MINE SAFETY NEWS

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SAFETY WORKS

Minister for Mineral Resources, Eddie Obeid

The NSW Government has released a position paper outlining its prefered approach for updating coal mining health and safety legislation.

The NSW Minister for Mineral Resources, Eddie Obeid said "the position paper, *Safety Works* is the next stage in the NSW Government's community consultation process."

"The position paper represents the Government's continued commitment to ensuring the NSW coal mining industry has the best possible standards for occupational health and safety," Mr Obeid said.

The State Government proposes to introduce legislation to Parliament for a *Coal Mine Health and Safety Act* to replace the current *Coal Mines Regulation Act* 1982 (CMRA).

In July 2000, Mr Obeid announced a review of the CMRA, which examined the role the Act plays in securing occupational health and safety in the coal mining industry.

It also looked at the relationship between the CMRA and the *Occupational Health and Safet Act* 2000 and the *Coal Industry Act* 1946.

As part of this review a discussion paper titled *Transforming Health and Safety Regulation in NSW Coal Mines* was released for comment in July 2000.

"The Carr Government has worked with industry and stakeholder groups to develop this position paper.

"Better occupational health and safety is a key issue in the coal mining industry. New legislation wll help industry to implement best practice in health and safety," said Mr Obeid.

Copies of *Safety Works* can be obtained from NSW Department of Mineral Resources offices and on the website www.minerals.nsw.gov.au

The Coal Mine Health and Safety Act will ensure the NSW coal mining industry has the best possible standards for occupational health and safety

In this issue

The New South Wales Government is targeting improved safety in all sectors of the mining industry.

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MINERAL RESOURCES NEW SOUTH WALES

REPORT CARD ON SAFETY PERFORMANCE

A third report on Mine Safety in NSW was recently published by Dr Ann Williamson from the NSW Injury Risk Management Research. This will help industry to understand the causes of fatal injuries and near miss accidents. It will also help develop better goals to prevent mine workers from being injured.

The report, which covers the two year period July 1, 1999 to June 30, 2001, is based on information collected from the Australian Mineral Council's Safety and Health Performance report, the National Occupational Health and Safety Commission and from the NSW Department of Mineral Resources' Common Mines Environment (COMET) database.

Key findings

Some of the key findings of the report include:

- There were 1070 incidents recorded in COMET during the two year period. Approximately one-third were related to an injury or death.
- From 309 events 321 people were injured, 14 of these died.
- Statistics showed that for every 3 million hours worked in 1999 to 2000 one death was recorded. For every 11 million hours worked in 2000 to 2001 one death was recorded.
- One-fifth of the events reported in coal mines were due to a person being injured. In the metal and extractive sector about two out of five events involved injury to one or more people.
- Mobile mechanical equipment was a major factor in non-injury and injury events in coal mines and there has been an increasing trend in incidents involving electrical energy.
- In coal mining, metal and extractive sectors most of the events were through unplanned moves and were more likely to occur in underground operations.
- In the metal and extractive sector injuries declined in the last four quarters. Mechanical equipment, work environment and electrical energy were the most important factors in events involving injury and non injury.
- During the two years 725 notices were issued. For every million hours worked in the industry there were 11-12 enforcement notices issued.
- About 89 per cent of the enforcements were under the Coal Mines Regulation Act (mostly Section 61) and about 11 per cent of enforcements were under the Mines Inspection Act.

The NSW Department of Mineral Resources is currently in the process of combining Coal Mines Insurance data with COMET data which will provide more information so injuries within the coal industry can be analysed. This will add to the information being developed by Dr Williamson's team.

Dr Williamson's report was presented at a meeting of the Mine Safety Council (the advisory body to the NSW Government on safety policies, regulations and performance measures) in November 2001.

A task force is to be established to review this data and submit a report to the Coal, Metalliferous and Extractive Safety Advisory Committees for analysis and then report back to the Mine Safety Council.

CHECK INSPECTORS – A VITAL ROLE IN SAFETY

Local Check Inspectors help to make the phrase "Go home safely at the end of the shift" a reality in the mining industry.

The annual Check Inspectors' conference in Penrith was told of the importance of active involvement in safety by all of industry, particularly mine workers.

"The NSW Government's high safety expectations needs to be translated into practice in the workplace, and Local Check Inspectors are the people to take the safety message out to the workplace," said Alan Coutts, Director General of the NSW Department of Mineral Resources.

Richard Coleman from the NSW Minerals Council emphasised the importance of workforce representation on mine sites. For

him it means people have a reliable, formal path to management. Management, in turn, need to put lots of energy into listening. Consultation and two-way communication are a must for safety.

The industry looks to Check Inspectors for safety leadership of mine workers. The challenge for Check Inspectors is to balance leadership and representation.

District Check Inspectors Ron Stothard (left) and Glen Dwyer at the Check Inspectors' Conference.

Ron Stothard, District Check Inspector, said under health and safety legislation, consultation, involvement and participation are essential to the integrity of safety management systems. Local Check Inspectors are the critical link between systems which meet the needs of everyone on each site and promote consistency across the industry.

The CFMEU and the NSW Minerals Council agree on the importance of Check Inspectors having enhanced skills and knowledge to perform their role. A training package is to be put together so that Check Inspectors are well equipped to do so.

The New South Wales Government is targeting improved safety in all sectors of the mining industry.

WINDING UP SAFELY

An extended summary of reported incidents at coal mine winding and shaft operations is now available from the NSW Department of Mineral Resources.

The summary includes details of incidents investigated over seven years from 1995 to June 30, 2001, while the previous publication (MDG 3004 SR 95/1) covered incidents for the 10 year period from 1984 to 1994.

The update includes:

- details of 27 accidents and incidents from 1995 to June 30, 2001;
- copies of Safety Notices related to winding/shaft operations issued by the NSW Department of Mineral Resources, the Queensland and Western Australian mine safety inspectorates and two recent notices issued by the Canadian province of Ontario's Ministry of Labour; and
- information on accidents/incidents that have occurred in NSW metalliferous mines since 1986.

Information gathered by the DMR since 1984 reveals accidents of a reportable nature in mine winding operations in NSW coal mines generally involved people.

A total of 49 incidents were investigated at coal mines which were classified as either a dangerous occurrence or notifiable incident. The nature of these incidents ranged from minor to those resulting in major equipment failure which could have potentially put the lives of mine workers at risk.

Accidents and incidents investigated can be identified as having occurred while:

- the winder was operating in normal mode;
- the winder was operating in abnormal mode when activities such as commissioning, testing or maintenance of winder systems or shaft inspections were being undertaken; and
- miscellaneous activities not directly related to winding operations were being undertaken, for example the fatality previously referred to.

Approximately 66 per cent of the incidents occurred during normal winding operations, 20 per cent during abnormal winding operations and 10 per cent while miscellaneous activities were being carried out.

Mine winders are an integral part of surface workings at many underground mining operations in NSW. Maintaining their continued fitness for purpose is crucial for mine production.

Any mishap will more than likely impact on the continuity of mining operations while a major mishap could culminate in long term or even permanent closure of the mine.

Mine management should make sure that risk assessments are carried out to identify all hazards arising from all winding activities. Risk assessments should include the nature and type of risks associated with people, plant and mine production.

If a mishap occurs it is critical the event as well as all near misses are thoroughly investigated to ascertain the cause and the appropriate action that should be taken to prevent recurrence. Information related to the safety performance of winding systems in general should be accessed when risk assessments are initiated or updated.

For further information on the type and nature of winder/shaft events that have occurred specifically in the NSW coal mining sector and the mining industry in general refer to Special Reports MDG 3004 SR01/3 and SR95/1 available from the DMR's publications section.

Mine management should ensure that risk assessments are carried out to identify all hazards arising from all winding activities.

TESTING MINE RESCUE TEAMS

Congratulations to all the operations that recently participated in mine rescue events which promote and recognise excellence in safety.

Mine rescue competitions enable rescue teams to familiarise themselves with and practice emergency plans; build confidence in their abilities to competently handle real emergency situations; pinpoint where weaknesses might exist in response systems; and identify improvement opportunities.

Without trained mines rescue teams mining operations must rely on external emergency services groups. No one knows a mine better than its employees and no one should have a greater interest in securing the safety of mine than its employees.

Mines need to provide encouragement and incentives to raise rescue team members. The challenge for some mines is to remain focusssed on safety training.

Safe mining practice is about preparedness and response as well as prevention. Commitment to safety comes through investing in disciplined, skilled and competent rescue team members.

Northparkes Winners

Two teams representing Northparkes Mines took out nine of the 17 awards at the 2001 NSW Minerals Council First Aid and Mines Rescue Competition, hosted by Northparkes Mines.

Seven mine rescue teams competed from Pasminco Broken Hill, Cadia Valley Mines, Peak Gold Mines, CSA Mines Cobar and Northparkes Mines Teams 1 and 2.

Teams were judged on theory as well as six simulated emergency scenarios including skills, fire fighting, underground search and rescue, rope rescue, team first aid, and individual first aid.

The Overall Champion Team Trophy was won by Northparkes Mines Team 2.

Top Right: A mine rescue team puts its knowledge into practice at Northparkes Mine.

Right: Graham Terrey (right) Director Mine Safety and Environment, DMR presents the Safety Team Trophy to Northparkes Mines Team 2.

The Elouera rescue team, winners of the southern region mine rescue competition.

Elouera Triumphs

Elouera triumphed over national champions Appin to win the southern region mine rescue competition by two points at West Cliff Colliery.

Elouera faced tough competition from six teams including Tahmoor, a Tahmoor composite team, Bellambi West, Appin, an Appin composite team and West Cliff.

The teams competed over a wide range of events, organised by the Southern Mines Rescue Station, including: underground, first aid, firefighting, theory, individual practical and skills.

Ravensworth Champions

Ravensworth won the overall championship trophy at the 2001 NSW Open Cut Coal Mines Rescue Competition held at the Hunter Valley Mines Rescue Station.

Ravensworth has proved to be a leading team in rescue competitions for a number of years, winning locally and also the Queensland competition last year.

Ten teams from the upper Hunter and a visiting BHP Billiton Thiess Alliance team from Indonesia competed across six simulated exercises including; fire fighting (won by BHP Billiton, Indonesia), breathing apparatus (Ravensworth), life support (Bengalla), height and depth rescue (Mount Thorley), pole and light vehicle rescue (Warkworth) and individual practical (Hunter Valley).

The Bengalla team also took out the honours for theory.

The Ravensworth rescue team, winners of the NSW Open Cut Coal Mines Rescue Competition overall championship trophy.

A pole rescue exercise at the Hunter Valley Mines Rescue Station.

MINE SAFETY SURVEY

An excellent reponse was received to a recent survey sent to over 700 mines sites in New South Wales.

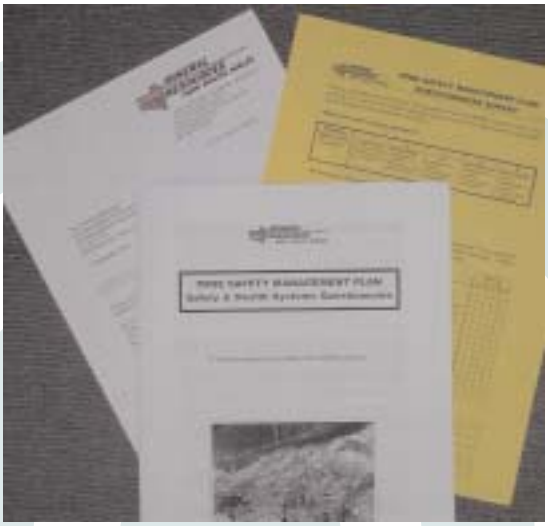
In line with the *Mines Inspection General Rule 2000* the NSW Department of Mineral Resources sent a letter, questionnaire and survey to small and large mining operations in NSW.

Over 100 councils and five government organisations which operate mines also received this information.

The aim of the survey was to provide additional help to operators in understanding and preparing effective safety management plans. It also allowed operators to self-assess safety practices and systems against key clauses of the *General Rule 2000;* and to highlight areas for improvement.

The *General Rule 2000* required all mines (other than coal or shale mines) and quarries to have a Mine Safety Management Plan by September 1, 2001.

Over the past two years, the DMR's Safety Operations has devoted significant resources to assist mines develop and put in place effective mine safety management plans through the small mines campaign and verification program.



The survey enabled the Safety Operations to collect data which has been entered into its COMET database. The data will be reviewed to plan and prioritise future programs to assist mines in the implementation of safety management systems.

The majority of survey respondents have developed or completed programs and procedures for safety management plans.

Some operators identified they require assistance in moving towards a systematic approach to safety management. These operators will be registered for the small mines education workshops to be conducted throughout the year.

Copies of the *Mines Inspection Act 1901, Mines Inspection General Rule 2000* and *Mine Safety Management Plan Safety and Health Questionnaire* can be downloaded from the NSW Department of Mineral Resources website www.minerals.nsw.gov.au then select the "Safety" link.

For further information on the questionnaire, please contact your local DMR office (refer to the back page for details).

The New South Wales Government is targeting improved safety in all sectors of the mining industry.

MECHANICAL ENGINEERS - MANAGING AND MANAGING SAFETY

Mechanical Engineering education compared with the reality of the job in a mine makes an interesting study, according to Paul Hartcher, General Manager Wambo Mining.

A mechanical engineer by training, Paul explained to the NSW Department of Mineral Resources 11th Mechanical Engineering Safety Seminar that what is expected on the job in the mining industry was in sharp contrast to a mechanical engineer's education. He also examined the underlying connection between engineering, management and "systems".

Management driven by change

During his career, Mr Hartcher has seen the industry change from 'low tech' operations with a large labour pool and an insular, prescriptive legislation base, to 'high tech' operations with a small labour pool, and a mainstream legislative focus on duty of care.

He considers the industry had to change as regulatory focus on verifiable (before an event) and auditable (after an event) "systems" removed reliance on prescriptive "rules". As well, community expectations have risen following major incidents.

In this new business environment, engineers cannot afford to work in isolation, divorced from other aspects of the business. A key difficulty is that often engineers have not been formally educated to cope with the business realities of the workplace. In practice, as well as engineering, an engineer needs to broadly understand business principles, compliance issues, ethics based upon community expectations, and legislation and liability requirements.

Management systems

An engineer is expected to manage people, resources and assets to achieve equipment reliability, budget and statutory compliance. Engineers do this through the development, implementation and verification of appropriate *management systems*.

According to Mr Hartcher, management systems can be summarised as a set of rules based on facts that prescribe behaviour and manage risk. But systems are based upon what is foreseen and are amended after events that were not foreseen, which is evidence that simple over-reliance on "systems" is naïve. *"Systems"* can allow personnel to attempt to take action without personal responsibility; can create confusion over responsibility through divisions of labour, and most importantly, rely on the appropriate actions of people.

Systems must focus on all aspects of a business, not just technical or safety matters.

They should:

- Enhance the management and results of the business, and contain clear accountabilities and responsibilities.
- Rote procedures such as panel moves and cable relocations benefit from systematic analysis leading to the development of process maps which can be signed off and passed on to subsequent shifts.
- Systems should be developed based on the contributions from, and communication to, the workforce and should be "live" documents.
- They require education on hazard recognition. This is fundamental in achieving success as it focuses efforts "on the job". Regardless of the "rules", expectation is that employees are trained to recognise hazards and take appropriate action.

The transition from engineering to management

Paul noted five elements, which can play a part in the transition from engineering to management. They are:

- good work performance - never a guarantee, but necessary,
- qualifications - blend of experiences and qualifications,
- visibility - who really is in charge, control resources, sell yourself,
- mentoring - look for yours and learn, find talent and teach,
- opportunity - degree of chance, recognise it, don't fear failure.

Skills managers and engineers need

Successful managers and engineers need the following skills:

Communication: communication skills are fundamental to success in any field.

Analytical: if you do not know why, then you need to consider if you know anything. Are you guessing?

Forward planning: learning from history is critical, but anticipating possible outcomes and instituting preventative measures is just as important.

Business planning: budget detail built on analysis, experience and forward planning makes the likelihood of actual achievement far more probable.

Team contributions: know your area of responsibility but also understand your area of influence. Understand the strengths and weaknesses of the team, including your own.

Team building: give credit where it is due, praise given sparingly is good management, and personal "thanks" is good manners. Give some consideration to your biggest critic, you cannot assassinate so try to illuminate. Discipline is best when it is rarely seen.

For more information contact:

Paul Hartcher,
General Manager
Wambo Mining Corporation

12th Mechanical Engineering
Penrith Panthers Leagu
Wednesday,

The Seminar

The Mechanical Engineering Safety Seminar, hosted annu
forum aimed at providing Mechanical Engineers with up
practices and strategy.

This year the Seminar will feature a hypothetical acciden
whole process of an incident - from notification to legal
than can be taken to prevent a serious accident.

Who should attend

The seminar attracts Mechanical Engineers and delegate
industries, suppliers of equipment and services, industry

Presenters

Officers from the Department's Safety Operations and In
representatives.

Contact

For information on seminar content/to submit a paper:
Gordon Jervis, Senior Inspector of Mechanical Engine
NSW Department of Mineral Resources
Phone: (02) 4942 2300
E-mail: jervisg@minerals.nsw.gov.au

HEALTH AND SAFETY ARE NOT JUST MECHANICAL

Mechanical engineers need to take into account human and organisational factors when dealing with safety management systems, along with identifying engineering hazards.

This message was reinforced by Rob Regan, Assistant Director, Safety Operations and Chief Inspector of Coal Mines when he gave the opening address to the Department of Mineral Resources 11th Mechanical Engineering Safety Seminar.

"Mechanical engineers are aware of the many methods for such areas of work as hazard identification, failure analysis and design limits. Are they aware of the human and organisational factors that actually dominate the risks?" asked Mr Regan.

"Safety management requires constant vigilance for undocumented system weaknesses. Systems must include ways to prevent errors. This can be done by identifying and removing tasks which lead to unintended outcomes again and again; by designing human centred equipment; and through training, briefing and debriefing," he said.

Systems must also limit errors, by

- assuming errors will be made,
- training in error detection and recovery,

and

- by designing error-tolerant systems.

The system must match the culture of your organisation - the words, diagrams and plans must mean the right things to your people. For safe mechanical engineering management:

- your organisation needs to be informed (for example, all types of non-conformance reporting, near-miss reporting),
- reckless behaviour must not be tolerated in any way,
- blame free reporting should be encouraged for all other unsafe acts, and
- an **effective management response** is needed to both positive and negative events in the organisation.

Mechanical engineering: management and practice

The theme of the seminar was Mechanical Safety Management Systems. The seminar also covered the role of the engineer in management.

The need for a systematic approach to safety management was clear in many of the presentations. Among these, the audience heard about:

- insurance or risk engineering,
- a contractor code of practice through safety management systems,
- the development of mechanical engineering standards for surface operations, and the effect of these in practice,
- how accident investigations impact on mechanical engineers: their potential liabilities, and
- isolation (hazardous energy control) and how it relates to mechanical engineers. Energy control needs to be systematic and to be made a part of the job.

Other technical papers covered a variety of topics useful in many mechanical engineering settings, for example, operating semi-trailers on the surface of mines, electric welding safety, and diesel exhaust particulate in underground mines.

Bringing the theme together

At the end of the seminar, John Waudby, Senior Inspector of Electrical Engineering, highlighted the common strands that ran through the seminar. These were:

- human factors dominate risk, working together is important,
- match your organisation's system to your culture, and
- know that individuals *can* make a difference.

"It's time for mechanical engineers to get out of an engineering mindset and develop a more 'global' view of their own organisations and an understanding of the directions in which the industry is going," Mr Waudby said.

"Current and emerging management issues and industrial relations are two examples of those broader issues.

"Engineers need to develop influencing skills so that their understandings and experience provide effective input into both their organisations and the wider mining industry," he said.

For more information on mechanical engineering matters contact:

Gordon Jervis
Acting Senior Mechanical Engineer
NSW Department of Mineral Resources
Phone: (02) 4924 2300

Engineering good health

Engineers also need to be aware of their health needs, Dr Ross Walker told the seminar. In his lively and entertaining keynote address, he told the engineering audience that they needed a balance between the physical, mental, emotional, sensual and spiritual aspects of their lives.

He said that engineers also need a lifestyle balance which included good diet, regular exercise and ongoing stress management. Dr Walker says that goal setting, using helpful coping mechanisms and sensible time management, as well as valuing relationships and living in the present, are all important attributes of a healthy lifestyle.

Safety Seminar & Workshop
ues Club, Penrith, NSW
8 May 2002

ually by the NSW Department of Mineral Resources, is a to date information on Occupational Health and Safety

t scenario that will guide participants through the proceedings. The exercise will highlight the measures

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EMERGING TECHNOLOGY

Computerised technology is placing new demands on the mining industry and introducing new hazards in the workplace.

This was the focus of the keynote address given by Dr John Sammarco, visiting from the US Institute for Occupational Safety and Health (NIOSH) Pittsburgh, to the Department of Mineral Resources 11th Electrical Engineering Safety Seminar.

"Safety issues must be identified before technology is introduced at mine sites," said Dr Sammarco, who has been researching the safety of computerised mining systems.

Dr Sammarco also lead a two day workshop on computerised technologies.

NIOSH best practice recommendations will help industry in dealing with the dangers of unplanned movements, a major industry hazard according to Dr Sammarco. The development of safety systems and of safety files will present the way forward in safe electrical engineering practice.

Impact on mine electrical safety

New technology in mining adds a level of complexity that affects safety. The solution for the mining industry is to develop a systems approach to address safety issues and concerns, according to John Sammarco from the US national Institute for Occupational Safety and Health (NIOSH).

Mining was traditionally a low tech industry but it is being driven by competitive pressures to go high-tech with the use of programmable electronics (PE) for machine control.

Semi-autonomous machines are now being operated within the same space as workers and this has created new concerns and challenges for the mining industry because its experience with the functional safety of PE is limited.

NIOSH is addressing the safety issues of new technology through a project which makes recommendations to address the safety of PE-based mining systems.

The recommendations take the form of a safety framework involving the entire life cycle of a PE-based mining system.

NIOSH has grouped these specific safety concerns into three categories:

- human factors,
- hardware, and
- software.

Advancements in the technological features of equipment can overtake a worker's ability to understand and use those features. Many problems and injuries associated with PE arise because a worker is unfamiliar with the full range of equipment behaviours or because a worker manually intervened in an automated cycle. *(continued page 9)*

Dr John Sammarco from the U.S. National Institute for Occupational Safety and Health at the 11th Electrical Engineering Safety Seminar.

ELECTRICAL SAFETY IS LOOKING TO THE FUTURE

An outline of the past, present and future direction of industry safety was presented in the official opening of the NSW Department of Mineral Resources 11th Electrical Engineering Safety Seminar by Graham Terrey, Director of Mine Safety and Environment, DMR.

Future technology and plant safety set the scene for presentations. Topics highlighted the expectations of designers, manufacturers, owners and users of plant. A key concept was the "safety life-cycle" and the assessment of plant against Australian Standard AS 4024 by using safety relays and using technical risk assessments.

Mining specific issues included the draft guidelines for mine winders, and the strengths and weaknesses of using cross linked poly-ethylene cables in mines, throughout its life-cycle.

The DMR presented an overview of industry performance in the prevention of electric shock, explosions, 'electrical' fires; and the unintended operation of electrically controlled equipment.

While the results of mine site assessments have revealed significant improvements in the management of electrical protection at mines, areas for improvement still exist.

A presentation was also provided on the cooperative project between the DMR and cable repair workshops on cable damage in coal mine hazardous zones.

The seminar is conducted annually by the DMR to promote electrical engineering safety. It is strongly supported by major sectors of the mining industry.

Over 150 representatives attended the one day seminar and 70 representatives registered for the two-day workshop held last November.

At the Annual Electrical Engineering Safety Seminar were Mark Griggs, Electrical Engineer in Charge Gibson's Colliery and DMR representatives Bob Kennedy, Stan Maginnis and John Waudby.

(continued from page 8)

According to NIOSH mine workers should be able to demonstrate a basic understanding of the equipment before working with it.

Some mines feel the operation of the control system is too complicated for the average mine worker even when additional training is provided. NIOSH believes equipment manufacturers should seek ways to lower the complexity of operation.

It has been found some systems have been installed before operating and maintenance manuals were printed. User friendly documentation, for example laminated instruction cards, can be vital to the safe operation of complex systems.

Therefore a major hardware issue can be compatibility. The possibility of problems, including software errors is increased in "mix and match" systems.

According to NIOSH compatibility requirements among manufacturers needs to be improved to reduce safety risks.

System-level programming is often changed after the equipment is in service. These changes can be requested and implemented within one or two days. This may create hazards or compromise other programmed safety features because there hasn't been enough time for thoughtful analysis.

Safety critical changes should be preceded by new analysis to ensure that the proposed change will not compromise safety.

While each of these concerns can be addressed individually, as a whole the real need is for an integrated system safety approach:

- Develop an overall plan for system safety.
- Conduct an analysis of the product or system in which hazards are identified.
- Establish safety criteria such as checklists and references to standards and guidelines.
- Determine the proper hazard control - eliminate and control hazards, provide alarms and warnings and establish procedures.

According to NIOSH implementation of its guidelines for system and software safety will help ensure worker safety for processor-controlled mining equipment.

NEW APPOINTMENTS

Communications Officer

Debra Thompson,
Communications Officer
St Leonards Office

Debra Thompson has been appointed Communications and Education Officer with the Information Unit, Mine Safety and Environment Division based in the St Leonards Office of the NSW Department of Mineral Resources.

Debra's role includes the coordination of *Mine Safety News.*

Debra has joined the DMR after three years experience in the petroleum industry and eight years experience in the coal mining industry, having been Public Affairs Officer for Caltex and BHP in the Illawarra region.

Debra has a Bachelor of Arts Degree in Communication Studies and is currently studying for a Master of Arts Degree in Communication Management.

Please contact Debra should you have any suggestions for articles or would like to promote mine safety.

Phone: (02) 9901 8437

Fax: (02) 9901 8584

Email: thompsod@minerals.nsw.gov.au

Mine Safety Officer

Peter Sunol,
Mine Safety Officer,
Gateshead Office

Peter Sunol has joined the NSW Department of Mineral Resources as Mine Safety Officer - Mechanical, based at the Gateshead Office.

Before joining the DMR Peter was a Consultant Engineer to the industry for four years, firstly as a Senior Mechanical Engineer and later as a Principal Mechanical Engineer and Engineering Manager, gaining experience in water treatment, waste water treatment and in the construction industry.

Peter has 12 years experience in the underground coal mining industry having started with BHP Collieries in Newcastle as a Mechanical Engineering Trainee. He also worked in the Queensland coal industry for a short period before returning to Newcastle.

Peter has a degree in Mechanical Engineering, a Mechanical Trade Certificate and has commenced a Master of Engineering Practice Degree. He has previously written and published papers on both conveyor design and safety and has played an active role in the development of Australian Standard 1755.

The New South Wales Government is targeting improved safety in all sectors of the mining industry.

SHE ACHIEVES RESULTS

Orica's safety vision

Orica's vision of "No injuries to anyone ever" is one that is being successfully followed at its sites. The goal for this organisation is to do business with zero injuries and zero illnesses.

Orica's Corporate Safety, Health and Environment (SHE) system is based around hardware, systems and people.

This process follows the principle of continuous improvement.

Well trained operators; site inductions; behavioural observations; reporting and following up on all incidents (no matter how minor); site data sheets; procedures and well-maintained hardware have all played their part in improving Orica's safety performance.

The company's current focus is predominantly on behavioural safety. This approach to safety and health is one that has relevance to the whole mining industry regardless of the size or structure of an organisation.

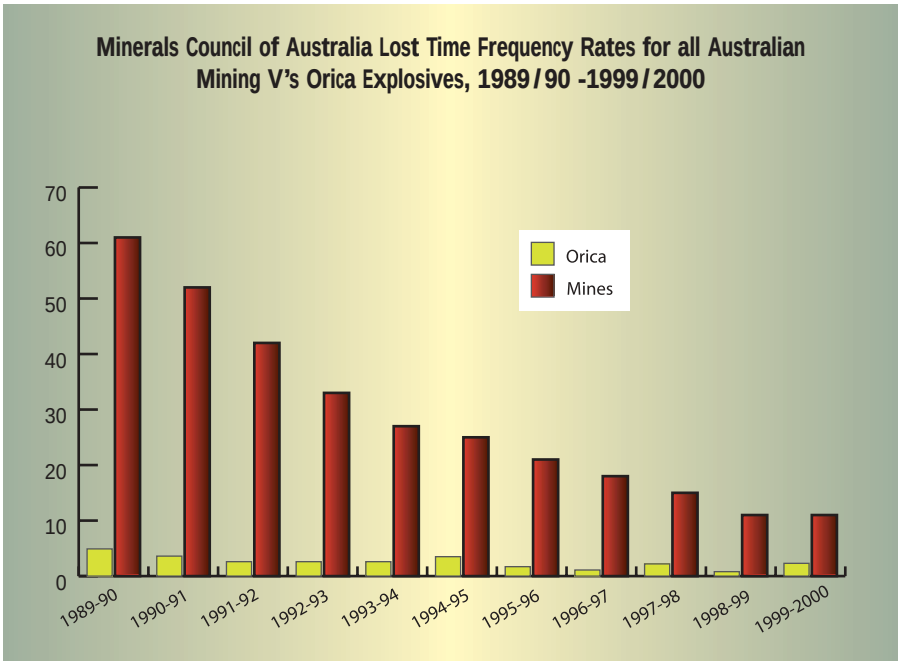
First steps

Early improvements in safety are achieved through hardware solutions such as machine guarding and improved materials, etc. These improvements can result in a step change in safety performance, which is sustainable but can often level out.

The next step change comes from the introduction of safety systems including accident reporting and investigation, work permits, procedures, registering and checking equipment, training, and so on.

The third stage, and sometimes the most difficult, in the pathway towards no injuries requires the involvement of people and the modification of their behaviours.

As with most organisations, Orica's safety performance is measured in the frequency of Lost Time Injuries. While the company recognises this as a reasonable measure of safety performance, the LTI rate often diverts attention away from the measurement and hence prevention of major incidents. Analysis of their causes however can add value if preventative actions are implemented.



Behavioural change - the next step

Orica's behavioural improvement has had a great impact on the company's safety performance and culture. This has been achieved through a SHE Charter and Critical Behaviour Inventory.

The SHE Charter is a document that sets out the expectations on employees and managers. All companies have expectations on their employees, but not many spell these out in writing, and train and communicate them to their workforce. Within Orica managers review the Charter with their employees annually. The Charter has two sections, one for manager's expectations on their employees and one for employees' expectations on their managers and supervisors.

Analysis of Orica's injuries showed about 80 per cent were caused by about ten behaviours. By identifying these behaviours, training people in appropriate behaviours and encouraging them to observe each other and record appropriate and inappropriate behaviours, inappropriate behaviours and the injuries they bring can be eliminated or reduced.

Training

All employees are trained to make observations of their colleagues in a non-threatening and constructive manner. Results of the observations are analysed for trends in both safe and unsafe behaviours.

Orica maintains a comprehensive training system for all its operators. A training matrix forms the basis of its training system. It contains a list of all plant activities and matches these with the operators who require training in these activities or skills. The matrix is managed locally, renewed annually to develop a training plan and updated each month. Each operator has his own training plan. This type of analysis can help identify where training is low, incomplete or inadequate.

The results

According to Orica safety just doesn't happen. Programs have to be carefully planned, maintained and continually improved. They must seek out hazards and risks and control them, not just fix them when they get noticed.

For organisations to reach their safety goals it takes leadership, committed management and positive involvement of the whole workforce.

The Orica SHE system has resulted in a passionate and participative safety culture that extends throughout the business. This has enabled an environment to develop where many technical achievements have also flourished.

So what has the system done for Orica's safety performance? The company's injury rate for 2001 was 1.41, less than one-third of the average injury rate of member companies of the Australian Plastics and Chemicals Industries Council. The average recordable case rate of member companies of the American Chemistry Council was 2.16 in 2000.

The concepts discussed above are just some of the initiatives Orica has used to improve safety performance.

Adapted from a presentation delivered by John Beevers to the Institute of Quarrying Australia 45th Annual Conference. Orica has over 200 sites in over 30 countries.

For further information please contact:

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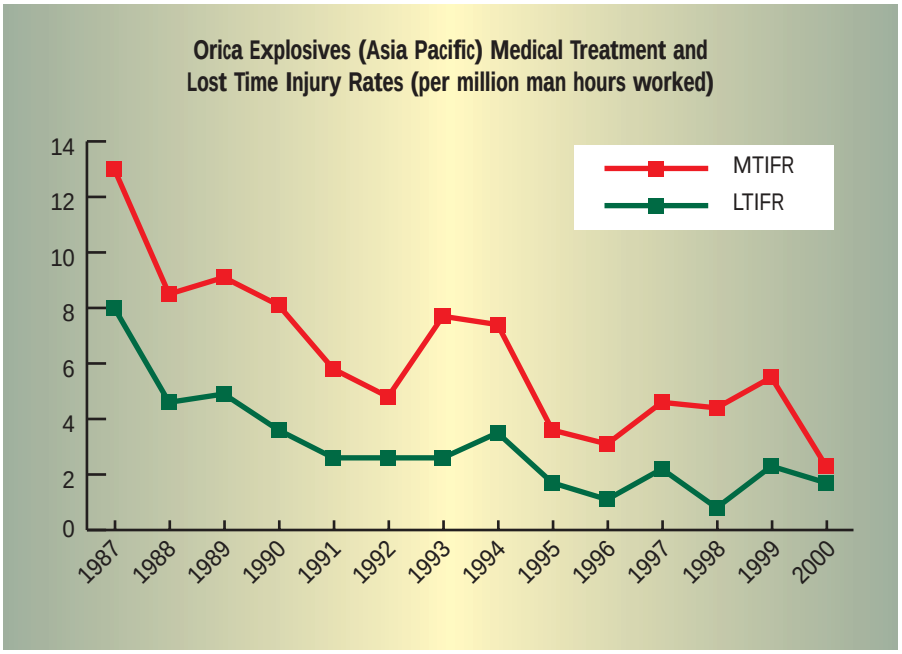

Orica says these graphs are a sobering reminder that the company still has a fair way to go to achieve its vision of "No injuries to anyone ever"

The New South Wales Government is targeting improved safety in all sectors of the mining industry.

SAFETY ALERTS

Number	Title	Issued Date	Cost
SA01-14	Drill rig near miss	15/10/01	free
SA01-15	Fitter seriously injured by split rim	02/10/01	free
SA01-16	Mine cruiser tips over	07/09/01	free
SA01-17	Danger from a misfire	18/10/01	free
SA01-19	Hot water from overheated engine burns mine worker	20/12/01	free
SA02-02	Unplanned movement of longwall chocks	23/01/02	free

Copies of safety alerts can be down loaded from the NSW Department of Mineral Resources website. For hard copy alerts, please contact Steve Stewart at the Department on Phone: (02) 9901 8413.

DEPARTMENTAL CONTACTS

HEAD OFFICE	Minerals and Energy House 29-57 Christie Street St Leonards NSW 2065 (PO Box 536 St Leonards NSW 1590) DX: 3324 ST LEONARDS	Phone (02) 9901 8888 Fax (02) 9901 8777 TTY: (02) 9901 8656 Website: www.minerals.nsw.gov.au
ARMIDALE	Suite 4, 175 Rusden Street Armidale NSW 2350 (PO Box 65 Armidale NSW 2350)	Phone (02) 6770 2100
BROKEN HILL	Level 2, 32 Sulphide Street Broken Hill NSW 2880 (PO Box 459 Broken Hill NSW 2880)	Phone (08) 8080 0625 Fax (08) 8087 8005
COBAR	62-64 Marshall Street Cobar NSW 2835 (PO Box 157 Cobar NSW 2835)	Phone (02) 6836 4392 Fax (02) 6836 4395
GATESHEAD	Lot 1766 Bullsgarden Road Gateshead NSW 2290 (PO Box 2245 Gateshead NSW 2290)	Phone (02) 4942 2300 Fax (02) 4942 2323
LIDCOMBE	State Hospital Grounds Cnr Joseph Street & Weeroona Rd Lidcombe NSW 2141 (PO Box 76 Lidcombe NSW 2141)	
	Specialist Services & Applied Research Section Mine Safety & Technical Services Environmental Geochemistry Services Investigations Unit	Phone (02) 9649 5266 , Fax (02) 9646 3224 Phone (02) 9646 1644, Fax (02) 9646 3224 Phone (02) 9646 1344, Fax (02) 9749 1405 Phone (02) 9649 8959, Fax (02) 9649 5631
LIGHTNING RIDGE	Lot 60 Morilla Street Lightning Ridge NSW 2834 (PO Box 314 Lightning Ridge NSW 2834)	Phone (02) 6829 0678 Fax (02) 6829 0825
LITHGOW	The Hartley Building 184 Mort Street, Lithgow NSW 2790 (PO Box 69 Lithgow NSW 2790)	Phone (02) 6351 3052 Fax (02) 6352 3876
LONDONDERRY	Core Library 947-953 Londonderry Road Londonderry NSW 2753	Phone (02) 4777 4316 Fax (02) 4777 4397
ORANGE	185 Anson Street Orange 2800 (PO Box 53 Orange NSW 2800)	Phone (02) 6392 6333 Fax (02) 6392 6363
SINGLETON	1 Civic Avenue, Joint Coal Board Singleton NSW 2330 (PO Box 51 Singleton NSW 2330)	
	Inspectors: Geology:	Phone (02) 6572 1899 Phone (02) 6572 4200 Fax (02) 6572 1201
WOLLONGONG	Block F, Level 3 84 Crown Street Wollongong NSW 2500 (PO Box 674 Wollongong East NSW 2520)	Phone (02) 4227 1699 Fax (02) 4226 3851

MINERAL RESOURCES NEW SOUTH WALES