MineSafe

Western Australia

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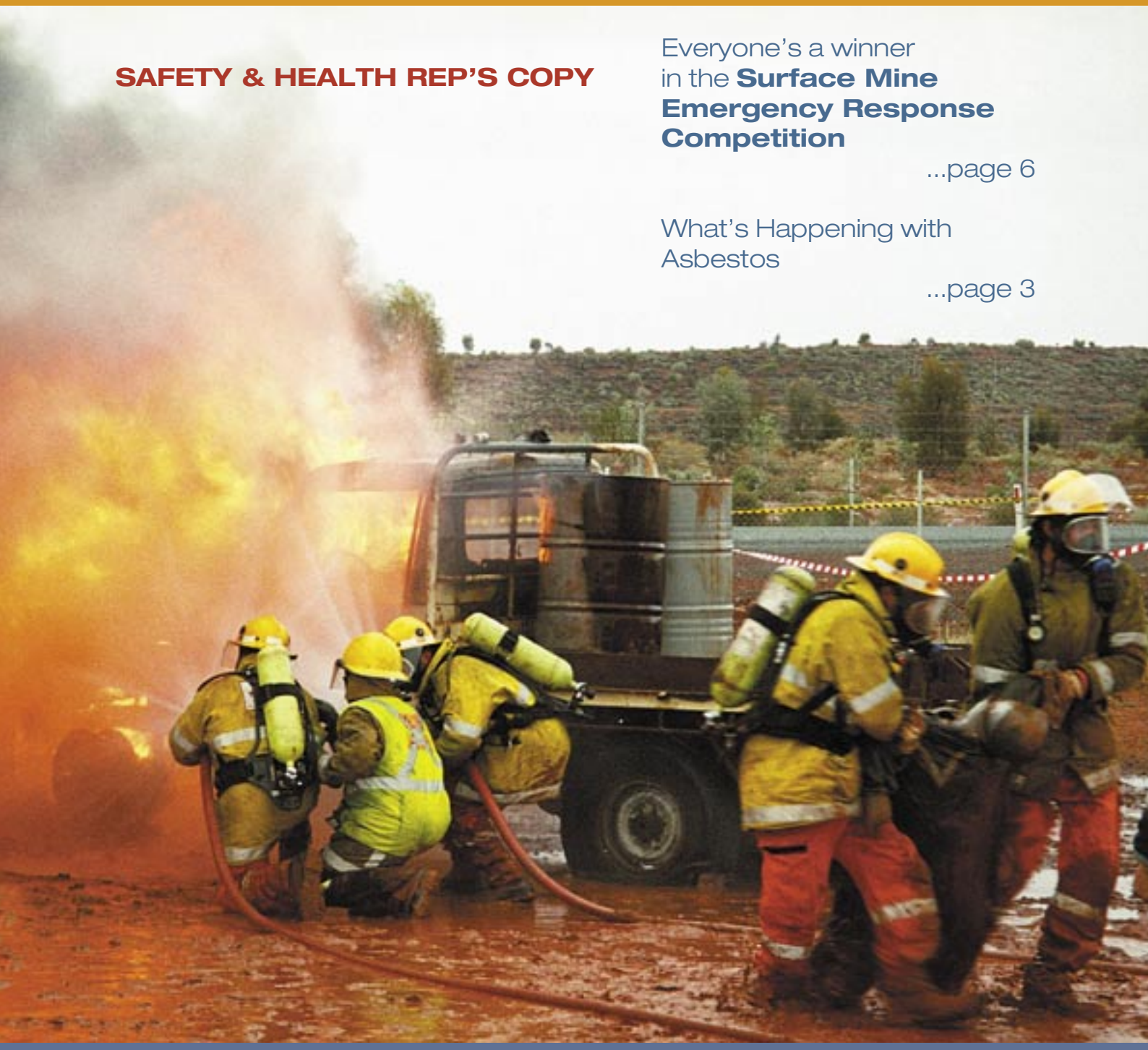

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Editorial

Welcome to the new look MINESAFE, the first issue under the banner of the Department of Industry and Resources (DoIR).

In this issue we discuss a range of topics, from what is happening with Asbestos, the review of the Mines Safety and Inspection Act 1994, to an update on MOSHAB and the latest industry training courses available.

Another topic of interest, is the National Mine Safety Framework, explaining what it is, and what does it mean for the minerals industry in WA and the rest of Australia. The National Mine Safety Framework is intended to codify the role of government across the country and between jurisdictions, and to set clear goals and guidelines for government initiatives to facilitate safe and healthy operations in the minerals industry of Australia. You will find more about this topic on page 5.

MINESAFE will continue, as in the past, to provide articles and information of interest to the industry. If there are topics of interest, that you would like to see highlighted in MINESAFE, we welcome your feedback directed to the Safety Health and Environment Division of DoIR, through the contact details listed on the inside cover of this issue.

I hope you find this issue of MINESAFE, both informative and useful.

Malcolm Russell
Director, Safety Health and Environment Division
Department of Industry and Resources

What's Happening with Asbestos

A Review of the Asbestos Legislation

A wide range of Commonwealth and State legislation concerns the management of asbestos products such as asbestos cement sheeting, thermal and acoustic lagging. New national bans came into force last December and the Commonwealth Government has recently issued draft revisions of codes of practice and guidelines to support the prohibition. Many mining operations also encounter asbestos as a natural contaminant during mining activities. This was an issue that had to be considered during drafting of any legislation. Here is a summary of the current and proposed legislation and its impact on the WA mining industry.

National Ban on Asbestos

From Friday, 31 December 2003, chrysotile asbestos (white asbestos), actinolite, anthophyllite and tremolite cannot be imported into Australia, or used or sold in any product in workplaces (including mine sites). The legislation was incorporated into the Mines Safety and Inspection Regulations 1995 (MSIR).

Regular surveillance of host rock ensures minimum disturbance of suspected fibrous minerals.

In a practical sense there was very little impact on the mining industry, as the use of amosite (brown) and crocidolite (blue) asbestos is already severely restricted by legislation in this State. Under the new legislation no new asbestos products can be used at all, apart from very specific and time limited exemptions, which are not relevant to a normal mining operation.

The legislation was drafted to exclude naturally occurring asbestos encountered during mining operations. This was important because trace amounts of contaminant asbestos could be included in mined ore and since the ban also included the export of asbestos, the legislation could have potentially limited mineral exports.

Removal of Asbestos Products

The MSIR currently specifies that asbestos removal work at a mine (other than that encountered during mining activities) will be carried out in accordance with the National Occupational Health and Safety Commission (NOHSC) Code of Practice for the Safe Removal of Asbestos (NOHSC:CP002-1988). The Code requires a licensed removalist for maintenance or removal of asbestos based thermal and acoustic insulation, such as limpet asbestos and lagging.

The Guide to the Control of Asbestos Hazards in Buildings and Structures [NOHSC:3003 (1988)] has been extensively revised to adraft Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2004)] with a greater emphasis on risk assessment. The draft Code also includes practical case studies. The Code of Practice for the Safe Removal of Asbestos [NOHSC:2002(2004)] has similarly been revised and brought up to date.

Both Codes are consistent with the prohibition on the use of asbestos-containing materials and products, which occurred on 31 December 2003.

This Department supports the intention of both draft Codes of Practice, but along with Worksafe WA has highlighted inconsistencies and other concerns to NOHSC, which will require further review. If adopted in Western Australia, the MSIR will require amendments to the individual regulations which currently reference the previous Code and Guide.

Contaminant asbestos encountered during mining activity is not included in either Code. DoIR will continue to implement the MSIR and associated DoIR guidelines such as Management of Asbestos in Mining Operations (2001) where asbestiform minerals occur as a contaminant.

Reduction of Occupational Exposure Standard

The occupational exposure standard for chrysotile was reduced from 1.0 fibres/ml to 0.1 fibres/ml for an 8 hour Time Weighted Average (TWA) on 31 December 2003. Again this will have minimal practical effect on the mining industry, as a 0.1 fibres/ml TWA is already implemented in the mining industry, since no mines are known to encounter solely chrysotile contaminant asbestos.

When contaminant asbestos is encountered in the course of mining operations, then the MSIR references

A small, isolated occurrence of actinolite asbestos is sealed insitu by the use of epoxy-based paint.

the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust (NOHSC:GN003-1988) for assessment of exposure to airborne asbestos fibres.

In addition to asbestos, rock and ore cleavage fragments which do not contain asbestos fibrils can possibly be assessed as "countable fibres". To help overcome this problem the MSI Regulations specify a countable fibre as having a maximum width of 1 micrometre and a length exceeding 5 micrometres.

The draft updated Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust [NOHSC:3003 (2004)] discusses the issue of airborne fibres in the mining industry and due to the complexity of the problem has not addressed the issue. Consequently, the draft Guidance Note will not impact on the current definition in the MSI Regulations.

Disposal of Asbestos Products on Mine Sites

Where mine sites are located at a considerable distance from any dedicated landfill sites, then an option has been to bury asbestos products on site, provided it has been wrapped and transported in accordance with the national standards.

On-site landfill facilities at mine sites are licensed under Part 5 of the *Environmental Protection Act 1986*. Therefore if a licensed mine site wishes to dispose of asbestos waste on a site approval is required under regulation 45 of the Environmental Protection (Controlled Waste) Regulations 2001 which provides that the CEO may approve of the place and manner of disposal in special cases.

Interpreting and Utilising Workplace Injury Statistics

By Pat Gilroy
Mining and Resources Contractors Safety Training Association
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Workplace injury statistics provided annually by the Department of Industry and Resources (by way of the AXTAT System) represent one of the most reliable sources of mining industry safety and health performance available today. It is a unique resource that has stood the test of time.

Since 1987, when the system was first put in place by the late Dave Collie, ably supported in its formative years by Mark Whitely, the dedicated work of Departmental personnel concerned has been commendable.

Importantly, the prompt availability of the data provides opportunities for intervention in those sectors of the industry where performance needs to be addressed.

An additional benefit is the ability to align sectoral performance with respective workers' compensation premiums over time, a feature that has been utilised by both industry and the regulatory authority to justify increasing expenditure on new occupational health and safety initiatives. Mining enjoys the lowest premium rates of the major industry sectors in Western Australia.

Improved worker injury management, the benefits of early return to work and a positive approach to the provision of alternative duties, coupled with continual pressure to improve safety performance, are impacting on some of the traditional statistical measures.

This effect is evident in the following table of serious and minor injuries for the period 1990/91 to 2000/03 derived from the Axtat system.

The time has come to focus our attention on serious injuries that provide a reliable and consistent measure of safety performance unaffected by the vagaries of lost time injury frequency, and which highlight those injuries that have long term traumatic and often catastrophic effects for injured workers. These injuries also incur the bulk of the workers' compensation paid to injured workers.

A serious injury is defined in the *Mines Safety and Inspection Act 1994* as an injury which;

(a) results in the injured person being disabled from following his or her ordinary occupation for a period of 2 weeks or more; or

(b) involves unconsciousness arising from inhalation of fumes or poisonous gases or asphyxiation due to lack of oxygen or displacement of oxygen by an inert gas; or

(c) results from an accident, including fuming, arising out of the use of explosives or blasting agents.

Today, few mining companies would be prepared to run the corporate risk of failing to report a serious injury. Failure by the mine manager to report such injuries is an offence under the Act.

AXTAT is a dynamic information system developed in collaboration with industry that is able to provide key information about industry causation while, at the same time, identifying priority areas warranting industry's attention.

AXTAT is an invaluable database offering a comprehensive management tool for industry to utilise. It is unmatched anywhere in the world.

The keen observer will note a plateauing effect in recent years in the incidence of serious injuries. This is due in part to a refining of the AXTAT database, an ongoing process by the Department of Industry and Resources that is continually improving the integrity of the system to reflect the changes referred to earlier in worker injury management.

AXTAT is a dynamic information system developed in collaboration with industry that is able to provide key information about injury causation while, at the same time, identifying priority areas warranting industry's attention.

Interpreting and utilising the information available within the system is both informative and fascinating.

In addition to all industry and sectoral information, which individual companies can obtain and measure their respective performance against, key data are available to highlight trouble spots and provide a focus for new initiatives. For example;

- circumstances in which the injury occurred
- workplace location
- body part affected
- nature of the injury
- days lost from work
- days lost from normal duties

Year	Workforce	Serious Injuries	Minor Injuries	Total Injuries	All Injury Incidence	Serious Injury Incidence
90/91	34,371	552	1,409	1,961	57.05	16.05
91/92	33,512	500	1,111	1,611	48.07	14.92
92/93	32,984	419	918	1,337	40.53	12.70
93/94	34,334	343	690	1,033	30.08	9.99
94/95	34,794	374	649	1,023	29.40	10.74
95/96	37,566	347	684	1,031	27.44	9.23
96/97	41,681	359	502	861	20.65	8.61
97/98	44,997	295	459	754	16.75	6.55
98/99	44,218	262	339	601	13.59	5.92
99/00	39,426	241	353	594	15.06	6.11
00/01	40,745	272	220	492	12.07	6.67
01/02	41,616	262	130	392	9.42	6.29
02/03	43,806	277	111	388	8.86	6.32

TABLE 1 – Workforce Injuries 1990/91 – 2002/03

The number of reported serious injuries in recent years exceeds the number of reported minor injuries, a phenomenon worthy of some post-graduate research.

The National Mine Safety Framework – What Is It and What Does It Mean For the Minerals Industry?

The Ministerial Council on Mineral and Petroleum Resources (MCMPR) was established by the Council of Australian Governments in 2001 to take on policy matters associated with minerals and upstream petroleum. The MCMPR consists of the Commonwealth Minister for Industry, Tourism and Resources, and State and Territory Ministers with responsibility for minerals and petroleum. Its mission is to contribute to the national well being by promoting the progressive and sustainable development of the Australian minerals and petroleum industries.

At the inaugural meeting of the MCMPR in 2002, Ministers endorsed the 'Strategic Framework for Mine Safety, Realising a Safe and Healthy Mining Industry — the Contribution of Government'. The Council's Subcommittee of Chief Inspectors of Mines, also known as the Conference of Chief Inspectors of Mines (CCIM), is driving the implementation of this important policy objective, referred to as the National Mine Safety Framework (NMSF).

While the primary responsibility for safety and health rests with the industry's employers and employees, governments have an important contribution to make in support of both parties. Indeed, the MCMPR identified safety as one of the issues that can impact on the competitiveness and sustainability of the minerals industry across Australia. There are significant benefits to be achieved in the adoption of consistent best practice in safety management by all stakeholders in the industry, as many employers operate in more than one State or Territory and employees move freely between companies and jurisdictions.

The overall goal of the NMSF will be to achieve a uniform nationwide approach to mine safety by enhancing industry confidence through a clear and unambiguous approach to mine safety issues across Australia; removing duplication of effort, thereby reducing the costs of compliance and administration at both industry and government levels; and providing an environment within which further innovation and improvement can be fostered collaboratively and cost-effectively.

The purpose of the NMSF is to enable governments to support a safe and healthy minerals industry through outcomes that deliver consistency within the industry and across jurisdictions; encourage action by stakeholders at an enterprise level; focus on continuous improvement, innovation and best practice; and recognise that responsibility for health and safety at mine sites rests with employers and employees, while ensuring that senior management remains accountable for leadership.

To achieve these outcomes, the NMSF sets out seven goals.

1. Establishment of a consistent legislative framework based on a general 'duty of care' approach to safety and health.
2. Achievement of continuous skills development and competency, within a national context, through support and promotion of appropriate training agencies and networks.
3. Development of a cooperative approach to providing advisory information for duty holders to assist them in achieving compliance, where necessary recognising different needs such as those of small- and large-scale enterprises.
4. Development of a nationally consistent approach to enforcement, which provides clear and consistent standards for duty holders and supports equitable outcomes across jurisdictions.
5. Development of nationally consistent and reliable safety and health datasets, in partnership with the National Occupational Health and Safety Commission, which enable comparison across jurisdictions and between industries.
6. Establishment of effective approaches to consultation with stakeholders and between jurisdictions in relation to OSH within the industry.
7. Establishment of appropriate strategies and mechanisms for governments to support effective research into OSH in the industry.

The development of a NMSF Implementation Plan, to be agreed by the MCMPR, is being carried out by the CCIM in consultation with stakeholders within each jurisdiction and at Commonwealth level and it is currently expected that this will be finalised for endorsement by the MCMPR in July 2004.

The National Mine Safety Framework is not being promulgated to impose additional complications or burdens on the industry by stealth. Neither is it intended to introduce a further level of government intervention or of bureaucracy to the mine safety process. Rather, it is intended to codify the role of government, across the country and between jurisdictions, and to set clear goals and guidelines for government efforts to facilitate safe and healthy operations in Australia's minerals industry, to avoid the duplication of effort by all stakeholders and to foster an environment in which innovative, collaborative and cost-effective continuous improvements can be made.

More information about the NMSF and the draft Implementation Plan can be found at the Conference of Chief Inspectors of Mines website at **www.ga.gov.au/ccim**

An examination of the data available for the past three years shows:

- that serious injuries are most frequently being experienced in the following workplace locations:
  - treatment plants/ore processing
  - open pit production/development areas
  - workshops (particularly heavy equipment workshops)
- that almost all crush injuries are to the hands or fingers
- that discharges, spillages, fumes etc are becoming a significant causative factor
- that access/egress to heavy earth moving equipment remains a major causative factor in leg injuries, fractures etc.

AXTAT is an invaluable system offering a comprehensive management tool for industry to utilise. It is unmatched anywhere in the world.

Industry would do well to utilise the system to address the serious injury plateau evident since 1997/98 on both human and economic grounds.

DoIR plays it's part in mi

Mine rescue is a vital service part of the State's mining industry. Even though we hope they are never needed, mine rescuers are called upon in emergencies to save lives. Therefore, the regular training of mine rescue teams in real-life scenarios at mine sites are essential.

The Surface Mine Emergency Response Competition for 2004 organised by the Chamber of Minerals and Energy was held at the Mining Hall of Fame in Kalgoorlie in May. The competition provided an excellent opportunity for teams to compete in real-life scenarios, showcase their skills and also improve and learn new skills.

The Department of Industry and Resources, Safety and Health District Inspector of Mines in Kalgoorlie, Peter O'Loughlin, regularly keeps the Goldfields mining industry on its toes when it comes to safety. The year was no exception, as Peter was Chief Adjudicator for the Surface Mine Emergency Response Competition.

The two-day event tested teams with a variety of trying surface emergency scenarios, including fire fighting, hazardous chemical incident, rope rescue, first aid, breathing apparatus and theory. Fifty judges and 10 'casualties' participated in the event.

Peter said the physically and mentally demanding event was regarded as one of the most fiercely contended in the Southern Hemisphere, with 18 teams competing from across Western Australia.

"Everyone is a winner in these competitions, because every team gains from the intense experience, serving them well for the future. The adjudicators provide feedback (strengths and opportunities), so that teams walk away as better rescuers," Peter said.

Nearly 400 participants attended the Awards dinner with the guest of honour, Hon Michelle Roberts MLA, Minister for Police and Emergency Services, addressing the guests.

The competition was won by Newmont Yandal Jundee Operations, with Placer Dome Asia Pacific Kalgoorlie West in second place and Placer Dome Asia Pacific Kanowna Belle in third. Michael Parrotte of Newmont Yandal - Jundee Operations, was awarded Best Captain, on count back from Ben Ingram of Newmont Golden Grove.

ine rescue competition

Of the eight events held, the competition was fierce, with seven teams taking honours in at least one event. These included: Team Skills – Newmont Golden Grove; Breathing Apparatus Skills and Fire Fighting – Placer (Kalgoorlie West); Vehicle Extrication – Anglogold Sunrise Dam; Rope Rescue - Harmony Gold; Hazardous Chemicals – Placer Kanowna Belle: First Aid – Goldfields St Ives; and Theory - LionOre Lake Johnston.

"Everyone is a winner"

Re-entry after Blasting

The Mines Safety Inspectorate is always concerned about fuming incidents in underground mines. There is a real possibility of serious and permanent harm to the health of those involved and death is always, potentaillly an outcome.

Besides the rare number of occurences of fuming incidents, the apparent lack of scientifically based and repeatable means of determining re-entry times following blasting is a matter of serious concern.

Managers of underground mines must have a system to allow them to determine that it is safe to re-enter areas of their mines following blasting. Regulation 9.22(5) of the Mines Safety and Inspection Regulations 1995 places a duty on each individual to satisfy himself that fumes have dispersed after blasting before entering any working place, but managers need to think carefully about how (in practical terms) they expect their workforce to determine this. Regulation 9.22(4) places a specific duty on the manager to ensure that no-one enters a place where, following blasting, toxic gases have not been effectively dispersed or where the oxygen level may be reduced to the extent that it creates a hazard. Do managers, for instance, have regular monitoring carried out of the time taken to disperse fumes, do they provide testing instruments to employees, do they rely on calculation using (very variable) theoretical or measured fan outputs, or do they merely trust to luck and the experienced noses of their employees to detect the smell of blasting fumes?

Besides the specific requirements of Regulation 9.22, Section 9 of the *Mines Safety and Inspection Act 1994* casts a clear duty on employers to have in place some means of preventing employees from being exposed to the undoubted hazard of blasting fumes in dangerous concentrations. Similarly, s.13 casts a duty on all managers and principal employers to prevent such exposures.

Deconstruction Accidents

On the 14 November 2003, an unusual accident occurred at the site of a former gold mine in the south of Western Australia. Two men were working together dismantling a hoist carrying A-frame structure that was intended for re-erection elsewhere. This necessitated careful separation of the component parts. The structure had been laid on its side (see photograph) to facilitate the separation of the load beam from the triangular supporting sides. One of the men involved was a boilermaker, the other his supervisor.

The boilermaker had cut four of the six bolts joining the A-frame to the load beam and was punching out the bolt stubs. He was being observed by his supervisor, who decided that the best way to safely complete the separation was to jiggle the A-frame loose with a crane. With this in mind he instructed the boiler maker to cut the last two bolts and then moved away momentarily to organise some other work.

As the cutting of the last two bolts was completed the supervisor walked across the area adjacent to the A-frame, intending to arrange for a mobile crane to support the detached portion of the A-frame. The frame fell, striking him, forcing him to the ground, causing severe injuries. With marvellous good fortune his head was pushed to one side by a cross strut as it descended, which prevented the crushing of his skull between the strut and the concrete surface.

The first and, for most of the year, the only fatal accident recorded in the Western Australian mining industry for fiscal year 2003-2004 also occurred on a deconstruction site. A labourer was completing the cutting of part of a conveyor structure, allowing it to fall away. Seemingly unknown to him, an electrical cable was still attached to the detaching structure, and as the separated portion fell, this struck him, causing him to fall eleven metres. He was taken directly to the local hospital where he later died from his injuries.

A certain commonality exists between these accidents. To begin with, both occurred on deconstruction sites. Both involved cutting operations to detach a portion of a structure, and whilst one resulted in a fatality, the other very nearly did. In each case misunderstanding of the situation was a pivotal issue in the cause of the accident in the one instance a difficulty of communication and in the other a defective picture of all the factors in play. The laying of blame is a wasteful and futile activity. One cannot but feel that if the management of these events had been sharper, the outcome would have been different.

The current mining boom has sparked a major burst of activity in the plant deconstruction area

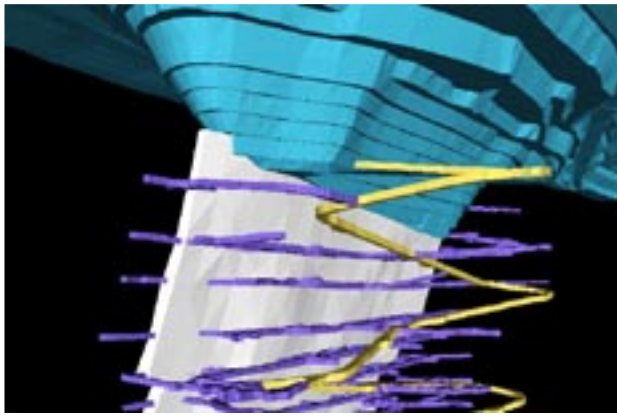
The current mining boom has sparked a major burst of activity in the plant deconstruction area, as a ready market has developed for recycled processing equipment. Deconstruction is not a specialist area in terms of skill. Boilermakers, mobile plant operators, electricians, fitters, and all manner of other trades find employment in this area. The Trade Union movement regards it as a form of demolition and insists it should be carried out as such. Demolition is the destruction of a target structure without regard to future use. Deconstruction is an organised attempt to salvage plant and equipment for future use, minimising where possible any damage to that which is being dismantled.

A deconstruction site is a very busy place. A major source of hazard is the fact that whilst many activities are routine and similar, they can also be sufficiently variable so as to involve hidden dangers. Such seems to have been the case in the two accidents described above. The routine and similarity appear to eliminate the need for risk management techniques such as Job Safety Analyses (JSA), common in other environments. This is by and large understandable. However, if that is accepted, a very great responsibility is placed on the local management, namely the site supervisors, to ensure that individual functions and interactivity between jobs is effectively controlled.

Considerable skill is required at all levels of the operation to ensure that the operation progresses without incident. Close, informed supervision of the work is critical, as is a sharp awareness on the part of the workers involved of events happening around them whilst maintaining an intense focus on the safety issues associated with their own jobs.

A Question of Mine Plans...

Modern 3D image of a mine plan



At about 5.30am on 14 November, 1996, employees of the Newcastle Wallsend Coal Company Pty. Ltd. of New South Wales were engaged in work on the night shift at the company's mine, the Gretley Colliery. Four men from a team of eight were in the process of developing a roadway (known as C heading) in an area of the mine called 50/51 panel, operating a continuous mining machine. The remaining four members of the team were in a cribroom a little distance away.

Without warning, the roadway face gave away and a huge quantity of water rushed in, engulfing the men and the machine, carrying them back down the tunnel. The roadheader, weighing approximately 40 tons, was pushed back almost 18 metres before it became jammed against the sides. The four men drowned and were swept away. Their colleagues in the cribroom somehow survived even though it too flooded.

There was little mystery regarding the source of the water. The Young Wallsend Colliery, a mine that had been worked in the late 1800s, was known to be nearby and was also known to be full of water. What was puzzling, however, was how the water could have entered the C heading when, according to the best information available, the nearest portion of the old mine was more than 100 metres away. Subsequent investigation revealed that, tragically, the workings of the Young Wallsend Colliery were merely seven to eight metres away when that fateful night-shift started at 11.00pm 13 November 1996. Clearly, 'the best information available' was not very reliable and it was important to establish how this happened.

The plan of the old colliery upon which the Gretley management relied was a copy made and dated on '21 March, 1892'. This plan outlines in two colours, red and black, areas of coal that were apparently extracted during the life of the Young Wallsend Colliery. From this copy two further plans were traced, titled 'Young Wallsend Coal Workings Top Seam' and 'Young Wallsend Coal Workings Bottom Seam' respectively. These plans separate the two different colours on the 1892 sheet, indicating the area in black as the top seam and the bottom seam corresponding to the red area. The more recent plans were based on the assumption that the two colours represented two seams. The Young Wallsend Colliery did in fact gain access to two seams, the upper known as the 'Young Wallsend Seam', depth 460ft, and the lower as the 'Borehole Seam' at 521ft. The assumption regarding the colours was wrong. A drilling program undertaken since the tragedy indicates that all workings were in one seam, the upper one. The true situation was revealed when a file, stored in the State Archives, was produced by the former Department of Minerals and Energy to the Inquiry that made clear that the two colours represented a re-survey of one seam. The 'red workings extended more than 100 metres beyond the black in both an easterly and westerly direction. The coal worked by Gretley was in the Young Wallsend Seam and their planning was based on the 'top' sheet information. The reality was that the Gretley workings were always more than 100 metres closer to the eastern edge of the abandoned colliery than was thought. On 14 November 1996 the Gretley workings holed into the abandoned Young Wallsend Colliery, thereby causing the inrush in which four miners died.

The arguments surrounding the questions as to who got what wrong and why are understandably extensive and complex. It is enough to say that all necessary information had been recorded and was available to anyone who had sufficient motivation to view and analyse it. Had that been done by any of a number of people and groups the accident might never have happened.

The Gretley incident eerily recalls, for those of us old enough to remember, a similar event which occurred in the County of Yorkshire, England in 1971. In the early hours of 21 March 1971, a mechanised coalface at Lofthouse Colliery was inundated by liquid mud, claiming the lives of seven miners. As at Gretley, work was progressing in the fond belief that older mine workings lay at a safe distance and posed no threat. In this case the pit's 9B face was passing beneath an old shaft, associated with mining of the Flocton Thin seam which had ceased when Smithson's Colliery closed in 1850, the bottom of which was believed to lie many tens of metres above. This was not, in fact, the case and seven men died in horrific circumstances as a result. Until then the National Coal Board had prided themselves, (with some justification) on the completeness and accuracy of the information provided to their operations from central archives. The source of the tragedy at Lofthouse confounded all involved as the information available seemed to be comprehensive and provided no indication of the impending hazard. Unfortunately, a significant amount of further development had taken place at Smithson's Colliery subsequent to that shown in the available plans. Plans recording this additional excavation did exist and were available for inspection. Regrettably the connection between the known Smithson's plans and those that showed the extent of the extra work had not been identified. Again, as at Gretley, information was available that, for various bad reasons, was not applied constructively and people died.

On 27 December 1975, 372 miners were killed at Chasnala coalmine in the Bihar province of India when a development drive intersected older, flooded workings. As at Lofthouse and Gretley, difficulties with mine plans were central to the cause of the accident.

As recently as 27 July 2002, nine coal miners were trapped underground at Que Creek Mine in Pennsylvania, USA, after the excavation they were working in 'holed' into an adjoining mine that had closed in the 1950s and had been allowed to flood. They were rescued by being lifted out through a specially drilled borehole from surface. Pennsylvania law requires that at least 60 feet of rock separate active excavations from abandoned workings at all times. A mine official commented that "The mine maps we were relying on to make that judgement apparently were wrong".

The State Records Act 2000 of Western Australia requires that records of this nature be kept in perpetuity and are available to anyone who needs them when and if required. The Safety Health and Environment Division of the Department of Industry and Resources (DoIR) collects these records as part of their function under the requirements of the *Mines Safety and Inspection Act 1994* (MSIA), and access by any interested party is readily accommodated. The accidents described above clearly indicate a need for this service and for its use.

What's New in MOSHAB

In the last six months, MOSHAB has made significant progress in a number of key areas and is continuing to keep up the momentum for occupational safety and health issues and initiatives across the minerals industry, even in the face of restructuring through proposed changes to the *Occupational Safety and Health 1984* and the *Mines Safety and Inspection Act 1994.*

Priority Work Program

Much of the work of MOSHAB covers the development of strategic initiatives, production of Codes of Practice and the monitoring of projects that will improve the incidence of fatalities and serious injuries in the Western Australian minerals industry. The current priority work program includes:

Safety and Health Representatives (SHRs) within the Minerals Industry

Over the past 12 months a MOSHAB working group has examined, and identified in a report, a range of issues affecting SHRs, and made recommendations and associated implementation strategies that will help develop a positive safety and health culture throughout the minerals industry.

At present, MOSHAB is contracting for a survey to be undertaken of SHRs within the minerals industry to:

- clarify their current and future training needs and identify effective strategies to meet these needs;
- clarify the information requirements of SHRs and determine the best means to satisfy them; and
- identify strategies to improve communications between SHRs across the minerals industry.

Codes of Practice and Guidelines for use by the Minerals Industry reflecting MOSHAB agreed priorities

MOSHAB has recently developed a protocol for its Codes of Practice and guidelines, so as to ensure that there is consistency in the content, preparation and presentation of these publications.

Codes of Practice presently under development include;

- Underground Fires
- Prevention of Falls
- Competency and Certification of Winder Drivers

A new guideline covering Tyre Safety, Fires and Explosions has been drafted, and is expected to be published in the near future.

Electrical Safety

Promoting compliance by the minerals industry with existing standards and codes on electrical safety is another key strategy for MOSHAB. This is being successfully achieved through electrical safety seminars for Electrical Supervisors. In addition, the Department of Industry and Resources, Safety Health and Environment Division (SHED) electrical inspectorate has formed a contact network with the Electrical Supervisors Group to facilitate the rapid exchange of safety information.

As a means of further reducing the loss of life through electrocution on mine sites a discussion paper prepared by SHED is currently reviewing the possibility of enhancing earth leakage protection requirements under the Mines Safety and Inspections Regulations 1995.

Mines Safety and Inspection Amendment Bill 2004

A tripartite consultative group within MOSHAB is overseeing the drafting of the Amendment Bill, and will be reviewing any administrative and implementation issues, and making recommendations to the Minister on the adoption of the Bill.

Membership

Frank Saville, Employee's Inspector of Mines at Karratha, resigned recently as a member of MOSHAB after having served for over 11 years. Frank was one of the longest serving members of the Board, and participated in discussions and decisions affecting many aspects of Occupational Safety and Health in the minerals industry of WA.

The Reform on Dangerous Goods Safety Act 2004

The *Dangerous Goods Safety Act 2004* and associated regulations will amalgamate and reform dangerous goods legislation in Western Australia.

The outdated prescriptive style of regulation will be replaced by performance-based regulations based on national standards and codes of practice. This will ensure that risk to people, property and the environment is minimised while industry is provided with the operational flexibility it needs.

The *Dangerous Goods Safety Act 2004* has passed through Parliament and received the Governor's assent on 10 June. It now lies dormant until the regulations are finalised and the complete legislative package is proclaimed.

With the passage of the Act, the Transport, Storage and Handling, Major Hazard Facilities and Explosives, can now be drafted. There has already been considerable consultation so the draft regulations are not expected to present too much controversy and they should proceed smoothly though the final consultation stage.

To preserve national consistency the new Transport regulations will not differ greatly from the current regulations. Transport of explosives and other dangerous goods by road, rail and within

Update

Review of the Mines Safety and Inspection Act 1994

Background

In accordance with section 110 of the *Mines Safety and Inspection Act 1994* (MSIA), a review was carried out five years after its introduction. This review, by former Industrial Commissioner Robert Laing, was carried out concurrently with a review of the *Occupational Safety and Health Act 1984* (OSH Act). Laing made 107 recommendations in respect to the OSH Act and 61 relating to the MSI Act. Thirty of Laing's recommendations to amend the MSI Act mimic those made for the OSH Act.

The Laing report into the MSI Act was handed down in January 2003. The Government approved 51 of the 61 recommendations.

On 23 June 2003, Cabinet approved the proposals relating to the OSH Act and the subsequent drafting of legislative amendments.

On 18 August 2003, Cabinet approved the proposed position for the MSI Act and the subsequent drafting of amendments. Some 30 of the recommendations so approved were common to the OSH Act.

The Department of Industry and Resources (DoIR) worked closely with the Department of Consumer and Employment Protection (DoCEP) to produce the drafting instructions for the OSH Act amendments, which were completed at the end of September.

The drafting instructions for the MSI Act amendments followed closely and were completed in early October and sent to Parliamentary Counsel on 14 November 2003. Parliamentary Counsel worked to first complete a Bill to amend the OSH Act.

Current Status

A consultant draftsman is currently drafting the Mines Safety and Inspection Amendment Bill 2004.

Likely Future Development

Two of the supported recommendations call for further detailed review of Parts 3 and 4 of the MSI Act. Part 3 deals with administration, inspectors and inspections, and Part 4 deals with management of mines, duties of employers and managers, and Certificates of Competency. This review will require considerable time and resources. Terms of Reference are currently being redeveloped in advance to tendering for work to be undertaken.

Website of Interest

www.mirmgate.com

The Mineral Industry Risk Management gateway (MIRM) will connect you with selected good practice information to help reduce risks in mining, mineral processing and quarrying operations. This site is intended to specifically assist with the risk assessment process, but has also been designed to be searched by hazard, task or subject. This site will be continuously modified as new and better resources are identified and is managed by the Minerals Industry Safety and Health Centre (MISHC) at the University of Queensland.

ports will be amalgamated into one set of regulations. However, additional security measures will be required in view of recent terrorist activity. Most dangerous goods transport is based on Edition 6 of the Australian Dangerous Goods Code, which is due for major update by the end of the year. It is important that the new edition is adopted seamlessly into the regulations when it arrives.

The Explosives regulations, which include fireworks, will be a complete reform of the existing regulations, based loosely on the performance-based Queensland Explosives Regulations, but with additional detail where deemed necessary. The major changes in the new regulations will be in the area of security and storage safety. All aspects of explosives licensing will be tightened, again in line with security concerns. The proliferation of illegal fireworks from interstate will also be addressed.

The regulations relating to the storage and handling of dangerous goods will be based on the principles contained in the National Occupational Health and Safety Commission (NOHSC) Standard for Workplace Dangerous Goods. A series of minimum safety outcomes will be prescribed. Operators are not constrained in how these outcomes are achieved, but Codes of Practice and Australian Standards will provide guidance and a means of satisfying the outcomes.

Dangerous goods sites deemed to be of particularly high risk because of the presence of certain goods, may be classified as major hazard facilities and subject to additional regulations, with special requirements for safety management and community consultation. The Major Hazard Facility regulations will also be based on the principles of the NOHSC National Standard but there will be greater discretion allowed for the classification of premises, based on risk assessment.

Drafting instructions are well advanced on all regulations with a view to proclamation late in 2004.

Training Courses Available

IFAP Courses

Certificate III Surface Ventilation Technician (3 days)

The role of the Surface Ventilation Technician is to assist the surface ventilation officer in the collection of contaminant samples, equipment calibration and maintenance, and recording and reporting of analysis results.

This competency-based, Certificate III level course has been structured to provide the required skills and knowledge for those who are, or wish to be an Assistant to the statutory appointed Surface Mine Ventilation Officer.

Dates: 9-11 August, 27-29 September, 22-24 November

Certificate IV Surface Ventilation Officer (2 days)

A requirement of the WA Mines Safety and Inspection Act is the appointment of persons with the competence to ensure that workplaces are adequately ventilated to minimise risks arising from exposure to hazardous substances and airborne contaminants.

This course builds upon the competencies acquired in the 3-day Certificate III course so that they can be applied to workplace situations confronting the Surface Ventilation Officer. Successful completion of this course will pre-qualify the person for appointment as a Surface Ventilation Officer.

Dates: 12-13 August, 30 September - 1 October, 25-26 November

Both courses are accepted by MOSHAB, and cover the training and competency required by the WA *Mines Safety and Inspection Regulation 9.4(2)*

For further information, call Christine Williams at IFAP on (08) 9310 0218 or visit **www.ifap.asn.au**

NVMS - Noise and Vibration Measurement Systems Course

Occupational Noise Officer Course

VVMS offers a training course specific to Occupational Noise and will provide participants with a comprehensive knowledge of:

- Basic Acoustics • Analysis of Sound Waves
- Sound Measurement Instrumentation
- The need for Noise Control • Evaluation of Noise
- Noise control methods • Practical Noise Surveys
- Hearing Protection • Noise Reduction
- Statutory Requirements and Guidance Information.

This is a full five-day course held on 22-24 September and 29 November to 3 December 2004. A refresher course is also available.

For further information call 1300 552 444 or apply online at **www.nvms.net**

Australian Centre for Geomechanics (ACG)

The ACG presents the following seminar and courses in 2004.

0405: Mine Closure Seminar
A 2-day seminar.
5-6 August

0406: Rock Reinforcement and Support Short Course
A 1-day short course (immediately prior to Ground Support 2004).
27 September

0407: Ground Support 2004 - Fifth International Symposium on Ground Support in Mining and Underground Construction
28-30 September (in conjunction with the WA School of Mines).

0408: Open Pit Slope Stability and Modelling
A two-day course to be held on 3-4 November
This course explores data collection, interpretation and analysis, and methods used in the development of a geotechnical model. The latest approach to utilising structural geology in the formation of the model will be presented. Using the model, pit slope designs will be developed, recognising the various failure mechanisms that could be operating, and techniques for analysing these mechanisms. The course will demonstrate how the level of design is affected by the quality of the data. Design evaluations will be examined using slope monitoring.

0408A: Sirovision Short Course
A 1-day training course.
5 November

0409: Paste Technology Workshop
A 2-day workshop.
2-3 December

Regional and on-site based training courses on demand throughout 2004.

*** Ground Control at the Mine Face Training Course**

*** Practical Rock Engineering Skills Development**
PRE 01 Ground Control Systems, PRE 02 Rock Mass Characterisation, PRE 03 Geomechanical Stope Design.

For further information on all courses offered by the Australian Centre for Geomechanics at UWA contact Josephine Ruddle on Tel: (08) 6488 3300, email: acg@acg.uwa.edu.au or visit the website at **www.acg.uwa.edu.au**

Visit www.doir.wa.gov.au for other information