conviction under Explosives Act 2003

The first conviction under the *Explosives Act 2003* was recently handed down to a mining company in NSW.

Milbrae Quarries Pty Ltd was successfully prosecuted under the *Explosives Act 2003* for not holding a licence while storing explosives and explosive precursors at two of its quarries near Leeton and Rankin Springs.

Milbrae Quarries Pty Ltd was convicted at Leeton Local Court of two offences under the *Explosives Act 2003*, which came into effect in September 2005. Milbrae Quarries Pty Ltd has lodged appeals against the decisions.

During the hearing Magistrate Dare endorsed the NSW Department of Primary Industries' submission that the offences were deemed serious enough to warrant prosecution.

The Magistrate fined the company \$10,000 for each offence and ordered the company to also pay the Department of Primary Industries' costs.

The conviction was significant and should serve as a warning to other mining and quarrying companies to ensure they hold licences where the storage of explosives and explosive precursors are concerned. It reinforces the importance of ensuring the safety and security arrangements for storage of explosives and explosive precursors, and the need for close attention to the safeguards called for under the licensing scheme.

Fines for electric shock and burns

Electrical contractors were carrying out high voltage maintenance on 20 June 2005 at the Dartbrook declared coal preparation plant (DCPP) when one of their employees made contact with live 11 kV bus bars and received a serious electric shock and burns.

The employer, Ampcontrol RES Pty Ltd, and the operator of the DCPP, Anglo Coal (Dartbrook Management) Pty Ltd, were both charged for breaches of section 8 of the *NSW Occupational Health and Safety Act 2000*.

The matter was heard in the Industrial Court where Justice Kavanagh fined the Anglo Coal (Dartbrook Management) Pty Ltd the sum of \$200,000 and Ampcontrol the sum of \$120,000.

Her Honour noted that specific deterrence was a relevant consideration in sentencing despite the fact that the preparation plant is currently "mothballed".

The incident was recognised as being reasonably foreseeable, making it more serious in nature and Her Honour also pointed out that the risk of fatal injury was also a relevant sentencing consideration.

As employer Ampcontrol RES Pty Limited was responsible for the work conducted and the supervision of employees. However, Anglo Coal (Dartbrook Management) Pty Ltd had control of the worksite. Neither defendant made the appropriate adjustment to work practices when change was introduced.

CALENDAR OF EVENTS

Mechanical Engineering Safety Seminar, August 2009, venue TBA. For further information visit www.dpi.nsw.gov.au/minesafety

Electrical Engineering Safety Seminar, November 2009, venue TBA. For further information visit www.dpi.nsw.gov.au/minesafety

Mine Operators Workshops, held regularly, next held 11 and 23 January, 3 February, 5 March, 19 March 2009, Morilla Street, Lightning Ridge, contact Janet Town, DPI, on 02 6829 0678

Mine Safety Awareness Course, held regularly, next held 19-20 January 2009, Lightning Ridge Bowling Club, contact Janet Town, DPI on 02 6829 0678

Hunter Valley Underground Mine Mechanical Engineers meeting, Mine Safety Technology Centre at Thornton, held quarterly, next held 4 March 2009, contact Paul Drain, Mine Safety Officer, DPI 02 4931 6652

Hunter Valley Open Cut Mine Mechanical Engineers meeting, Mine Safety Technology Centre at Thornton, held quarterly, next held 17 March 2009 at Mount Arthur Mine, contact Matt Willoughby, Mine Safety Officer DPI 02 6571 8788

Southern and Western Coalfields Mechanical Engineers meeting, held quarterly, contact Graham Johnston, Mine Safety Officer, DPI 02 4222 8307 or Wally Koppe, Inspector Mechanical Engineering, DPI on 02 4227 1699

Introduction to Safety Management Workshop for small mines and quarries, at various venues and dates throughout NSW, see NSW DPI website www.dpi.nsw.gov.au/minesafety for further details or contact Institute of Quarrying Australia (education@quarry.com.au)

Refining Your Safety Management Workshop for small mines and quarries, at various venues and dates throughout NSW, see NSW DPI website www.dpi.nsw.gov.au/minerals/safety/resources/training-and-workshops for further details or contact Institute of Quarrying Australia (education@quarry.com.au)

Mechanical Safety Presentations to the Extractive Industries, closed workshop 'onsite', held periodically throughout the year as required. Generally workshops are not open to broader industry however if you would like more information please contact Angus McDouall, Inspector Mines, DPI 02 6776 0309 or Paul Drain, Mine Safety Officer, DPI 02 4931 6652 (Nth Coast) or Matt Willoughby, Mine Safety Officer, DPI 02 6572 1899 (Mid North Coast)

Hunter Valley Electrical Engineers meeting, held bi-monthly on the first Friday of the month (next held 6 February 2009) — venues change for each meeting, contact Steve Bentham, Inspector Electrical Engineering DPI 02 4931 6653 or Owen Barry, Inspector of Electrical Engineering 02 6571 8708. Joint meeting with MEMMES on 13 April 2009 at Potters Brewery, Nukulba.

Southern and Western Coalfields Electrical Engineers meeting, TestSafe, Londonderry, quarterly (limited numbers), contact Inspectors of Electrical Engineering Bob Kennedy on 02 4222 8305 or 0417 226 362 or Stan Maginnis on 02 6350 7891 or 0417 223 875. Next meeting on 19 March 2009.

HIESN (Hunter Industry Electrical Safety Network) meeting, held monthly on the first Thursday of each month, next meeting on 5 February 2009 — venues change, contact Peter Henderson, Tomago Aluminium 0408 683 544

Western and Central Western NSW (Cobar, Broken Hill, Orange) Mine Electrical Engineer meeting, held at various venues and dates throughout the year, contact Stan Maginnis, Inspector of Electrical Engineering on 02 6351 3052 or 0417 223 875

Remote Control Equipment Advisory Group meeting, invite required, held quarterly, contact John Waudby, Senior Inspector of Electrical Engineering, 02 4931 6641 or 0418 295 656

MEMMES (Mining Electrical and Mining Mechanical Engineers Society of the IEAust) Meeting, held monthly at Speers Point RSL, next held 17 February and 17 March 2009, contact Peter Whipp, President 0427 425 798. Joint meeting of MEMMES on 13 April 2009 at Potters Brewery, Nukulba

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

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