

DIGGING DEEPER

Wran Consultancy Project Vol 2

Independent Consultant Report by **Shaw Idea**
Commissioned by NSW Mine Safety Advisory Council



Digging Deeper

Wran Consultancy Project

Final Report

Volume 2

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Volume 2

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1. Introduction

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This second volume of the Digging Deeper report contains the attachments to the report. This volume contains documents that are referred to in the first volume.

Some of the attachments flesh out the research method we used, such as the questionnaires and interview schedules. We also provide and the statistical analysis of the census data and the quantitative site visit data. The reports of the *Future Inquiry* workshops give the reader some insight into what it was like to be there, and importantly, show that there are large areas of common ground between the various industrial players in the NSW mining industry. Finally we provide some information that will be valuable into the future. These include our own advice to the industry in the form of *The Platinum Rules* and guidance materials for each of the research topics.

2. Issues paper

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Digging Deeper

Improving mine health and safety in NSW

Issues Paper

By Shaw Idea Pty Ltd

Who is it for?

Managers, employees and contractors working in the coal, metalliferous and extractive sectors of the NSW mining industry

If you work in mining in NSW in a small, large or owner-operated company, then this project is relevant to you.

The project is managed by the NSW Mine Safety Advisory Council and supported by Government, employers' organisations and unions.

What is it about?

- Production bonus and safety incentive schemes
- Hours of work and fatigue management
- Safety management systems and consultation

Past mining industry safety reviews suggest that these issues may impact on safety in mines and quarries.

This project aims to find out what is actually happening and will come up with ways to improve industry safety and health.

Will anything change?

YES! The project will produce practical outcomes and both Government and industry are committed to improving performance in these areas.

Everyone in the industry has legal obligations about these issues. This project will help you understand them and find new ways to address them.

How can I contribute?

Read this issues paper and think about the questions it raises.

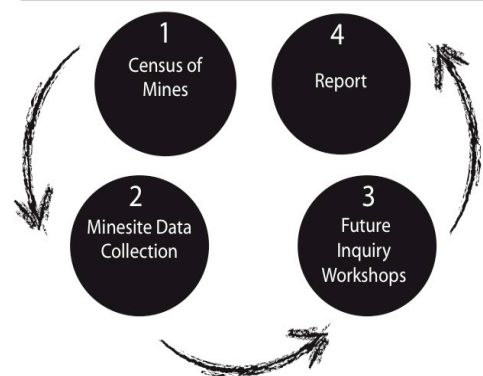
Keep up to date with the project on our website — post your views and ideas. Respond to the questions raised in this issues paper.

The project will directly involve a statistically valid sample of mines and individuals.

You may be asked to be part of this.

The names of companies and individuals interviewed will be kept confidential to the independent consultants doing the project.

Keep up to date and post your views on the project website



Further Information

For further information, or to make sure you receive ongoing information about the project, contact:

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15 Fletchers Lane

Mt Egerton, Victoria, 3352

The project website has updates and access to discussion forums about the project:

<http://www.dpi.nsw.gov.au/minerals/safety/consultation/wran-consultancy-project>

The fine print

Purpose:

Neville Wran AC, QC made a number recommendations for independent assessments in his 2005 Mine Safety Review. The NSW Department of Primary Industries, at the request of and on behalf of the MSW Mine Safety Advisory Council, has engaged independent consultants, Shaw Idea, to conduct these independent assessments. The Wran Consultancy Project is being directed by the NSW Mine Safety Advisory Council. This issues paper forms part of the information gathering strategy of the Wran Consultancy Project and comment is being sought from industry, unions and individuals on matters relevant to the issues raised in it.

For further information on the Wran Mine Safety Review, please visit:

www.dpi.nsw.gov.au/minerals/safety/mine-safety-initiatives/wran-mine-safety-review

Authors: Shaw Idea Pty Ltd

Commissioned by: NSW Department of Primary Industries

Approved by: Wran Consultancy Project Steering Group on behalf of the NSW Mine Safety Advisory Council

NSW Mine Safety Advisory Council

The NSW Mine Safety Advisory Council is a tripartite body set up under the Mining Act 1992 to provide advice to the NSW Minister for Mineral Resources on occupational health and safety issues in the NSW mining industry. MSAC includes representatives from industry, unions, the Department of Primary Industries, an independent Chairman and two independent experts in occupational health and safety. The Project Steering Group that will oversee this project comprises representatives nominated by the Mine Safety Advisory Council from NSW DPI, employers, unions and an independent member of the Council. The Council Chairman convenes the steering group.

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What is the project about?

Shaw Idea Pty Ltd has been engaged by DPI to conduct a project to strengthen OHS in the NSW mining industry.

Under the umbrella of the NSW Mine Safety Advisory Council (MSAC), the NSW Government, the mining industry and mining unions are all committed to achieving the goal of zero fatalities and serious injuries throughout the NSW mining industry by improving occupational health and safety (OHS). To do this, we need accurate, credible and representative data about the whole industry. Gathering these data will require active participation from all sectors of the mining industry and all levels of staff.

The 2005 Wran Mine Safety Review identified key issues that need further investigation. Three of these are being investigated now by a consortium of internationally recognised independent consultants and researchers led by Shaw Idea Pty Ltd. The consortium members are:

- Andrea Shaw (Shaw Idea Pty Ltd) as project leader,
- Dr Verna Blewett (New Horizon Consulting Pty Ltd),
- Laurie Stiller (Beyond Words),
- Christine Aickin (Workability Pty Ltd),
- Prof Neil Gunningham (Gunningham & Associates),
- Prof Drew Dawson (Centre for Sleep Research, University of SA),
- Dr Sally Ferguson (Centre for Sleep Research, University of SA), and
- Dr Stephen Cox (Stephen Cox Consulting).

We will investigate how the following issues impact on OHS performance:

1. Production bonus and safety incentive schemes
2. Hours of work and fatigue management
3. OHS management systems disconnect and consultation.

The project will give an accurate and reliable picture of what's actually happening in the NSW Mining Industry. During the project we will work with all sections of the industry to develop practical and effective strategies to strengthen OHS management in the areas covered by the topics.

To conduct the project we will:

- investigate the literature to inform the project.
- conduct a census of mines and interview key stakeholders to form a broad picture of the industry. From the census we will select mine sites to visit for collecting more detailed data.
- conduct three Future Inquiry Workshops following analysis of the data and then write the final report for the MSAC. The report will include:
 - “How to” guides for industry in relation to the three topics, building on the empirical data collected in the project; and
 - Key principles and specific recommendations, to inform regulation and enforcement policy.

The MSAC will consider the report and make recommendations to the Minister for Mineral Resources. This Issues Paper outlines the key project questions that we will ask the industry.

Your contribution

You have an opportunity to contribute to this project.

Broad and committed industry involvement throughout the project is vital to achieve the best outcomes. You are invited to participate.

By contributing, you will:

- help improve OHS and therefore productivity across the industry.
- make sure that your specific needs are considered in the development of industry, guidance and improvement strategies.

You might also develop some useful improvement strategies for your own workplace!

People will be invited to participate at three different stages:

- *Census of mines* – We will contact mine sites in NSW by telephone or, if preferred, in writing, to conduct the census. The census will include all sectors of the mining industry including coal, major metalliferous industry sectors and a representative sample of the extractive industry. In the census we will ask general questions about the worksite and cover the three topics of the project.
- *Mine site data collection* – From the information we collect in the mines' census, we will identify a representative sample of mine sites to visit for in-depth data collection on-site. This will involve a survey, individual interviews, focus group interviews and reviewing relevant documentation.
- *Industry Future Inquiry Workshops* – We will conduct three one-day Future Inquiry Workshops for industry and industry stakeholders to discuss the findings of the data analysis and to identify future directions for the industry in NSW. Stakeholders from all sectors of the NSW mining industry will be asked to participate in these workshops to be held May - June 2007.

If you are selected to be included in one of the stages of the research, then you can expect us to ask you some questions like the ones included in this Issues Paper. While we don't expect you to answer all these questions, we suggest that you think about them.

You can also have your say about this research AT ANY TIME by posting your thoughts on our website < <http://www.dpi.nsw.gov.au/minerals/safety/consultation/wran-consultancy-project> > or by writing to us at the addresses above.

Please take this opportunity to help shape OHS in your industry.

Confidentiality

You can be certain that your contributions to this project will be kept confidential - we are absolutely committed to keeping the identity of individuals and enterprises who provide information to us absolutely private. The information we put in public documents, such as reports, will make it impossible for anyone to work out who gave the information - unless that person or enterprise has given their consent. In particular, we will keep the identity of the workplaces we visit confidential and these will also not be able to be deduced from reading any of the reports.

Topic 1 – production bonus and safety incentive schemes

Objectives

This research aims to:

- Identify the range of existing production bonus and safety incentive schemes in existence across the NSW mining industry.
- Assess the impacts that these schemes have on OHS performance and management, particularly the accuracy and reliability of OHS data.
- Identify approaches to rewarding and recognising efforts that support effective OHS management.

Research questions

Key research questions for this topic are:

- 1.1 What types of schemes are in operation and in what types of mines?
- 1.2 What are their formal and informal objectives? What are their defined “success” criteria?
- 1.3 What organisational levels are involved in the schemes and how? (from executive management to mineworkers and contractors)
- 1.4 How have the schemes been developed and implemented?
- 1.5 What impact have the different schemes had on:
 - Information flows?
 - Internal communication?
 - Reporting of incidents and injuries?
 - Decision-making about OHS?
 - Management and worker behaviour?
 - Safety performance?
- 1.6 What types of schemes are more likely to have a positive impact on OHS and what are their critical features?

Research Background

The 1997 review of mine safety in NSW strongly criticised incentive schemes in use in the NSW mining industry at that time, finding a number of potentially serious adverse outcomes from incentive schemes based on accident outcomes and production results. The review recommended that the industry make a more detailed study of this area.

While some preliminary work has been undertaken, the Wran Mine Safety Review reported that a detailed study has not been undertaken. As a result, there is little in-depth data about

how bonus payments and safety incentive schemes currently operate in the industry or about any changes which may have been made to incentive schemes as a result of the 1997 review or for other reasons.

There has been vigorous criticism of OHS incentive schemes based on outcome data and there is a rich research literature detailing the potential negative consequences of such an approach. Equally, there is good evidence that recognising and rewarding effective OHS management initiatives can have positive consequences. This topic will provide clear evidence and guidance on how to address OHS incentives so that the benefits and not the costs are realised.

This topic is linked to the other two research topics. Production bonus and safety incentive schemes may impact on hours of work and the effectiveness of OHS management systems (OHSMS) to have even greater effect on OHS outcomes than the schemes alone. For example, production bonus schemes may indirectly encourage excessive hours of work to achieve targeted production levels. Safety incentive schemes may undermine the effectiveness of incident reporting procedures. Equally, a well-designed system for recognising and rewarding OHS management initiatives (eg using valid key performance indicators (KPIs)) may support more effective OHSMS.

Outcomes

- Clear recommendations on how to structure and apply production bonus schemes and safety incentive schemes to support effective OHS management.

Topic 2 – hours of work and fatigue management

Objectives

This research aims to:

- Create a statistically significant profile of working hours across the industry (including contractors), capturing the variability of hours across occupational levels and employment arrangements and comparing this profile with relevant standards.
- Review the range of methods used to record and monitor hours of work for employees and contractors and determine their effectiveness in supporting control of related risks.
- Identify options for recording and monitoring systems, including use of a ‘smart card’ or alternative Information and Communications Technology- based system.
- Review the effectiveness of existing approaches to managing fatigue risks.
- Recommend approaches, based on the data, that would more effectively manage fatigue in the industry.

To do this, we need individual data about hours of work and non-work risk factors, not just averages, directly from employees (including contractors), as well as from employers. For this to be successful, it is absolutely critical that those surveyed are confident that providing this information will not cause them any personal damage -so the confidentiality of this information will be essential.

The research also seeks to build a platform for bringing the industry parties together to develop an industry-wide framework for addressing the issue.

Research questions

Key research questions for this topic are:

- 2.1 What are the actual hours of work in the industry and how do these vary by individual, occupation, level, employment status, type of mine, etc?
- 2.2 How are hours of work recorded and monitored across the industry and how do these methods vary?
- 2.3 What is the impact of these hours on fatigue?
- 2.4 How are issues associated with long commute times managed?
- 2.5 How does the industry currently manage fatigue and how do these methods vary?
- 2.6 What has worked (and why) and what has not worked so well (and why)?
- 2.7 What are the formal policies of organisations and how are these policies reflected in practice?
- 2.8 How are individual risk factors considered and addressed?
- 2.9 How is the effectiveness of these methods measured and how effectively do these methods control the risks associated with fatigue?

- 2.10 To what extent are sites identifying the impact of fatigue on incidents and how are they responding to such incidents?
- 2.11 What could the industry, companies, employees and contractors do to improve current hours of work and fatigue management approaches?
- 2.12 What role should DPI play in dealing with hours of work and fatigue?

Research background

All mining industry parties agree that hours of work and fatigue management remain priority OHS issues for the industry. There have been numerous projects across the mining industry nationally and in NSW to address the issue, but a coordinated and agreed response has not yet been developed. Recent empirical work has indicated that long hours of work may be common in the industry but data on the range, variability, determinants and impacts of hours of work in the NSW mining industry have not been obtained. Difficulties monitoring hours of work in a multi-employer work system have also hampered efforts to develop a sound database for decision making. For example, contractors may move from site to site as jobs finish with consequences for cumulative hours.

It has also been difficult to develop an agreed framework for intervention that would underpin a comprehensive strategy. While there are widely divergent views on how to deal with the issue, everyone is committed to an outcome that results in effective control of the risks associated with hours of work and fatigue.

There are inter-related organisational and personal factors that must be considered in achieving fatigue risk control, namely:

- The time of day that work takes place (shift design)
- The length of time spent at work and in work related duties (shift length)
- The type and duration of a work task and the environment in which it is performed (work design)
- The quantity and quality of rest obtained prior to and after a work period
- Activities outside of work, such as second jobs and family commitments
- Individual factors such as sleeping disorders.

The research will review the effectiveness with which these factors are addressed in the context of broader data collection about OHS management systems.

Outcomes

- An accurate picture of the true hours worked by employees and contractors and of the existing work-life balance.
- A clear path forward for the industry on how best to record and manage work hours.
- Comprehensive, better practice methods on how to manage fatigue within the mining industry in NSW.

These outcomes could lead to a recommendation proposing a standard (which could be in the form of a code of practice or guideline) on work hours and fatigue management to the Minister by the MSAC.

Topic 3 – OHS management systems (OHSMS) and consultation

Objectives

Through field-based qualitative and quantitative research, this research aims to:

- Identify the various instruments, strategies and practices (including formal consultation processes) which corporations use to ensure that individual sites and their managers, supervisors and workers work towards common goals and priorities determined at corporate level.
- Assess the strengths, weaknesses and relative effectiveness of the various internal management mechanisms described above in overcoming any potential “disconnect” between corporate aspirations and site performance and in achieving effective consultation.
- Identify the range of consultative arrangements across the industry and how these can be most effective.
- Identify the importance of various corporate characteristics (centralised/devolved, corporate culture, information flow, etc.) which influence OHS outcomes and avoid the potential for “disconnect” at site level.

Research questions

Key research questions for this topic are:

- 3.1 What is the relationship between various “hard” instruments/policy tools (systems, monitoring, audits, etc) and soft variables (culture, leadership, trust, etc.) at corporate and individual sites and to what extent does this explain any disconnect between systems and outcomes?
- 3.2 To what extent and in what circumstances are formal systems/audits/monitoring, etc. a necessary component of effective OHS management?
- 3.3 To what extent must they be supported by informal processes (enhancing cohesion, initiative, morale, safety climate, etc.) before they can be fully effective?
- 3.4 What marks out effective strategies for implementing formal systems and procedures, eg for consultation, that support alignment at a site level?
- 3.5 How does OHS become institutionalised, how does it get into the “bloodstream” of the organization at site level? What are the significant drivers and barriers for this?
- 3.6 What are the most effective approaches to consultation in the industry and how might they be promoted throughout NSW?
- 3.8 What actions at the corporate or site level have worked (and why) and what has not worked so well (and why)?
- 3.7 How might the effectiveness of OHS management and consultation be monitored and assessed?

3.8 What role should DPI play in supporting effective OHSMS and consultation?

Research background

The Wran Safety Review identified that there may be a disconnect between some company management systems/plans and the translation of such systems/plans to a working level. Such a disconnect is by no means confined to New South Wales nor to the mining industry. For example, a disconnect has been observed in many investigations of organisational disasters.

There are a number of reasons evident in the literature that explain why this disconnect might exist. For example there is research that:

- suggests that environmental management systems have limited capacity to achieve improved environmental outcomes and a parallel body of literature examines the limitations of OHSMS.
- questions the value of internal and external audits, identifying the limits of audit methodology to assess the effectiveness of management systems.

Indeed, the research literature suggests that formal systems alone cannot achieve substantial improvements in corporate OHS performance.

Another body of literature examining the roles of leadership, trust or culture on company OHS outcomes emphasises the critical effect on OHS performance exerted by these less tangible aspects of management.

This research evidence and experience demonstrate that *how* OHS strategies are developed and implemented is at least as important as *what* they involve. However, these studies do not reveal how these cultural aspects of OHS can interact with OHSMS to create or remove the ‘disconnect’ identified by the Mine Safety Review.

Factors that may be particularly relevant to the mining industry include:

- the interaction between the regulatory framework and the nature and operation of mine safety management systems
- the particular issues confronting small and medium sized enterprises in developing, implementing and maintaining an OHSMS
- the complexity of some OHSMS and the issue of integration with production management and performance measurement and monitoring.

One particularly crucial ingredient for success may be genuine workplace participation. Effective communication and participation “are amongst the factors positively associated with OHS performance, with an emphasis on the quality of communication rather than specific channels or forums. Moreover, empowerment of workers and encouraging their contribution to innovation, and a sense of control and autonomy by workers, were also important influences on OHS success” (Bluff, 2003). Certainly the European experience suggests that joint assessment of hazards and risks actively undertaken by workplace parties at enterprise level is more effective than elaborate heavily–documented risk assessments prepared by external consultants, and a systematic and participative approach to the control of work place hazards and risk, rather than the introduction of formal OHSMS provided by external consultants (Maxwell 2004: 151). Research suggests that crucial features promoting effective worker participation include channels for dialogue with management on important OHS issues, adequate training and information, and opportunities to investigate and communicate with other workers

This topic will examine the types of management systems, the range of consultative arrangements and the extent to which these arrangements are effectively integrated within OHSMS and the OHSMS that are more likely to support effective OHS management and have positive impact at the workplace.

Outcomes

- A clear path forward for industry on how to address any disconnects between management systems and their implementation at sites.
- Comprehensive, better practice examples on how to implement and manage consultation within the NSW mining industry and means for obtaining feedback and input from the workforce for consideration.

References

ACIL Economics and Policy (1997), *Review of Mine Safety in NSW*, Report to Minister for Mineral Resources and Fisheries, Brisbane.

Bluff, Elizabeth (2003), *Systematic Management of OHS* NRCOHSR Working Paper 20.

Maxwell, Chris (2004), *Occupational Health and Safety Act Review*, Victoria.

Wran, Neville (2006), *Mine Safety Review*, Department of Primary Industries, NSW, available from www.dpi.nsw.gov.au/minerals/safety/mine-safety-initiatives/wran-mine-safety-review

Appendix - Detailed project method

We will use an 11-stage research process:

1. Write a literature review

We are monitoring the scientific, professional and industry publications for information about the project topics. If you have any reports or information that is relevant to this project, please send them to us.

2. Prepare and distribute an issues paper

This issues paper sets out the research questions and asks for your comments and input.

3. Conduct a census of mines and interview key stakeholders

We will contact mine sites in NSW by telephone or, if preferred, in writing, to conduct the census. The census will include all sectors of the mining industry including coal, major metalliferous industry sectors and a representative sample of the extractive industry. In the census we will ask general questions about the worksite and cover the three topics of the project.

4. Refine the sampling and data collection strategy

From the information we collect in the mines' census, we will identify a representative sample of mine sites to visit for in-depth data collection on-site.

5. Produce an interim report

We will report back to the Project Steering Group on our progress at this point.

6. Data collection

We will visit the sample of mines to collect in-depth data. This will involve a survey, individual interviews, focus group interviews and reviewing relevant documentation.

7. Data analysis

We will analyse the data we have collected to answer our research questions.

8. Write interim report

We will report back to the Project Steering Group on our progress at this point.

9. Conduct three Future Inquiry workshops

We will conduct three one-day Future Inquiry Workshops for industry and industry stakeholders to discuss the findings of the data analysis and to identify future directions for the industry in NSW. Stakeholders from all sectors of the NSW mining industry will be asked to participate in these workshops to be held May - June 2007.

10. Write draft report

We will prepare a draft report of the project's findings for the Project Steering Group to review.

11. Write final report

The report will be finalised from the comments received.

How to make your comment

The most effective way to have your views considered is make written comment on the research questions outlined in each of the three topics. You do not need to comment on all topics or all research questions. You only need to comment on the issues that you choose to express your views on.

We will keep your comments confidential, unless you ask us to make your response public.

There are a number of ways you can make your comment in response to this issues paper:

1. Write to us, referring to the relevant topics and issues, at the address below or e-mail to andrea@shawidea.com.au. We are particularly keen to hear about any success stories you have.
2. Contact your industrial organisation and ask it to include your views in the submissions it makes on the Issues Paper. We will write to mining industry industrial organisations in NSW encouraging them to make submissions on the Issues Paper.
3. Participate in the discussion groups that you can access from the project website <http://www.dpi.nsw.gov.au/minerals/safety/consultation/wran-consultancy-project>. These discussion groups have been established to provide opportunities for the industry and workers to contribute to each topic included in the project.

You need to register. Your identity will remain confidential and your comments will be posted as part of the forum. We will moderate the forums to ensure confidentiality, that comment is relevant, appropriate language is used and to ensure that no personal or identifying information is posted that should not be.

Closing Date for submissions **18 April 2007**

E-mail address

andrea@shawidea.com.au

Postal address

Digging Deeper – Issues Paper
Shaw Idea Pty Ltd
15 Fletchers Lane
Mt Egerton, Victoria, 3352

3. Census questionnaire

3



Digging Deeper – Mines Census Questionnaire

About the project

This questionnaire is part of a project aimed at improving health and safety in the NSW mining industry. The project is managed by the NSW Mine Safety Advisory Council and supported by Government, employers' organisations and unions. Shaw Idea Pty Ltd has been engaged to head a consortium of internationally recognised researchers to investigate three topics:

- Production bonus and safety incentive schemes
- Hours of work and fatigue management
- Safety management systems and consultation.

You can find out more about this research project by reading the *Issues Paper* which you can download from: <<http://www.dpi.nsw.gov.au/minerals/safety/consultation/wran-consultancy-project>>.

About the census

This census is being completed by sites in all sectors of the mining industry including coal, metalliferous and a representative sample of extractive sites. It asks general questions about mine/quarry sites and covers the three topics of the project. The census needs to collect information about all of the issues that are expected to or could impact on the topics of interest to the project – the differences that will make the findings of the study credible or not. The data from this census will be used to identify a representative selection of sites for follow-up visits. In de-identified form, the information will also help to answer some of the research questions.

If you have any questions about the project or this census, please don't hesitate to contact the consultants. You can contact Andrea or Jean on:

- phone 03 5368 9036 or by
- email <andrea@shawidea.com.au>.

How to complete this questionnaire

You have two choices:

1. Complete the form and return it by 22 March 2007

You can complete the form and return it in the stamped envelope enclosed, or to:

**Shaw Idea Pty Ltd,
15 Fletchers Lane,
Mount Egerton, Vic 3352**

2. Email for an appointment

You can email Jean Harben from Shaw Idea Pty Ltd <jean@shawidea.com.au> and tell her when it would be most convenient for her to ring you to complete the questionnaire in a phone interview.

Confidentiality guaranteed

These forms are confidential documents. They will only be used by the consultants – no one else will have access to the completed questionnaires. Data from the forms will only be reported in grouped (aggregate) form and then only if there are sufficient respondents in a group to prevent individual companies being identified. ***Completed forms will be destroyed at the end of the project.***

Mine id number and name

Mine id number and mine site name

Instructions

- Please mark the box of the correct response.
- Please write the correct answer in the space provided.

About your mine/quarry

1. What type of mine/quarry do you operate at this site?

- 1 Coal
- 2 Metalliferous
- 3 Extractive

2. Is the site:

- 1 An open cut mine/quarry?
- 2 An underground mine/quarry?
- 3 A borrow pit?
- 4 A processing facility?
- 5 Other, please specify

3. Where is your mine/quarry located?

- 1 Northern Region
- 2 Hunter Region
- 3 Central Western Region
- 4 Western Region
- 5 Cobar
- 6 South Eastern Region
- 7 Sydney Metropolitan

4. How long has this site been in operation?

Give time in years

5. Is your site owned by:

- 1 An Australian private owner?
- 2 An Australian public company?
- 3 A transnational private owner?
- 4 A transnational public company?
- 5 Other, please specify

6. Is your site:

- 1 The only mine/quarry site in the organisation?
- 2 One of a number of mine/quarry sites in NSW owned by the same owner? State how many sites in NSW in the organisation including this one

7. How much does your mine/quarry produce in total production tonnes per year?

About your employees

Employees includes:

- Working proprietors and partners,
- Employees absent on paid or prepaid leave, and
- Employees on workers' compensation who continue to be paid through the payroll.

It excludes:

- People paid by commission only, non-salaried directors, consultants, contractors and labour hire personnel.

8. How many employees did you have **last week** in total?

9. How many employees did you have **last week** who were full-time?

10. How many employees did you have **last week** who worked less than 35 hours?

11. How many employees did you have **last week** who were not entitled to paid leave (that is, casual)?

12. How many employees did you have **last week** who were women?

13. How many employees did you have **last week** who were in the following age categories?

1 Under 20 years old

2 20 – 34 years old

3 35 – 44 years old

4 45 – 54 years old

5 55 – 64 years old

6 65 years and over

14. How many of these employees worked in the following positions?

1 Mine managers

2 Undermanagers

3 Deputies

4 Other managers

5 Other supervisors

6 Engineers

7 Other professional employees

8 Other technical employees

9 Administrative employees

10 Trades people

11 Equipment operators

12 Labourers

13 Miners

14 Other, please specify

Your work arrangements

15. Does the mine/quarry operate 24 hours each day for **direct employees**?

1 Yes

2 No - state how many hours it operates per day

16. How long are the shifts at your site for **direct employees**?

1 8 hours

2 10 hours

3 12 hours

4 Other, please specify the length

17. How many days a week are usually worked at your site by **direct employees**?

1 7 days

2 6 days

3 5 days

4 Other, please specify how many

18. What types of shifts are operated at your site for **direct employees**? Mark as many as apply.

1 day

2 afternoon

3 evening

4 night

5 Other, please specify types

19. How do you record attendance of **direct employees** at your site? Mark as many as apply.

1 Time sheets

2 Swipe cards

3 Computer log in

4 Other, please specify how many

20. What OHS consultative arrangements are in place on your site?

1 OHS Committee(s)

2 Check inspectors

3 Health and safety representatives

4 Other, please specify

21. What industrial instruments apply on your site? Mark as many as apply.

1 Award

2 Enterprise agreement

3 Australian Workplace Agreement

4 Other, please specify

22. What percentage of your workforce is unionised?

1 Closed shop

2 Partially

 %

3 Non-unionised

4 Unknown

23. What unions have coverage on your site?

- 1 CFMEU
- 2 AWU
- 3 CMMMA
- 4 APESMA
- 5 COA
- 6 AMWU
- 7 CEPU
- 8 ASU
- 9 Other, please specify

24. Do you pay a production bonus?

- 1 Yes
- 2 No

25. Do you have on site accommodation?

- 1 Yes
- 2 No

26. Do you have a Fatigue Management System?

- 1 Yes
- 2 No

Contractors/Labour Hire

27. Last week, how did you use contractors or labour hire personnel on site? Mark as many as apply.

- 1 No contractors or labour hire personnel on site
last week: go to Q29
- 2 Mining
- 3 Major overhauls
- 4 Equipment maintenance
- 5 Equipment operation
- 6 Management
- 7 Engineering
- 8 Professional/technical roles
- 9 Other, please specify

28. How many contractors/labour hire personnel on site last week were:

- 1 Full-time on site permanent
- 2 Full-time on site temporary
- 3 Occasionally on site
- 4 Other, please specify

29. Do you use contractors/labour hire personnel at particular times of the year?

- 1 Yes – Please specify when
- 2 No

30. Was last week typical of your operation?

- 1 Yes
- 2 No, please specify

Write other comments here

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Thank you very much for your help in completing this questionnaire and your contribution to shaping OHS in your industry.

4. Census data frequency tables

4

Census data frequency tables

Industry Census data with margins of error

Variables for stratification		Coal N = 61	%	Metal N=19	%	Extract N=177	%	Total %	Margin of error
Nature of mine	Underground	26	42.6%	7	36.8%	4	2.3%	11.6%	1.4%
	Opencut	29	47.5%	10	52.6%	156	88.1%	78.6%	2.5%
	Other	6	9.8%	2	10.5%	17	9.6%	10.1%	2.2%
Size of mine - saleable production	Small (0 - 100,000 t)	1	1.6%	10	52.6%	107	60.5%	49.3%	3.5%
	Medium (100,000 - 1 million Mt)	18	29.5%	2	10.5%	63	35.6%	33.3%	3.5%
	Large (over 1 million t)	42	68.9%	6	31.6%	7	4.0%	17.3%	1.7%
Size of mine - employee numbers	Small	18	29.5%	6	31.6%	86	48.6%	44.5%	3.6%
	Medium	21	34.4%	5	26.3%	60	33.9%	33.5%	3.5%
	large	21	34.4%	5	26.3%	27	15.3%	19.1%	2.7%
Ownership	Multinational	30	49.2%	5	26.3%	21	11.9%	19.5%	2.5%
	National public	15	24.6%	5	26.3%	29	16.4%	18.3%	2.7%
	Private	12	19.7%	8	42.1%	110	62.1%	53.3%	3.5%
	Govt/council;	0	0.0%	1	5.3%	11	6.2%	5.0%	1.7%
Operation and shifts	24 hrs - yes	46	75.4%	11	57.9%	8	4.5%	20.9%	1.8%
	Day shift	60	98.4%	18	94.7%	171	96.6%	97.0%	1.3%
	Night shift	48	78.7%	11	57.9%	9	5.1%	21.6%	1.8%
Hours of shifts	8 hr shifts	24	39.3%	5	26.3%	85	48.0%	44.9%	3.6%
	10 hr shifts	19	31.1%	1	5.3%	55	31.1%	29.2%	3.3%
	12 hr shifts	28	45.9%	9	47.4%	9	5.1%	15.1%	1.9%

Variables for stratification		Coal N = 61	%	Metal N=19	%	Extract N=177	%	Total %	Margin of error
Geographic location	South East	18	29.5%	3	15.8%	53	29.9%	29.1%	3.3%
	West/ Central West/ Cobar	0	0.0%	15	78.9%	43	24.3%	23.5%	3.1%
	Newcastle/ Hunter	40	65.6%	1	5.3%	22	12.4%	21.0%	2.4%
	Northern	3	4.9%	0	0.0%	58	32.8%	25.8%	3.3%
Union membership	Closed shop	8	13.1%	0	0.0%	16	9.0%	9.1%	2.1%
	Partial	35	57.4%	1	5.3%	29	16.4%	22.5%	2.7%
	No union members	3	4.9%	13	68.4%	88	49.7%	43.3%	3.6%
Use of contractors	None		0.0%	3	15.8%	81	48.0%	37.4%	3.6%
	Small	26	34.0%	8	42.1%	82	37.0%	36.1%	3.5%
	Medium	21	30.0%	2	10.5%	8	3.0%	8.3%	1.5%
	Large	13	16.0%	2	10.5%	2	1.0%	4.3%	1.0%
Methods of recording work hrs	Time sheets	51	83.6%	9	47.4%	130	73.4%	73.2%	3.3%
	Swipe cards	3	4.9%	7	36.8%	6	3.4%	5.6%	1.5%
OHS arrangements	OHS Committee	54	88.5%	9	47.4%	85	48.0%	55.2%	3.6%
	Check Inspectors	45	73.8%	3	15.8%	25	14.1%	24.7%	2.6%
	Health and Safety Reps	32	52.5%	11	57.9%	57	32.2%	37.3%	3.4%
Industrial instruments	Award	8	13.1%	7	36.8%	90	50.8%	43.4%	0.4%
	Enterprise Agreement	45	73.8%	4	21.1%	57	32.2%	38.7%	3.4%
	AWA	15	24.6%	7	36.8%	19	10.7%	15.2%	2.4%

Variables for stratification		Coal N = 61	%	Metal N=19	%	Extract N=177	%	Total %	Margin of error
Mine age	Under 10 years old	22	36.1%	8	42.1%	28	15.8%	21.3%	2.8%
	10 - 19 years old	6	9.8%	4	21.1%	30	16.9%	16.0%	2.7%
	20 - 49 years old	22	36.1%	4	21.1%	83	46.9%	43.3%	3.6%
	50 plus years	8	13.1%	2	10.5%	32	18.1%	16.6%	2.8%
Age (ie number and percentage of sites with employees in each age group)	Under 20	18	29.5%	9	47.4%	22	12.4%	17.5%	2.5%
	20-34	49	80.3%	13	68.4%	108	61.0%	64.8%	3.5%
	35-44	51	83.6%	13	68.4%	121	68.4%	65.5%	3.5%
	40-54	53	86.9%	10	52.6%	106	59.9%	63.2%	3.6%
	55-64	50	82.0%	8	42.1%	85	48.0%	53.6%	3.6%
	65 plus	1	1.6%	2	10.5%	18	10.2%	8.7%	2.2%
Production bonus	yes	50	82.0%	4	21.1%	14	7.9%	21.9%	2.1%
On site Accommodation	yes	0	0.0%	4	21.1%	17	9.6%	9.0%	2.2%
Fatigue system	yes	44	72.1%	11	57.9%	64	36.2%	43.8%	3.5%
Part time workers	Yes	17	27.9%	5	26.3%	56	31.6%	30.9%	3.4%
Casual workers	Yes	21	34.4%	9	47.4%	58	32.8%	34.1%	3.5%
Women employees	Yes	40	65.6%	13	68.4%	64	36.2%	43.4%	3.5%
Days per week.	Less than 5 days	5	8.2%	3	15.8%	16	9.0%	9.3%	2.1%
	5 - 5.5. days	26	42.6%	5	26.3%	121	68.4%	60.8%	3.4%
	6 - 6.5 days	2	3.3%	2	10.5%	24	13.6%	11.9%	2.5%
	7 days	27	44.3%	7	36.8%	1	0.6%	11.0%	1.3%

Variables for stratification		Coal N = 61	%	Metal N=19	%	Extract N=177	%	Total %	Margin of error
Use of contractors	Mining	43	70.5%	7	36.8%	13	7.3%	20.1%	2.1%
	Major overhauls	17	27.9%	3	15.8%	3	1.7%	7.5%	1.3%
	Equipment Maintenance	52	85.2%	8	42.1%	38	21.5%	33.7%	3.0%
	Equipment Operation	35	57.4%	7	36.8%	29	16.4%	24.6%	2.8%
	Management	14	23.0%	2	10.5%	1	0.6%	5.0%	1.1%
	Engineering	20	32.8%	3	15.8%	2	1.1%	7.6%	1.1%
	Professional/ technical roles	25	41.0%	5	26.3%	6	3.4%	11.2%	1.6%

5. Comparison of sample and census populations

5

Comparison of sample and census populations

Characteristics		Sample	Census
Region	Northern	0	61
	Hunter	19	63
	Central West, West, Cobar	15	58
	South Eastern	17	74
Employee size	small	17	110
	medium	18	86
	large	15	53
Production size	small	9	118
	medium	15	83
	large	20	55
	Unknown	6	28
Contractor size	small	18	116
	medium	9	31
	large	11	17
	none	11	84
	unknown	2	
Type of mine	underground	10	37
	open cut	39	195
	other	2	25
Ownership	Australian Private owner	17	130
	Aust Public company	14	49
	Multinational	21	56
	Other (local council & state owned corporation)	2	13

Characteristics		Sample	Census
Operation and shifts	24 hours	21	65
	Day shift	49	249
	Night shift	21	68
Union membership	Closed shop	4	24
	Partial	19	65
	None	15	104
	Not known	13	59
Industrial instruments	Awards	25	105
	Enterprise agreements	26	106
	AWAs	8	41
	Other	10	29

6. Site visit questionnaire

6

Digging Deeper – Site Visit Questionnaire

About the project

This questionnaire is part of a project aimed at improving health and safety in the NSW mining industry. The project is managed by the NSW Mine Safety Advisory Council and supported by Government, employers' organisations and unions. Shaw Idea Pty Ltd has been engaged to head a consortium of internationally recognised researchers to investigate three topics:

- Production bonus and safety incentive schemes
- Hours of work and fatigue management
- Safety management systems and consultation.

You can find out more about this research project by reading the *Issues Paper* that you can download from: <http://www.dpi.nsw.gov.au/minerals/safety/consultation/wran-consultancy-project>.

How to complete this questionnaire

Thank you for completing this questionnaire. This questionnaire asks you for *your* opinions about *your* job and OHS from your experience. 'People' means the people you work with.

There are no right or wrong answers. Feel free to write any extra comments in the margins to clarify your answers. You can write more comments at the end of the questionnaire.

The questionnaire is anonymous and the only people to see your answers will be the consultants engaged in this work. The results of the questionnaire will only be available as grouped data and this will be done so that it is not possible to identify the answers of individuals. You will receive feedback about the findings of the survey.

Please give the completed form to the consultant. We will take it with us today.

Section A - About you

1. Site:		2. Employer:	
3. Gender: <input type="checkbox"/> ₁ male <input type="checkbox"/> ₂ female			
4. Age:	5. Highest level of education:	6. For direct employees. Are you:	
<input type="checkbox"/> ₁ Under 20 years old <input type="checkbox"/> ₂ 20 – 34 years old <input type="checkbox"/> ₃ 35 – 44 years old <input type="checkbox"/> ₄ 45 – 54 years old <input type="checkbox"/> ₅ 55 – 64 years old <input type="checkbox"/> ₆ 65 years and over	<input type="checkbox"/> ₁ Year 11 or earlier <input type="checkbox"/> ₂ Year 12 or equivalent <input type="checkbox"/> ₃ Trade certificate <input type="checkbox"/> ₄ Diploma <input type="checkbox"/> ₅ University degree <input type="checkbox"/> ₆ Other – give broad description:	<input type="checkbox"/> ₁ full-time permanent <input type="checkbox"/> ₂ full-time casual <input type="checkbox"/> ₃ part-time permanent <input type="checkbox"/> ₄ part-time casual <input type="checkbox"/> ₅ Other, please specify: <input type="checkbox"/> ₆ I am not a direct employee	
7. For contractors. Are you:	8. Position – tick one or more that best apply to you:		
<input type="checkbox"/> ₁ full-time on site permanent <input type="checkbox"/> ₂ full-time on site temporary <input type="checkbox"/> ₃ Occasionally on site <input type="checkbox"/> ₄ Other, please specify: <input type="checkbox"/> ₅ I am not a contractor	<input type="checkbox"/> ₁ Mine or quarry manager <input type="checkbox"/> ₂ Undermanager <input type="checkbox"/> ₃ Deputy <input type="checkbox"/> ₄ Other manager <input type="checkbox"/> ₅ Other supervisor <input type="checkbox"/> ₆ Engineer <input type="checkbox"/> ₇ Other professional employee <input type="checkbox"/> ₈ OHS Manager/Officer <input type="checkbox"/> ₉ Other technical employee <input type="checkbox"/> ₁₀ Administrative employee <input type="checkbox"/> ₁₁ Tradesperson <input type="checkbox"/> ₁₂ Equipment operator <input type="checkbox"/> ₁₃ Labourer <input type="checkbox"/> ₁₄ Miner <input type="checkbox"/> ₁₅ Other – please specify:		
9. Years and months in current position:		10. Years and months with current employer:	

11. How many hours did you work last week? Please include any hours you worked from home:		12. How many hours do you usually work each week? Please include any hours you worked from home:	
13. How many hours overtime (paid and unpaid) did you work last week?			
14. How many hours overtime (paid and unpaid) do you usually work each week?			
15. What shifts do you work? <input type="checkbox"/> ₁ Day <input type="checkbox"/> ₂ Afternoon <input type="checkbox"/> ₃ Night <input type="checkbox"/> ₄ Other (please specify):	16. Typically how long are your shifts? (in hours and minutes)		17. Are these shifts: <input type="checkbox"/> ₁ Permanent <input type="checkbox"/> ₂ Rotating <input type="checkbox"/> ₃ Other (please specify):
18. Are you an elected health and safety representative or check inspector? <input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ No			
19. Do you belong to a union? <input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ No		19.1 If YES, state which union you belong to:	
20. Are there children in your household? <input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ No If YES, what are their ages:			
21. Are you a carer for anyone? <input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ No (eg aged parents, people with special needs or needing high intensity care)			
22. Do you have more than one paid job? <input type="checkbox"/> ₁ Yes <input type="checkbox"/> ₂ No			

Section B – About OHS

Below is a list of sentences about occupational health and safety in this workplace. Please read the sentences and put a circle around the number that most closely represents your opinion.

	Strongly disagree		neutral		Strongly agree
23. Health and safety has priority even when we are busy.	1	2	3	4	5
24. Management is competent when it comes to health and safety matters on this site.	1	2	3	4	5
25. People are treated with respect here.	1	2	3	4	5
26. It is easy to ask others for help.	1	2	3	4	5
27. People are able to rely on others.	1	2	3	4	5
28. People are committed to doing their job well.	1	2	3	4	5
29. If you work safely, you will get recognised for it.	1	2	3	4	5
30. Management takes health and safety into account when they make decisions.	1	2	3	4	5
31. I have opportunities to change things to address health and safety.	1	2	3	4	5
32. Management makes sure that equipment and procedures meet health and safety requirements.	1	2	3	4	5
33. Everybody works safely here.	1	2	3	4	5
34. People rarely cut corners under pressure or otherwise.	1	2	3	4	5
35. The people I work with take health and safety seriously.	1	2	3	4	5
36. If someone gets hurt at work, they are not blamed for the injury.	1	2	3	4	5
37. The OHS management system is well-managed on this site.	1	2	3	4	5

	Strongly disagree		neutral		Strongly agree
38. If you make a mistake, it is not held against you.	1	2	3	4	5
39. People report near misses that might have serious consequences, even if no one else sees them.	1	2	3	4	5
40. Managers seek out and encourage news about what could go wrong.	1	2	3	4	5
41. People are appreciated if they spot problems, mistakes, errors or failures.	1	2	3	4	5
42. People are not shot down for reporting information that might stop operations.	1	2	3	4	5
43. The OHS consultative arrangements on this site work effectively.	1	2	3	4	5
44. Managers are as concerned about people's health and safety as they are for other requirements.	1	2	3	4	5

Section C – About your job

Rate these questions about your job and work organisation from **Never/hardly ever** to **Always**.

Please look at each sentence and put a circle around the number that most closely represents your opinion.

	Never/ hardly ever	Seldom	Sometimes	Often	Always
45. Do other people make decisions concerning your work?	1	2	3	4	5
46. How often do you work on your RDOs? <input type="checkbox"/> 0 Not applicable	1	2	3	4	5
47. Can you influence decisions about your work environment?	1	2	3	4	5
48. Do you take sleeping pills to help you sleep?	1	2	3	4	5
49. Can you decide when to take a break?	1	2	3	4	5
50. Do you get sufficient information from your immediate supervisor/manager?	1	2	3	4	5
51. Do you have enough time for social activities?	1	2	3	4	5
52. Are you treated fairly at work?	1	2	3	4	5
53. Do you feel pressured to work overtime?	1	2	3	4	5
54. How often do you get help and support from your immediate supervisor/manager?	1	2	3	4	5
55. How often do you get help and support from your colleagues?	1	2	3	4	5
56. Do you get consistent information from your immediate supervisor/manager?	1	2	3	4	5
57. How often is your immediate supervisor/manager willing to listen to your work related problems?	1	2	3	4	5
58. Do you get adequate support in difficult situations?	1	2	3	4	5
59. Do you use alcohol to help you sleep?	1	2	3	4	5
60. How often do you talk with your immediate supervisor/manager about how well you carry out your work?	1	2	3	4	5
61. Do you have enough time for leisure?	1	2	3	4	5
62. Is there good co-operation between your colleagues at work?	1	2	3	4	5
63. Do you have enough time for family?	1	2	3	4	5
64. How often does the OHS Management System get by-passed in order to get the job done?	1	2	3	4	5
65. How often does the production bonus system lead to problems with: <input type="checkbox"/> 0 We don't have a production bonus system (go to Question 66)					
65.1 Incident reporting	1	2	3	4	5
65.2 Information flows	1	2	3	4	5
65.3 Internal communication	1	2	3	4	5
65.4 Decision-making about OHS	1	2	3	4	5
65.5 Management and worker behaviour	1	2	3	4	5
66. Do you receive all the information you need in order to do your work well?	1	2	3	4	5
67. Do you know exactly what is expected of you at work?	1	2	3	4	5
68. Are you informed well in advance about important decisions, changes, or plans for the future?	1	2	3	4	5

	Never/ hardly ever	Seldom	Sometimes	Often	Always
69. How often does the safety incentive system lead to problems with:					
<input type="checkbox"/> We don't have a safety incentive system (go to Question 70)					
69.1 Incident reporting	1	2	3	4	5
69.2 Information flows	1	2	3	4	5
69.3 Internal communication	1	2	3	4	5
69.4 Decision-making about OHS	1	2	3	4	5
69.5 Management and worker behaviour	1	2	3	4	5
70. How often do you feel that tiredness impairs your work performance on each of the following shifts:					
70.1 Day shift	1	2	3	4	5
70.2 Night shift	1	2	3	4	5
70.3 Afternoon shift	1	2	3	4	5
71. How often does working day shift cause you problems with:					
<input type="checkbox"/> I don't work day shift (go to Question 72)					
71.1 Sleep	1	2	3	4	5
71.2 Family life	1	2	3	4	5
71.3 Social life	1	2	3	4	5
71.4 Work performance	1	2	3	4	5
71.5 Fatigue	1	2	3	4	5
71.6 Alertness while working	1	2	3	4	5
71.7 Ability to maintain concentration across the shift	1	2	3	4	5
72. How often does working afternoon shift cause you problems with:					
<input type="checkbox"/> I don't work afternoon shift (go to Question 73)					
72.1 Sleep	1	2	3	4	5
72.2 Family life	1	2	3	4	5
72.3 Social life	1	2	3	4	5
72.4 Work performance	1	2	3	4	5
72.5 Fatigue	1	2	3	4	5
72.6 Alertness while working	1	2	3	4	5
72.7 Ability to maintain concentration across the shift	1	2	3	4	5
73. How often does working night shift cause you problems with:					
<input type="checkbox"/> I don't work night shift (go to Question 74)					
73.1 Sleep	1	2	3	4	5
73.2 Family life	1	2	3	4	5
73.3 Social life	1	2	3	4	5
73.4 Work performance	1	2	3	4	5
73.5 Fatigue	1	2	3	4	5
73.6 Alertness while working	1	2	3	4	5
73.7 Ability to maintain concentration across the shift	1	2	3	4	5

74. If you have any other comments, please write them below.

7. Site visit quantitative data frequency tables

7

Site visit quantitative data frequency tables

The following tables give the frequencies from the site visit questionnaires. Data from questions 1 and 2 (Site and Employer) is withheld for confidentiality reasons.

Section A - Q 3. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Male	1452	87.1	91.6	91.6
	2 Female	133	8.0	8.4	100.0
	Total	1585	95.0	100.0	
Missing	System	83	5.0		
Total		1668	100.0		

Section A - Q4. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Under 20 years	41	2.5	2.5	2.5
	2 20 - 34 years	528	31.7	31.8	34.3
	3 35 - 44 years	472	28.3	28.5	62.8
	4 45 - 54 years	432	25.9	26.1	88.8
	5 55 - 64 years	181	10.9	10.9	99.8
	6 65 years and over	4	.2	.2	100.0
	Total	1658	99.4	100.0	
Missing	System	10	.6		
Total		1668	100.0		

Section A - Q5. Highest Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Year 11 or earlier	566	33.9	34.8	34.8
	2 Year 12 or equivalent	191	11.5	11.8	46.6
	3 Trade certificate	461	27.6	28.4	75.0
	4 Diploma	167	10.0	10.3	85.2
	5 University degree	224	13.4	13.8	99.0
	6 Other - specify	16	1.0	1.0	100.0
	Total	1625	97.4	100.0	
Missing	System	43	2.6		
Total		1668	100.0		

Section A - Q6. Employment condition (direct employees only)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 full-time permanent employee	1196	71.7	72.1	72.1
	2 full-time casual employee	27	1.6	1.6	73.7
	3 part-time permanent employee	6	.4	.4	74.1
	4 part-time casual employee	16	1.0	1.0	75.0
	5 Other, please specify:	5	.3	.3	75.3
	6 I am not a direct employee	409	24.5	24.7	100.0
	Total	1659	99.5	100.0	
Missing	System	9	.5		
Total		1668	100.0		

Section A - Q7. Contract condition (for contractors only)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 full-time on site permanent contractor	317	19.0	19.1	19.1
	2 full-time on site temporary contractor	71	4.3	4.3	23.4
	3 Occasionally on site contractor	26	1.6	1.6	25.0
	4 Other, please specify:	5	.3	.3	25.3
	5 I am not a contractor	1238	74.2	74.7	100.0
	Total	1657	99.3	100.0	
Missing	System	11	.7		
Total		1668	100.0		

Section A - Q8. Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 'Mine or quarry manager'	61	3.7	3.7	3.7
	2 'Undermanager' and 'other managers'	109	6.5	6.7	10.4
	3 'Deputy' and 'other supervisor'	184	11.0	11.2	21.6
	6 'Engineer'	86	5.2	5.3	26.9
	7 'Other professional employee'	113	6.8	6.9	33.8
	8 'OHS Manager-Officer'	48	2.9	2.9	36.7
	9 'Other technical employee'	74	4.4	4.5	41.2
	10 'Administrative employee'	75	4.5	4.6	45.8
	11 'Tradesperson'	197	11.8	12.0	57.8
	12 'Equipment operator and labourer'	395	23.7	24.1	82.0
	14 'Miner'	269	16.1	16.4	98.4
	17 Apprentice	26	1.6	1.6	100.0
	Total	1637	98.1	100.0	
Missing	System	31	1.9		
Total		1668	100.0		

Section A – Q9 — 14

	Q9 Time in current position (Years)	Q10 Time with current employer (Years)	Q11. How many hours and minutes did you work last week?	Q12. How many hours and minutes do you work each week?	Q13 How Long did you work OVERTIME (paid and unpaid) last week?	Q14. How many hours overtime (paid and unpaid) do you usually work each week?
N	1431	1418	1635	1611	1581	1525
Missing	237	250	33	57	87	143
Mean	6.4504	6.3180	49.7200	50.4772	7.1030	7.2289
Std. Error of Mean	.22538	.21415	.34053	.27339	.22386	.20060
Median	2.5000	3.0000	50.0000	50.0000	5.0000	5.0000
Std. Deviation	8.52587	8.06399	13.76939	10.97303	8.90089	7.83373
Minimum	.00	.04	.00	.00	.00	.00
Maximum	40.00	45.00	120.00	120.00	84.00	84.00

Section A - Q15. What shifts do you work? 15a - Day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	138	8.3	8.3	8.3
	1 Yes	1516	90.9	91.7	100.0
	Total	1654	99.2	100.0	
Missing	System	14	.8		
Total		1668	100.0		

Section A - Q15. What shifts do you work? 15b - Afternoon

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	1424	85.4	86.1	86.1
	1 Yes	230	13.8	13.9	100.0
	Total	1654	99.2	100.0	
Missing	System	14	.8		
Total		1668	100.0		

Section A - Q15. What shifts do you work? 15c - Night

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 No	1044	62.6	63.1	63.1
	1 Yes	610	36.6	36.9	100.0
	Total	1654	99.2	100.0	
Missing	System	14	.8		
Total		1668	100.0		

Section A - Q16. Typically how long are your shifts? Hours

N	Valid	1618
	Missing	50
Mean		10.2632
Std. Error of Mean		.03988
Median		10.0000
Std. Deviation		1.60405
Minimum		1.50
Maximum		17.00

Section A - Q17. Roster conditions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Permanent shifts	1124	67.4	68.7	68.7
	2 Rotating shifts	496	29.7	30.3	99.0
	3 Other - specify	16	1.0	1.0	100.0
	Total	1636	98.1	100.0	
Missing	System	32	1.9		
Total		1668	100.0		

Section A - Q18. Are you an elected HSR or check inspector?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	145	8.7	9.1	9.1
	2 No	1457	87.4	90.9	100.0
	Total	1602	96.0	100.0	
Missing	System	66	4.0		
Total		1668	100.0		

Section A - Q16. Do you belong to a union?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	783	46.9	47.6	47.6
	2 No	863	51.7	52.4	100.0
	Total	1646	98.7	100.0	
Missing	System	22	1.3		
Total		1668	100.0		

Section A – Q20. Are there children in your household?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	948	56.8	57.4	57.4
	2 No	704	42.2	42.6	100.0
	Total	1652	99.0	100.0	
Missing	System	16	1.0		
Total		1668	100.0		

Section A – Q20.1-20.6 What are their ages?

		Q20.1. If YES, what are their ages1?	Q20.2 age 2nd child	Q20.3 age 3rd child	Q20.4 age 4th child	Q20.5 age 5th child	Q20.6 age 6th child
N	Valid	658	457	149	33	6	1
	Missing	1010	1211	1519	1635	1662	1667
Mean		10.3240	10.5916	10.6997	8.6591	6.9167	3.5000
Std. Error of Mean		.27380	.29297	.44388	1.03478	2.20763	
Median		10.0000	10.0000	11.0000	9.0000	5.5000	3.5000
Std. Deviation		7.02348	6.26303	5.41823	5.94434	5.40756	
Minimum		.04	.00	.50	.50	2.50	3.500
Maximum		35.00	33.00	26.00	21.00	17.00	3.500

Section A – Q21. Are you a carer for anyone?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	76	4.6	4.6	4.6
	2 No	1576	94.5	95.4	100.0
	Total	1652	99.0	100.0	
Missing	System	16	1.0		
Total		1668	100.0		

Section A – Q22. Do you have more than one paid job?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	72	4.3	4.3	4.3
	2 No	1585	95.0	95.7	100.0
	Total	1657	99.3	100.0	
Missing	System	11	.7		
Total		1668	100.0		

Tables: Section B - Q23—44

	1 strongly disagree	2	3 neutral	4	5 strongly agree	Total
	%	%	%	%	%	%
Q23. Health and safety has priority even when we are busy	3.7%	5.8%	9.9%	26.9%	53.6%	100.0%
Q24. Management is competent when it comes to health and safety matters on this site	3.4%	7.6%	20.5%	37.5%	31.0%	100.0%
Q25. People are treated with respect here	5.6%	8.4%	23.2%	37.2%	25.6%	100.0%
Q26. It is easy to ask others for help	2.5%	5.0%	15.6%	40.7%	36.2%	100.0%
Q27. People are able to rely on others	1.9%	7.3%	24.0%	45.2%	21.7%	100.0%

	1 strongly disagree	2	3 neutral	4	5 strongly agree	Total
	%	%	%	%	%	%
Q28. People are committed to doing their job well	1.5%	6.9%	24.3%	44.9%	22.4%	100.0%
Q29. If you work safely, you will get recognised for it	6.3%	11.9%	32.6%	31.5%	17.7%	100.0%
Q30. Management takes health and safety into account when they make decisions	3.1%	7.6%	18.0%	37.6%	33.6%	100.0%
Q31. I have opportunities to change things to address health and safety	3.2%	6.6%	19.8%	37.2%	33.2%	100.0%
Q32. Management makes sure that equipment and procedures meet health and safety requirements	3.6%	7.1%	18.3%	40.8%	30.2%	100.0%
Q33. Everybody works safely here	4.4%	11.5%	31.6%	37.2%	15.3%	100.0%
Q34. People rarely cut corners under pressure or otherwise	4.8%	14.8%	32.9%	35.8%	11.8%	100.0%
Q35. The people I work with take health and safety seriously	1.9%	3.8%	17.6%	47.1%	29.7%	100.0%
Q36. If someone gets hurt at work, they are not blamed for the injury	5.5%	10.0%	31.1%	34.7%	18.7%	100.0%
Q37. The OHS management system is well-managed on this site	4.1%	9.1%	28.2%	37.5%	21.2%	100.0%
Q38. If you make a mistake, it is not held against you	7.1%	14.7%	33.9%	31.6%	12.6%	100.0%
Q39. People report near misses that might have serious consequences, even if no one else sees them	4.9%	12.8%	31.7%	35.2%	15.4%	100.0%
Q40. Managers seek out and encourage news about what could go wrong	2.7%	9.3%	23.6%	41.1%	23.3%	100.0%
Q41. People are appreciated if they spot problems, mistakes, errors or failures	2.7%	8.1%	24.2%	42.1%	22.8%	100.0%

	1 strongly disagree	2	3 neutral	4	5 strongly agree	Total
	%	%	%	%	%	%
Q42. People are not shot down for reporting information that might stop operations	3.8%	8.4%	21.9%	39.6%	26.2%	100.0%
Q43. The OHS consultative arrangements on this site work effectively	3.5%	7.7%	31.7%	39.4%	17.8%	100.0%
Q44. Managers are as concerned about people's health and safety as they are for other requirements	2.8%	7.9%	19.2%	38.4%	31.7%	100.0%

Section C - Q44—64

	1 never/ hardly ever	2 seldom	3 some times	4 often	5 always	Total
	%	%	%	%	%	%
Q45. Do other people make decisions concerning your work?	2.7%	6.8%	33.8%	41.8%	14.9%	100.0%
Q46. How often do you work on your RDO's?	21.7%	15.7%	29.3%	21.6%	11.7%	100.0%
Q47. Can you influence decisions about your work environment?	2.6%	6.9%	36.3%	35.3%	19.0%	100.0%
Q48. Do you take sleeping pills to help you sleep?	88.4%	4.3%	3.7%	1.9%	1.6%	100.0%
Q49. Can you decide when to take a break?	7.8%	9.2%	28.1%	24.9%	29.9%	100.0%
Q50. Do you get sufficient information from your immediate supervisor/manager?	2.2%	6.0%	21.6%	43.1%	27.1%	100.0%
Q51. Do you have enough time for social activities?	5.1%	13.9%	35.9%	28.8%	16.3%	100.0%
Q52. Are you treated fairly at work?	2.0%	3.6%	18.0%	42.0%	34.5%	100.0%
Q53. Do you feel pressured to work overtime?	35.9%	24.1%	21.7%	12.1%	6.3%	100.0%

	1 never/ hardly ever	2 seldom	3 some times	4 often	5 always	Total
	%	%	%	%	%	%
Q54. How often do you get help and support from your immediate supervisor/manager?	2.4%	8.1%	31.1%	38.2%	20.2%	100.0%
Q55. How often do you get help and support from your colleagues?	.9%	4.4%	25.2%	44.8%	24.6%	100.0%
Q56. Do you get consistent information from your immediate supervisor/manager?	1.9%	6.8%	26.8%	42.1%	22.4%	100.0%
Q57. How often is your immediate supervisor/manager willing to listen to your work related problems?	1.9%	4.9%	19.4%	36.1%	37.7%	100.0%
Q58. Do you get adequate support in difficult situations?	1.4%	4.5%	25.6%	41.7%	26.7%	100.0%
Q59. Do you use alcohol to help you sleep?	74.9%	10.2%	8.9%	3.7%	2.3%	100.0%
Q60. How often do you talk with your immediate supervisor/manager about how well you carry out your work?	15.1%	23.8%	34.5%	20.0%	6.7%	100.0%
Q61. Do you have enough time for leisure?	7.2%	16.2%	37.9%	24.9%	13.8%	100.0%
Q62. Is there good co-operation between your colleagues at work?	.8%	3.7%	20.9%	48.1%	26.5%	100.0%
Q63. Do you have enough time for family?	5.0%	13.0%	36.2%	27.4%	18.5%	100.0%
Q64. How often does the OHS Management System get by-passed in order to get the job done?	23.9%	29.9%	30.2%	12.3%	3.6%	100.0%

Section C – Q 66—68, Q70

	1 never/ hardly ever	2 seldom	3 sometimes	4 often	5 always	Total
	%	%	%	%	%	%
Q66. Do you receive all the information you need in order to do your work well?	1.9%	6.5%	28.1%	45.8%	17.7%	100.0%
Q67. Do you know exactly what is expected of you at work?	1.3%	3.4%	15.6%	40.6%	39.1%	100.0%
Q68. Are you informed well in advance about important decisions, changes or plans for the future?	6.7%	16.3%	33.8%	29.5%	13.5%	100.0%
Q70. How often do you feel that tiredness impairs your work performance on each of the following shifts: 69.1. Day shift	27.0%	34.7%	30.4%	6.1%	1.9%	100.0%
Q70.2 Night shift	16.3%	15.9%	33.4%	21.1%	13.3%	100.0%
Q70.3 Afternoon shift	30.0%	27.7%	28.9%	10.0%	3.5%	100.0%

Frequencies Q71 Day shift

Q71.0 How often does working day shift cause problems with: 0 don't work day shift, go to Q72

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 I don't work day shift	121	7.3	7.5	7.5
	1 I do work day shift	1490	89.3	92.5	100.0
	Total	1611	96.6	100.0	
Missing	System	57	3.4		
Total		1668	100.0		

Frequencies: Q72: Afternoon Shift

Q72.0 How often does working afternoon shift cause you problems with: 0- I don't work afternoon shift - go to Q73.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 I don't work afternoon shift	1214	72.8	77.6	77.6
	1 I do work Afternoon shift	350	21.0	22.4	100.0
	Total	1564	93.8	100.0	
Missing	System	104	6.2		
Total		1668	100.0		

Frequencies: Q73 Night Shift

Q73. How often does working night shift cause you problems with: 0- I don't work night shift - go to Q74

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 I don't work night shift	901	54.0	56.8	56.8
	1 I do work night shift	685	41.1	43.2	100.0
	Total	1586	95.1	100.0	
Missing	System	82	4.9		
Total		1668	100.0		

8. Site qualitative data collection protocol

8

Site qualitative data collection

Documents to be reviewed

Ask the OHS manager and/or site manager for these in advance and chase up on site.

- Industrial instruments (eg certified agreements) and other records of production bonuses and safety incentives
- OHS outcome data – workers’ compensation rates, incident records and analyses, basically what they report to DPI
- Hours of work and roster records
- Fatigue management plan and related policies
- Any documents about fatigue management (eg risk assessments)
- OHS Management System documents setting out the formal system
- Terms of reference and other records of OHS consultative arrangements (eg recent minutes of OHS committees)
- Any evaluations of any of these systems/processes

For all interviews (individual and focus group)

Go through the handout and emphasise confidentiality. Give the interviewees a chance to ask questions about the project. Let them know that the interview is voluntary – I usually say something like – “Being interviewed is completely voluntary – you do not have to participate, but we hope that you will”.

Then get them to complete the questionnaire. When they’ve finished the questionnaire, start the interview.

Individual Interviews

Mine or site manager

- Confirm the employee numbers and categories from the census (eg full and part time, gender, contractors, etc).
- Confirm anything else that is not clear from the census.
- Start off by asking: What do you do well in managing OHS on this site?
- Follow with: What would you like to do better?
- Have you ever been given an OHS notice or had any other enforcement action from DPI? If yes, what was the action and what was it for? What did you do as a result of the action?
- If no OHS person, ask about OHS performance: How do you measure your OHS performance? Ask for recent data, eg workers compensation, accident rates, audit scores, whatever they use.

Production bonus and safety incentive schemes

- Details of the scheme in place – probe for type, quantity, history, measures, targets, the size of the groups that are rewarded, how it is linked to other programs (if relevant).
- Perceived benefits of the scheme – probe for awareness, involvement
- Perceived negative features – probe for under-reporting, shifting focus to behaviour from risk.
- What organisational levels are involved in the scheme and how? (from executive management to mineworkers and contractors)
- How has the scheme been developed and implemented? Probe for workforce participation.
- What difference do employees' actions make to how much they get out of the scheme? What can they do to maximise what they get?
- What difference has the scheme made? Eg to:
 - Information flows?
 - Internal communication?
 - Reporting of incidents and injuries?
 - Decision-making about OHS?
 - Management and worker behaviour?
 - Safety performance?

Hours of work and fatigue management

- What are the actual hours of work and how do these vary by individual, occupation, level, employment status? Breaks during shift?
- Fatigue-related signs and symptoms – Do people put their hands up and say they are tired? Can they have a break from the task if they are tired? Are other strategies like task rotation, naps and so on used?
- Have any errors or incidents been reported, seen or done that relate to fatigue? How have any been addressed?

- How are hours of work recorded and monitored and do these methods vary? Contractors? How well are these methods working? How well would a 'smart card' type system work?
- What are the formal policies of the site and how are these policies reflected in practice?
- How are issues associated with long commute times managed?
- How are issues associated with non-work related causes of fatigue managed, eg second jobs, extra curricula activities, young families, sleep disorders? probe: role of DPI?
- How does your site currently manage fatigue and how well is this working?
probe: role of DPI?
- How is the effectiveness of these methods measured and how effectively do these methods control the risks associated with fatigue?
probe: role of DPI?

Safety management systems and consultation

- What kind of OHS management system does the site use and how? Involvement of contractors? Home grown versus proprietary?
- What are the effective/ineffective features of the OHSMS? Probe for risk management, integration in other systems and procedures, planning and review, audit, ease of use, accessibility, clarity and knowledge of responsibilities. Role of DPI?
- What strategies have supported effective/ineffective implementation of formal systems and procedures? Drivers and barriers. Role of DPI? Probe for training
- What are the effective/ineffective features of the OHS consultation strategies in use? Involvement of contractors? Role of union? Role of DPI? Probe for ability of reps to get involved in investigations.
- What strategies have supported effective/ineffective consultation? Drivers and barriers. Role of union? Role of DPI? Probe for training, ability for workers to communicate together
- How do you know what's going on in OHS? How well does communication work?
- How much does OHS get taken into account in general decision making?
- How well is OHS taken account of when changes occur (eg new plant, new management structures)?
- What actions at the corporate or site level have worked (and why) and what has not worked so well (and why)?
- How is the effectiveness of OHS management and consultation monitored and assessed? Probe for internal and external audits.
- How important is doing well at OHS to your career? If you did a bad job at managing OHS, would this reflect badly when your performance evaluation was done?
- What about the role of the safety manager on site – do they have a lot of power or authority? Is it good for their career to be the site safety manager?
- What should be done to improve OHS management and consultation here?
- What role should DPI play in supporting effective OHSMS and consultation?

Possible closing question

If you had a magic wand and could change one thing about these issues on this site, what would you change?

OHS Manager/officer

- Follow up documents and other data needed
- How do you measure your OHS performance? Ask for recent data, eg workers compensation, accident rates, audit scores, whatever they use.
- Confirm anything that is not clear from the census, eg OHS consultative arrangements, fatigue management system.
- Start off by asking: What do you do well in managing OHS on this site?
- Follow with: What would you like to do better?
- Have you ever been given an OHS notice or had any other enforcement action from DPI? If yes, what was the action and what was it for? What did you do as a result of the action?

Production bonus and safety incentive schemes

- Details of the scheme in place – probe for type, quantity, history, measures, targets, the size of the groups that are rewarded, how it is linked to other programs (if relevant).
- Perceived benefits of the scheme – probe for awareness, involvement
- Perceived negative features – probe for under-reporting, shifting focus to behaviour from risk.
- What organisational levels are involved in the scheme and how? (from executive management to mineworkers and contractors)
- How has the scheme been developed and implemented? Probe for workforce participation.
- What difference do employees' actions make to how much they get out of the scheme? What can they do to maximise what they get?
- What difference has the scheme made? Eg to:
 - Information flows?
 - Internal communication?
 - Reporting of incidents and injuries?
 - Decision-making about OHS?
 - Management and worker behaviour?
 - Safety performance?

Hours of work and fatigue management

- What are the actual hours of work and how do these vary by individual, occupation, level, employment status? Breaks during shift?
- Actual sleep – how much sleep do people get on night/day shift, days off?
- What quality of sleep do people get while on shift and what affects this?
- Fatigue-related signs and symptoms – do you see them in employees when in the shift, when in the roster? What sort of signs? Do people put their hands up and say they are tired? Can they have a break from the task if they are tired? Are other strategies like task rotation, naps and so on used? Do different jobs and tasks cause more fatigue than others? Which ones?

- Have any errors or incidents been reported, seen or done that relate to fatigue? How have any been addressed?
- How are hours of work recorded and monitored and do these methods vary? Contractors? How well are these methods working? How well would a 'smart card' type system work?
- What are the formal policies of the site and how are these policies reflected in practice?
- How are issues associated with long commute times managed?
- How are issues associated with non-work related causes of fatigue managed, eg second jobs, extra curricula activities, young families, sleep disorders? probe: role of DPI?
- How does your site currently manage fatigue and how well is this working?
probe: role of DPI?
- How is the effectiveness of these methods measured and how effectively do these methods control the risks associated with fatigue?
probe: role of DPI?

Safety management systems and consultation

- What kind of OHS management system does the site use and how? Involvement of contractors? Home grown or proprietary?
- What are the effective/ineffective features of the OHSMS? Probe for risk management, integration in other systems and procedures, planning and review, ease of use, accessibility, clarity and knowledge of responsibilities?
- What were the findings of the most recent audit of the OHSMS?
- What role has DPI played in implementing your OHSMS?
- What strategies have supported effective/ineffective implementation of formal systems and procedures? Drivers and barriers. Role of DPI? Probe for training
- What are the effective/ineffective features of the OHS consultation strategies in use? Involvement of contractors? Role of union? Role of DPI? Probe for ability of reps to get involved in investigations.
- What strategies have supported effective/ineffective consultation? Drivers and barriers. Role of union? Role of DPI? Probe for training, ability for workers to communicate together
- How do employees know what's going on in OHS? How well does communication work?
- How much opportunity do employees have to contribute to decision making about OHS? Probe for risk management and OHSMS.
- How do employees make changes to address OHS?
- How much does OHS get taken into account in general decision making?
- How well is OHS taken account of when changes occur (eg new plant, new management structures)?
- What actions at the corporate or site level have worked (and why) and what has not worked so well (and why)?
- How is the effectiveness of OHS management and consultation monitored and assessed? Probe for internal and external audits.
- How are OHS issues sorted out?

- What happens when employees report an OHS problem?
- How important is doing well at OHS to a manager's career? If a manager did a bad job at managing OHS, would this reflect badly when their performance evaluation was done?
- What about your role on site – do you have a lot of power or authority? Is it good for your career to be the site safety manager?
- What should be done to improve OHS management and consultation here?
- What role should DPI play in supporting effective OHSMS and consultation?

Possible closing question

If you had a magic wand and could change one thing about these issues on this site, what would you change?

HSR or Check inspector if there is only one on the site

- Start off by asking: What does this site do well in managing OHS?
- Follow with: What would you like to see done better?
- What involvement have you had with DPI inspectors when they come on site?

Production bonus and safety incentive schemes

- Perceived benefits of the scheme – probe for awareness, involvement
- Perceived negative features – probe for under-reporting, shifting focus to behaviour from risk.
- How has the scheme been developed and implemented? Probe for workforce participation.
- What difference do your actions make to how much you get out of the scheme? What can you do to maximise what you get?
- What difference has the scheme made? Eg to:
 - Information flows?
 - Internal communication?
 - Reporting of incidents and injuries?
 - Decision-making about OHS?
 - Management and worker behaviour?
 - Safety performance?

Hours of work and fatigue management

- What are the actual hours of work and how do these vary by individual, occupation, level, employment status? Breaks during shift?
- Actual sleep – how much sleep do people get on night/day shift, days off?
- What quality of sleep do people get while on shift and what affects this?
- Fatigue-related signs and symptoms – do you see them in yourself, others, when in the shift, when in the roster? What sort of signs? Do people put their hands up and say they are tired? Can you have a break from the task if you are tired? Are other strategies like task rotation, naps and so on used? Do different jobs and tasks cause more fatigue than others? Which ones?
- Have any errors or incidents been reported, seen or done that relate to fatigue? How have any been addressed?
- How are hours of work recorded and monitored and do these methods vary? Contractors? How well are these methods working? How well would a 'smart card' type system work?
- How are issues associated with long commute times managed?
- How are issues associated with non-work related causes of fatigue managed, eg second jobs, extra curricula activities, young families, sleep disorders? probe: role of DPI?
- How does this site currently manage fatigue and how well is this working? probe: role of DPI?

- How is the effectiveness of these methods measured and how effectively do these methods control the risks associated with fatigue?
probe: role of DPI?

Safety management systems and consultation

- What are the effective/ineffective features of the OHSMS? Probe for risk management, integration in other systems and procedures, planning and review. Role of DPI? Ease of use, accessibility, clarity and knowledge of responsibilities?
- What strategies have supported effective/ineffective implementation of formal systems and procedures? Drivers and barriers. Role of DPI? Probe for training
- What are the effective/ineffective features of the OHS consultation strategies in use? Involvement of contractors? Role of union? Role of DPI? Probe for ability of reps to get involved in investigations.
- What strategies have supported effective/ineffective consultation? Drivers and barriers. Role of union? Role of DPI? Probe for training, ability for workers to communicate together
- How do you know what's going on in OHS? How well does communication work?
- How much opportunity do you have to contribute to decision making about OHS? Probe for risk management and OHSMS.
- How do you make changes to address OHS?
- How much does OHS get taken into account in general decision making?
- How well is OHS taken account of when changes occur (eg new plant, new management structures)?
- What actions at the corporate or site level have worked (and why) and what has not worked so well (and why)?
- How is the effectiveness of OHS management and consultation monitored and assessed? Probe for internal and external audits?
- How are OHS issues sorted out?
- What happens when you report an OHS problem?
- How important is doing well at OHS to your career? If someone did a bad job at managing OHS, would this reflect badly when their performance evaluation was done?
- What about the role of the safety manager on site – do they have a lot of power or authority? Is it good for their career to be the site safety manager?
- What should be done to improve OHS management and consultation here?
- What role should DPI play in supporting effective OHSMS and consultation?

Possible closing question

If you had a magic wand and could change one thing about these issues on this site, what would you change?

Ice breaker for focus group interviews

Explain that to start off our discussion, you want to get a sense of how important people in the group reckon OHS is to people here. We're going to 'take the temperature', if you like. Write the question: *How important is OHS?* on the butcher's paper and draw a tube or some other representation of a thermometer on the page, taking the whole length. Write the top of the scale as: *OHS is the most important thing we do*. The bottom of the scale as: *OHS is a nuisance, gets in the way of our work*. Stick this up on a convenient wall or window. Ask them to indicate using the different coloured dots where they believe different groups would rate the importance of OHS. Write out the levels on another sheet of butcher's paper and put the appropriately coloured dot next to each level:

- red dot = Senior management - ask them who that might mean.
- green dot = line management – the people who have responsibilities for an area. Ask them who that might mean.
- yellow dot = operations – ask them who that might mean
- blue dot = support people - ask them who that might mean

This should go next to the thermometer butcher's paper so that people can check the colours as they go.

So, remind them: put each coloured dot where you think that group would rate the importance of OHS. We're not asking for a scientifically proven statement, just their individual perception – generalisations too, not specific people. Where do you think the company/site's senior management would put the importance of OHS? and so on.

Once they've done it, discuss the pattern. If they've got colours all over the place, what does this mean? Does it vary across the levels? Why? Does it vary within levels (eg are the red dots from the bottom to the top of the scale)? Why? What drives the importance of OHS? What makes it more or less important for each group? If appropriate, discuss the level of commitment to OHS they perceive at each level of management.

Interview prompt questions

Production bonus and safety incentive schemes

- What are the good things about the scheme? – probe for awareness, involvement
- What are the negative features? – probe for under-reporting, shifting focus to behaviour from risk.
- How has the scheme been developed and implemented? Probe for workforce participation.
- What difference do your actions make to how much you get out of the scheme? What can you do to maximise what you get?
- What difference has the scheme made? Eg to:
 - Information flows?
 - Internal communication?
 - Reporting of incidents and injuries?
 - Decision-making about OHS?
 - Management and worker behaviour?
 - Safety performance?

Hours of work and fatigue management

- What are the actual hours of work and how do these vary by individual, occupation, level, employment status? Breaks during shift?
- Actual sleep – how much sleep do people get on night/day shift, days off?
- What quality of sleep do people get while on shift and what affects this?
- Fatigue-related signs and symptoms – do you see them in yourself, others, when in the shift, when in the roster? What sort of signs? Do people put their hands up and say they are tired? Can you have a break from the task if you are tired? Are other strategies like task rotation, naps and so on used? Do different jobs and tasks cause more fatigue than others? Which ones?
- Have any errors or incidents been reported, seen or done that relate to fatigue? How have any been addressed?
- How are hours of work recorded and monitored and do these methods vary? Contractors? How well are these methods working? How well would a ‘smart card’ type system work?
- How widespread are non-work related causes of fatigue, eg second jobs, extra-curricula activities, young families, sleep disorders?
- How does this site currently manage fatigue and how well is this working?
probe: role of DPI?

Safety management systems and consultation

- What works well in safety management on this site? What doesn't work well? How well does the site's OHSMS work? Probe for risk management, integration in other systems and procedures, planning and review, ease of use, accessibility, clarity and knowledge of responsibilities? Role of DPI?
- How well does OHS consultation work on this site? Involvement of contractors? Role of union? Role of DPI? Probe for ability of reps to get involved in investigations.
- What helps good consultation on this site? Drivers and barriers. Role of union? Role of DPI? Probe for training, ability for workers to communicate together
- How do you know what's going on in OHS? How well does communication work?
- How much opportunity do you have to contribute to decision making about OHS? Probe for risk management and OHSMS.
- How do you make changes to address OHS?
- How much does OHS get taken into account in general decision making?
- How well is OHS taken account of when changes occur (eg new plant, new management structures)?
- How are OHS issues sorted out?
- What happens when you report an OHS problem?
- How important is doing well at OHS to your career? If someone did a bad job at managing OHS, would this reflect badly when their performance evaluation was done?
- What about the role of the safety manager on site – do they have a lot of power or authority? Is it good for their career to be the site safety manager?
- What should be done to improve OHS management and consultation here?

- What role should DPI play in supporting effective OHSMS and consultation?

Possible closing question

If you had a magic wand and could change one thing about these issues on this site, what would you change?




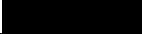



9. *Future Inquiry* workshop reports

9

Future Inquiry Workshop:

Production bonus and safety incentive schemes

The *Future Inquiry* Workshop on production bonus and safety incentive schemes was held at Penrith Panthers on 24 July 2007. There were 47 participants representing seven stakeholder groups, each identified by a colour. There were seven stakeholder groups:

1. Coal employers	
2. Metalliferous and Extractive Employers	
3. Contractors and services to the mining industry	
4. Coal employees	
5. Metalliferous and Extractive employees	
6. Other employees and representative groups	
7. Regulator	

Purpose

To let stakeholders know the progress of the research and what the main findings are—what works well and what the gaps are. To ask stakeholders how things should change to achieve a safer industry in the future. The outcomes of the workshop will inform the final report.

Aims of the workshops

1. To advise stakeholders about the literature and the research findings so far.
2. To hear stakeholders' reactions to the findings of the research.
3. To consider the consequences of the findings of the literature review and the data collection for the future of the industry.
4. To develop strategies for industry intervention to fill the observed gaps.

The purpose of the workshop was to engage the diverse stakeholder groups, which represent 'the whole system', in helping to develop the strategies to improve production bonus and safety incentive schemes in the NSW mining industry. The outcomes of the workshop form part of the data for the Digging Deeper project and will inform the final report.

Program

- The present
- The context
- The future
- What first steps can we take?

The present

In stakeholder groups, participants identified what works well and what doesn't work well in current arrangements.

Coal employers group

Safety incentive scheme

What works

- Combination – process based, outcome based
- Team based
- Specific management Vs operational
- System linked to culture of organization i.e. move system with maturity
- Initiatives based on a combination of production safety and quality (balanced)
- Consultation in development
- Scheme supports SMS
- Eg ratio of potential (near miss) to actual
- Hazards reported
- Planned Task Observations
- Housekeeping quality

Less effective

- Purely outcome based (lagging)
- Lack of any system – workers comp system drives behaviour
- What works at one site not necessarily effective elsewhere
- Complex system
- Dependence on incentive system to change culture
- All or nothing systems
- Total reliance on money rewards

Metalliferous and extractive employers

What works?

- Management driven – inputs/initiatives
- High reporting rate
- Value of recognition from General Manager for individuals

What doesn't work?

- Lag indicators drive under reporting
- Perceived right (institutionalised)
- Over emphasis on RTW after incident

Contractors and services to the mining industry

Things that work

- Safety commitment scheme across site
- Measure positive performance
- Hazard awareness system

Things that don't work

- Sub-contractors will be held accountable for LTIs but are not part of incentive scheme
- Result from incidents has consequences on sub-contractor – non-reporting, scapegoats
- Total performance measurement scheme (non involvement)

Coal employees

What works

- Supplements income
 - Employees prefer “at risk” remuneration component
- Apparently reduces employer cost by reducing Workcover premiums (anecdotal)
- May increase worker attitude to working more safely

What doesn't work

- Whole workforce penalised for single LTI
- Carrying of injuries for extended periods
- Lack of notification of injuries and therefore causes therefore no preventative measures
- Significant % of income in production bonus leading to shortcuts and unsafe practices

Metalliferous and extractive employees

Safety Incentive scheme

What works?

- Reduces frivolous claims
- Encourages teamwork and participation

- Encourages people to come back onto light duties

What doesn't work?

- Base on negative result
- LTI based Safety incentive
- Reduces legitimate claims
- Group encourages to not claim
- Can force people back to work too early

Monthly safety award

What works?

- Done monthly
- Based on preventative measures
- Rewards individuals and team

What doesn't work?

- No structure to individual safety award scheme
- Supervisor award

Other employees and representative groups

Safety bonuses

- Annual wages linked to safety – workers limited control – management push not to report
- Bonus related to LTIs
- Committees only do safety business at meetings
- Disciplinary action as a result of identifying hazards
- No proactive bonus
- Fatigue not recognised as safety issue (production)

Production bonus

- Increase risk to safety proportionate to % of wages
- Increase risks to safety where company does not have a safety culture
- Historic
- Don't have any positive safety outcomes

Regulator

What works

- Metalliferous sector - encouraging reporting, recognition for contracting company that had reported the most matters and issues regarding safety. Lead to increased OHS reporting overall at site
- Coal – longer term averaging for bonus targets
- Extractives – no schemes – no distractions
- Contractor management – controlled metrage bonus by “timeout” to address safety issues and improve safe behaviours

Positive features

- Safety must be included in any arrangements with employees or contractors and be paramount
- Employee/management/supervision/contractors must be involved to achieve commitment
- Must be reviewed for effectiveness and be capable of change

What doesn't work

- Scheme imposed by management – no consultation
- Weekly, daily production bonuses
- Schemes where there is no control (site or contractor employees) of the production process and safety issues. Quality vs Quantity

Negative features

- Can lead to under-reporting - Drive an inappropriate safety culture
- Poor design, choice of inappropriate objectives and incentives leads to unintended behaviours
- Incentives too complex to understand how to behave
- Can become institutionalised, entrenched and very difficult to change – clash between industrial and safety outcomes and objectives

Common to all groups

Common negatives

- Management driven
- Complex – hard to understand
- Use of LTI as the measure – lag indicators
- Not everyone's involved in setting them
- Becomes institutionalised
- Drives wrong behaviour (especially if relying on LTI)

- Typically negative reinforcement – taken away if injury occurs
- Where it's a scheme that's introduced but not part of a holistic approach to safety
- Lack of auditing/review of effectiveness of scheme – what they drive

Common positives

- Management driven - commitment
- If going to have a scheme, need a balance of production and safety
- Consultation – all stakeholders not just mine employees and ongoing communication
- (Production bonus supplements income)
- Preventative, proactive schemes
- Where linked to safety management plan and activities

Needed

- Involvement in setting targets

The context – our Mind Map

Bridging the gap: 2007-2017

Participants identified current trends in the environment that might impact on achieving effective production bonus and safety incentive schemes. These were collected as a large group mind map. Each participant was given 5 sticky dots in the colour of their stakeholder group and asked to spread their votes over the trends they regarded as most significant. The trends and the voting are listed here. It is important to note that those trends that received *no* votes may still be significant; they were just not accorded *relative* significance on the day.

There were seven stakeholder groups:

1.	Coal employers	
2.	Metalliferous and Extractive Employers	
3.	Contractors and services to the mining industry	
4.	Coal employees	
5.	Metalliferous and Extractive employees	
6.	Other employees and representative groups	
7.	Regulator	

Mind map branches and sub-branches	All							
Effective production bonus and safety incentive schemes								
Incr adversarial environment with individual and corporate outcomes	4	3		1				
Incr unacceptable to injure people – incr driver for safety incentive schemes	6	2	1	1		2		
For safety schemes: no commonality: incr complex	14		3	3	2	3		3
● Incr individualisation of schemes – competition for features	1				1			
● Incr use of behavioural systems – depends on maturity of organisation	2	1		1				
○ Incr different schemes within the same company	1	1						
○ Incr different schemes for different companies	4	3		1				
Incr discussion about use of lead indicators	9	3	1		1	1		3
● No guidance on lead indicators	1					1		
● Legislation and Australian Standards demand lag indicators	3		3					
Incr use of contractors and outsourcing	8				4		1	3
● Incr effort by contractors to improve safety systems	5			4				1
○ Increasingly principals are demanding same standards from contractors	3		2					1
○ But price can still be a criterion for selection								
● Incr complexity with engaging contractor workforce								
○ Incr impact on employees' incentives by contractors								
● Incr outsourcing going to high risk/low return activities	1			1				
○ Incr using contractors with minimum training to do high risk work	1							1

Mind map branches and sub-branches	All							
● Incr casualisation incr insecurity of employment	6				4		2	
○ Incr pressure to meet targets – otherwise lose contract	5				3			2
Incr performance-based legislation	5							5
● Incr aim for compliance rather than quality systems	7		1		1		3	2
● Incr compliance is part of a forward journey	1		1					
Inr workforce assessment used to suppress OHS issues	6				5		1	
Incr questioning of value	14	4	6		1		1	2
Incr in genuine commitment by all players to improving OHS in industry	14	5	3			4		2
● Incr level of education of workforce								
Incr in power and technically complex equipment	2				1			1
● Incr need for training, including refresher training	8			1	4	1	1	1
Incr separation of supervision/management competence into (1) process/technical and (2) management/organisational	2						2	
Incr starting to look at health issues	12				2	9		1
● Incr range of substances in use in mines and quarries								
Production bonus schemes in same environment/context								
Incr responsibility for safe place to work – effort in	5		1	1				3
● Incr complexity in labour relations	1			1				
● Incr wanting to be an employer of choice	4	1	1		2			
○ Incr diversification in sources of labour								
○ Incr difficulties in recruitment and retention	3		2				1	
▪ Incr ageing workforce	1						1	
Production schemes are process driven; measurable with simple parameters	1	1						
● Becoming more complex								
● Incr based on revenue, not just tonnes produced								
Incr improvement in injury rates across Australia – reaching a plateau	3	2				1		
● Incr engagement with the workforce	9	7	2					
Incr change in systems against which we're measured	1			1				
● Shifting goal posts	3			1		1	1	
Incr complexity in management systems – time consuming – keeps experienced people from pit	11	2	1	3	1		2	2
● Complex systems – complex measures	3		1				1	1
Incr de-collectivisation of industry	12				8	1	3	
● Incr schemes imposed by management – worker doesn't get a say								

Stakeholders' response to the mind map

In stakeholder groups, participants examined the mind map and chose a few trends that were important to their group. They discussed what they are doing now in response to that trend and what they (not others) want to do in the future about that trend.

Coal employers group

Statement

1. Engagement of workforce:
 - 1.1. Small team (10-15) – involvement, ownership, shared goals.
 - 1.2. Increased level of communication in small teams or groups.
 - 1.3. Result in increase buy in and accountability
2. Increased commitment by all stakeholders in regards to increased OHS performance within their sphere of influence.
 - 2.1. Effective consultation.
 - 2.2. Relate to individual accountability, control.
 - 2.3. Appropriate reward/recognition for high performance.
 - 2.3.1. Site,
 - 2.3.2. Team,
 - 2.3.3. Individual.
3. Link incentive scheme to cultural maturity.
 - 3.1. Use measures appropriate to site and its cultural maturity.
 - 3.2. Increasing use of lead indicators.
 - 3.3. Incentive more focused on recognition than \$\$ with greater maturity.

Metalliferous and extractive employers

Now:

- Compliance
- Legislation – Australian Standards
- Complex – simplify
- Measuring – no commonality in principles
- Punitive – collective

Want to do:

- Engage work force

- Value add effectiveness?
- More meaningful measures
- Positive individuals

Contractors and services to the mining industry

No safety bonus system:

- Responsibility is based on the commitment of all, Project Manager, Engineering superintendent, employees, contractors

Concerns – trends

- Effort by contractors to improve safety systems
- No commonality between safety systems
- Systems too complex, time consuming, compliance

The future:

- Consultation in process (system)
- Where does responsibility, accountability start (contract)
- Different processes across industry

Coal employees

Priority themes and what we are doing about them

Decollectivisation:

- Permits inappropriate employer prerogative and no employee input – individualisation

What we are doing:

- Organising
- Political strategy (Your Rights At Work)
- Agreement making
- Support members

Casualisation/contractors:

- Pressure on individuals – contractors.
- Lower standards of safety

What we are doing:

- Organising
- Political strategy (Your Rights At Work)
- Agreement making

- Support members

Lack of employee input:

- Legislative amendments
- National Mine Safety Framework
- Agitate around rights

Workplace assessment:

- Wrongly used

What we are doing:

- Oppose and expose

Health issues:

- Emerging issue
- Ageing work force
- Need for proper, fair and appropriate use of - not another termination tool

What we are doing:

- Activate involvement in reviews

Training:

- Active involvement in MSAC
- Coal competency board
- Lobby for legislative amendment

Metalliferous and extractive employees

Health issues:

- Machinery technology has removed immediate hazards
- Long term health issues – vibration, back injuries, dust, noise etc.
- Effects of night and shift work
- Sedentary work style – weight issues etc.
- Ageing workforce – access and egress

Resolutions:

- Wellness programs – dieticians, pedometers
- Health monitoring programs
- Equipment monitoring
- Ergonomics
- Input from industry into equipment design

Other employees and representative groups

Decollectivisation of industry:

- Now:
 - People feel vulnerable and don't want to raise issues
 - Less employee input
 - Pressure on individuals
 - Lower safety outcomes
- Need:
 - Encouraged to join unions,
 - Support collective culture

Schemes imposed by management, no say by workers:

- Now:
 - Poor consultation on implementation of regulations or way workers do the job
- Need:
 - Enforce legislation,
 - More training

Outsourcing and casualisation:

- Now:
 - Multiple employers at one site.
 - Believe can contract and outsource high risk and safety.
 - No ownership
- Need:
 - Integrated into safety systems

Complexity:

- Now:
 - no reviews, not prescriptive
- Need:
 - Structured reviews
 - Training
 - Consultation

Ageing workforce:

- Now:
 - Nothing occurring now

- Need:
 - More trainees, graduates, apprentices

Separation of technical and management roles:

- Now:
 - Production vs safety
- Need:
 - People involved in developing systems work in systems

Regulator

Priority theme

- Contractors
- Labour relations and recruitment
- Performance-based legislation
- Complexity of safety systems

What we are doing about it now

- Contractor management guidelines
- Consultation with contractors over standards, communication
- Reporting
- Combine safety systems and performance-based legislation to create safety culture
- Application of OHSMS to labour relations and recruitment

What we want to do in the future

- Best practice publication about production bonus and safety incentive schemes
- Monitor the effect of production bonus and safety incentive schemes
- Develop audit tools for production bonus and safety incentive schemes
- Use an employee survey to monitor production bonus and safety incentive schemes
- Look at the influence of production bonus and safety incentive schemes on safety outcomes

Our ideal future – *NSW Mining Update 2017*

Participants were asked to project themselves ten years into the future; to treat 24 July 2017 as the present. In mixed groups, participants drafted up the front page of the *NSW Mining Update* for 24 July 2017, as if production bonus and safety incentive schemes in the NSW mining industry were ideal. They were told that what they describe should be feasible (people could do it if they wish), desirable (the whole community would benefit) and motivating (you would work to make it happen).

Group 1

1. No Safety Incentive Schemes (\$'s based) 7r 1x
2. Performance standards identified – especially at site level
3. Agreed measurement processes in place with defined, graduated outcomes, positive and negative
4. Regular and open reviews of ‘system’ and ‘processes’ – backed by agreed means of communication – *effectiveness*
5. Personnel should be ‘fearful’ of personal negligence or criminal intentotherwise full and open reporting, auditing, verification etc

Group 2

1. No (PB & SI) incentive schemes as currently recognised. Roll in a percentage of current schemes into base and profit sharing component (understanding all drivers and values)
2. No scheme as such
3. Barriers
 - Fear that earnings will reduce
 - Fear that injuries will increase
 - Will it be transparent??!
 - Skilled labour shortage – ability to attract
 - Aversion to performance reviews
 - Silo mentality – how to divide pie
4. How overcome
 - Consultation
 - Education
 - Training
 - More focus on recognition (not incentive)
5. Mutual success recognised – profit and viability

6. Open consultation, transparency, honest negotiations, equal for everyone

Group 3

Ideal Future

- PB and SI schemes do not exist as 'separate' entities – 'safety' is just the way you do business
- No scheme –
 - Employees know they are rewarded fairly
 - Systems and processes for mining activities ensure that employees' concerns and ideas are actively sought, properly considered and appropriately acted on – looked on as an opportunity to improve
 - Require best practice criteria
 - Regulator can audit to advise 'compliance'
- 2007 EAs, PB and SI schemes need to be transformed by transition arrangements
 - trial shadow arrangements
 - apply the ideal principles
- Whole of work required in each position – production, safety, technical, operation, maintenance etc is fairly remunerated and each employee knows and believes this
- Best practice standard
 - tripartite agreement,
 - assessment of application,
 - assessment of outcomes,
 - confidential employee survey,
 - external audit
- Totally integrated – have become accepted practice
- Health and safety outcomes have continued to improve - they have never been better

Group 4

What do we have in 2017?

1. Smiley face
2. Schemes not required – safety only? Production bonus and Safety Incentive?
3. Common safety goals
4. Good systems and knowledge and understanding
5. Clearly defined roles and responsibilities
6. Communication, consultation, participation

7. Entrenched safety philosophy underpinning behaviour
8. Integrated safety systems into management systems and decision making
9. Treating people as equals

How we got there

1. Consultation, communication of situation and obtaining input from stakeholders
2. Agreed goal, process, vision
3. Trust – open transparent process (all directions)
4. Good systems that support the right decisions and participation, knowledge, understanding, roles and responsibilities and developing a philosophy supporting safety
5. Staged approach
6. Joint evaluation

Hurdles

1. Turning off scheme when maturity in entrenched
2. Incentives can indicate safety is in addition to your job
3. Safety is not a commodity
4. Having realistic targets and goals
5. Keeping goals and targets relevant
6. Providing resources to achieve targets and maintain system
7. Lack of trust

Group 5

July 24 2017

No Safety Incentive Production Bonus Schemes

Journey

- Current safety incentive/production bonus identified as counter productive
- Identifying appropriate measures, drivers
- Cold turkey
 - One off payment
 - Ask employees
- Industrial relations, negotiation re equalising
- Rising Workcover costs
- Disincentive for change
 - Management (extra work associated with addressing system failures)

- Employees (institutionalised “right” to payment)
- Political environment
 - IRC replaced, outlawed
- Incremental addition of lead indicators replacing over emphasis on LTIFR
- What motivates?
 - Legislation
 - Celebrate success
 - Cooperative
 - Stability
 - Positive leadership
 - Uncompromising standards
 - Consultative, engaging
 - Employer of choice

Culture

Group 6

No production or incentive scheme!

Whole – employee/family focus (health and welfare)

Systems designed to achieve responsibilities and accountabilities - simple

- Low injury rate – improve monitoring and review
- Generation change in workforce – engagement of experts/mentors, educators, unions, employers
- Previous schemes etc part of annual salary – collective agreements
- Better training – capture of industry knowledge
- Full employee consultation and involvement – TBT, self-motivated teams
- Leadership – top down
- Ownership – bottom up
 - No them/us
 - Good leadership
 - Knowledge of systems
 - Work together
 - Trust

Our Ideal Future – strategies

The whole group identified common ideas from the newsletters. These were:

- Safety Incentive schemes gone – some debate about production bonus schemes
- Transition issues need to be addressed, eg IR impact, consultation
- Need clear definitions, roles, criteria
- Transparency
- Safety is a way of life, a way to do business, integrated in the whole of the site management system.
- Fairness/equity leading to trust
- Common goals
- Leadership
- Responsibility and accountability
- Consultation

In plenary discussion these were worded to form strategies for action that would enable movement towards the desired future.

- Education about safety incentive schemes and how they do and don't work
- Research on how others who don't have schemes manage – inside and outside industry – and on more effective schemes, measures
- What takes its place – to compensate people
- Look at how we bring people into our industry – entry level training
- Develop long term plan – consultation
- Regulation? Code of Practice/guidelines – Government and real information for Minister – discretion of enterprises
- Celebrate success
- Site consultative groups to clarify behaviours and accountabilities – agree and commit
- Negotiation – employees, managers, unions, senior management, regulators, government
- MSAC develop guidelines to guide practice – within its terms of reference
- A way of dealing with potential flow-on effect to companies that don't have schemes

First action steps

The strategies identified in the last section were divided up amongst the plenary group. Self-selected groups worked on specific strategies that the whole group identified as having priority. They discussed the first actions that should be taken to make them happen.

Strategy 1 – What takes its place to compensate people

Proposed actions

- Roles and responsibilities must be clear
- Need to put something back into people's pay
- Consult on the measures and motivators

Strategy 2 – Research and education

Proposed actions

- Case studies – for/against, never done, other industries
 - Format
 - Publication
- Barriers – measurement and monitoring
- Analysis by independent experts
- Report to industry

Strategy 3 – Training

Proposed actions

- Generic safety training induction (e.g. green card)
- Peak bodies agree to principles of training
- Legislation mandating training
- Nationally recognised competencies and standards
- Explore possibility of off-site training (simulator) – virtual reality coal services, Cadia have simulators
- RIISC exploring Cert 1 training across all states
- Re-training of employees to keep skills current

Strategy 4 – Regulations and research

Proposed actions

Regulation application:

- Provision of a guideline is preferable to prescriptive regulation
- Any regulation would need careful consideration and not limit positive

Consultative groups:

- True work team
- Divorce from industrial process
- Identify in layman terms what is expected

Future Inquiry Workshop:

OHSMS and consultation

The *Future Inquiry* Workshop on OHS management systems and consultation was held at Penrith Panthers on 25 July 2007. There were 49 participants representing seven stakeholder groups, each identified by a colour. There were seven stakeholder groups:

1. Coal employers	
2. Metalliferous and Extractive Employers	
3. Contractors and services to the mining industry	
4. Coal employees	
5. Metalliferous and Extractive employees	
6. Other employees and representative groups	
7. Regulator	

Purpose

To let stakeholders know the progress of the research and what the main findings are—what works well and what the gaps are. To ask stakeholders how things should change to achieve a safer industry in the future. The outcomes of the workshop will inform the final report.

Aims of the workshops

1. To advise stakeholders about the literature and the research findings so far.
2. To hear stakeholders' reactions to the findings of the research.
3. To consider the consequences of the findings of the literature review and the data collection for the future of the industry.
4. To develop strategies for industry intervention to fill the observed gaps.

The purpose of the workshop was to engage the diverse stakeholder groups, which represent 'the whole system', in helping to develop the strategies to improve OHSMS and consultation in the NSW mining industry. The outcomes of the workshop form part of the data for the Digging Deeper project and will inform the final report.

Program

- The present
- The context
- The future
- What first steps can we take?

The present

In stakeholder groups, participants identified what works well and what doesn't work well in current arrangements.

Coal employers group

Do well

OHS Management System

- Core risk management system
- 5 year strategy, an annual plan process
- Electronic documentation of system/doc control
- Combination of management system processes (risk control) and behavioural systems
- Planned task observations and inspection systems
- Simple systems
- Ability to access what's needed for job role

Consultation/Committees

- Minimum standards and site steering committees – flexibility
- Involvement in system development
- Workforce representation
- Periodic meetings with action plans and feedback
- Meeting protocols focussed – not irrelevant
- High level executive meetings with employee involvement
- Management accountability to communicate
- Time specifically allocated to consult

Not well

- Effectiveness in communicating
- Often complex systems – often because of prescribed requirements (design?). Distil critical information
- Foundation risk identification and control (quality)
- Inherent mistrust
- Difficulty in changing culture
- Fear of unreasonable prosecution
- Knowledge management (transfer when people move on)
- Skills of individuals (including FL sup and safety reps) to communicate and lead effectively
- Getting right mix in consultation meetings when still mining
- Consultative training eg WorkCover safety committee course

- Industrial issues labelled as safety issues

Metalliferous and extractive employers

What works?

- Integrated system (not stand alone)
- Employees totally participate
- Sharing amongst employees, other companies and OHS people
- Thinking “risk” levels as a way of working safely
- Move from old fashioned view of safety to total package of OHS

What doesn't work?

- Duplication and complication of legislative requirements
- System requires specific safety management plans which may conflict with integrated systems
- Variable understanding/interpretation by inspectors

Contractors and services to the mining industry

Things that work

- Systems “exist”
- Employee OHS attitude/awareness increasing
- Risk assessment (done properly)
- Hazard awareness – on job reviews – JSAs, SWPs, SOPs, (done properly)
- “Good” contractors (UGM, DET, THIESS) are recognised professional gateway for cleanskins
- Have to address SMSs across broader range of sites – knowledge increasing

Things that don't work

- Pre-qual – not complete assessment
- Integration or relevance of contractors SMS to the site
- Confusion re: responsibility for “outcomes” when labour hire utilised
- Fear of “prosecution” – shuts down information flow and consultation
- Contract focus on safety often document driven – induction, risk assessment
- Often time constraints on risk/hazard management processes- tender/contractor neg most of the time – not there at planning

Coal employees

What works

- SHMSs at least minds have to be directed to
- Statutory requirement for work force to be trained in and familiar with (including OHS reps)
- Some information sessions but may be part of BBQ environment

What doesn't work

- Management believe that making a decision and communicating that decision = consultation
- Consultation does not comply with statutory requirement
- Training and familiarisation not provided
- OHS reps not permitted time to discuss or communicate with broader workforce – contractors and workers outside immediate work area excluded
- SHMS or elements of are developed by employer remote from site - becomes “Company policy” and then imposed on site
- Management tend to be exclusionary, secretive towards OHS committee and reps when investigating incidents and then selective with issues on OHS committee agenda

Metalliferous and extractive employees

What works?

- Review SWPs on a rotating basis (one every 2 months at group safety meetings)
- Consultation and safety committees
- Company structure of KPIs for management good
- Culture change of workforce

What doesn't work?

- Onerous and time consuming
- Communication of change
- Management and implementation of KPIs bad (only attend meetings to meet KPIs)
- Positive outcomes from committees slow to be introduced

Other employees and representative groups

What works

- Committee structure
- Committee doing inspection & provides feedback

- Involvement of workers when things change
- Workers feel included when approached on safety issues (eg toolbox talks, direct management briefs)

What doesn't work

- Feedback to workers
- Employees and their representatives not provided enough education and training
- Non-statutory persons don't understand responsibility and delegate responsibility upwards to statutory
- Contractors not involved on OHS consultation - both temporary and permanent
- Contractor management systems don't integrate contractors' systems
- Audits take place, not reviews and evaluation
- OHSMS not integrated into other company systems (ie purchasing)

Regulator

What works

- Coaching approach to OHSMS (guidance and best practice)
- Clear and concise legislation that can be effectively implemented
- Ownership of OHS systems and processes by whole workforce
- Committed leadership and full participation by workforce

What doesn't work

- Focus on process rather than outcomes
- Fear and punishment
- Self-interest

Positive outcomes

- All mines have OHSMS plans and standards are improving
- Increased understanding of genuine consultation and its benefits
- High level of participation in OHS process

Negative outcomes

- Poor quality OHS systems
- Poor implementation of OHS systems
- Lack of understanding of and commitment to OHS systems

Common to all groups

What's not working?

- Lack of communication
- Consultation not always effective
- Systems not integrated between mines and contractors
- Resources/time for consultation not adequate
- Requirement for systems to be presented in different formats for different authorities
- Managing by hazard, not risk, and variable and conflicting system requirements
- No consistency in terminology – definitions vary
- Variability in quality of leadership
- Variability in evaluation of systems
- Variability in implementation of systems
- Management of performance of senior management – a disconnect between production and OHS values

What works?

- Existence of OHSMS
- Reps and committees
- Requirement for contractors to have systems – cultural shift of employers to require this
- Recognition that there is a need to address the problems with OHSMS and consultation
- A lot of effort going into OHSMS

The context – our Mind Map

Bridging the gap: 2007-2017

Participants identified current trends in the environment that might impact on achieving effective OHSMS and consultation. These were collected as a large group mind map. Each participant was given 5 sticky dots in the colour of their stakeholder group and asked to spread their votes over the trends they regarded as most significant. The trends and the voting are listed here. It is important to note that those trends that received *no* votes may still be significant; they were just not accorded *relative* significance on the day.

There were seven stakeholder groups:

1.	Coal employers	
2.	Metalliferous and Extractive Employers	
3.	Contractors and services to the mining industry	
4.	Coal employees	
5.	Metalliferous and Extractive employees	
6.	Other employees and representative groups	
7.	Regulator	

Mind map branches and sub-branches	All							
Effectiveness of OHS management systems and consultation								
Incr hours of work – fatigue management	17	2	1	1	4	8	1	
Incr move away from prescriptive legislation	3				2			1
● Incr understanding of what that means esp in small mines	2			1				1
● Incr trend in search for good practice	4		1					3
● Incr discussion on appropriate lead and lag indicators to drive evaluation	2	1	1					
Incr shortage of skilled labour	24	8	5	4	1	4	1	1
● Incr use of contractors	3		1					2
○ Incr use of consultants who make the simple complicated	1			1				
● Incr in new X & Y generations who think differently about their career	1		1					
● Decr adherence to statutory requirements for skilled people								
○ Incr reluctance of young graduates to take on statutory positions (the ones who do take it on are not those we would want to)	3	1		1	1			
● Incr loss of corporate knowledge when people leaving	2						1	
● Incr shortage of labour generally	2		1					
● Mix of skills changing, incr requirement for high level skill								
○ Especially at leadership	1		1					
● Incr ageing workforce, decreasing fitness as a result	2	2						
Incr globalisation	7	1	3		3			
● Incr change of ownership in industry								

Mind map branches and sub-branches	All							
○ Incr consolidation /concentration of mines within global players	1		1					
○ Decr overheads being stripped out because of market ebbs and flows								
● H&SE is a core value globally	3	1	1	1				
● Incr pressure for good corporate governance including HSEC for sustainability (shareholder driven)	2	1	1					
● Incr pressure of return to shareholders	1		1					
Incr looking at taking people out of the system with new technologies – robotics	1	1						
Inr poor quality training for elected HSRs	6			1	2		2	1
Incr to have less information exchange/less freedom of info exchange because of Gretley	5	3		1				1
● Incr use of this fear to motivate middle mgmt to implement OHSMS								
● Incr fear of prosecution by mine managers	10	5	2			1	2	
● Incr view that management accountable for OHSMS failures but reality is that workers are ultimately accountable and pay with their lives	5				5			
Incr pressure on middle management performance including OHS with less resources – work longer hours	15	5		1	1		8	
● Incr pressure to get all of the elements in an OHSMS done within time requirements as well as cut coal	2			1			1	
○ Incr demand for legislation requirements as companies mature								
○ Incr demand on existing resources	5	1	2				1	1
▪ Incr desktop audits not fair dinkum audits								
▪ Decr priority given to OHS resources in comparison to production	1							1
• Lack of recognition of what's being asked for with respect to OHS/production	1						1	
● Need to get things sorted in a timely way	6		1		5			
● Incr middle mgmt overworked and overloaded	12	5	3	2		1		1
○ Incr middle mgmt statutory requirements	1					1		
Incr use of technology in response to problems	3	1		1				1
Incr recognition of health as an issue – but health has been second cousin to safety	2	2						
Personal definitions of consultation	4				4			
● Decr in effective communication from snr mgmt to workforce	4			1				3
Incr expansion of information in response to incidents and industry demand	8	4	2				2	
Incr difference between the good and poor performers	1		1					
● Decr sharing of information and experiences	1				1			
Incr large complex mines operating 24/7 resulting in a change in culture	5	2		1			1	1
Incr recognition that OHSMS and consultation are statutory requirements	1							1
Incr focus on worker behaviour	4		3					1

Mind map branches and sub-branches	All							
Incr application of OHSMS as part of sustainable development approach to improve corporate image	2	1						1
Move to a complete system that integrates a range of requirements	11	5	1	2	1		2	
● Incr in BBS	5	3			1		1	
○ Incr financial gain through safety performance								
Incr changed employment relationships - AWAs	10				8		1	1
● Incr fear of retribution	5						5	

Stakeholders' response to the mind map

In stakeholder groups, participants examined the mind map and chose a few trends that were important to their group. They discussed what they are doing now in response to that trend and what they (not others) want to do in the future about that trend.

Coal employers group

Priority theme – skills shortage

What we are doing about it now

- Trainees
- Apprentices
- Graduate programs
- Vacation students
- Bursaries
- Study assistance
- Skills training
- “Sons and Daughters” program
- “Mummies shift”
- Indigenous trainees
- OHS training for contractors
- Supplementary labour

What we want to do in the future

- More participation in above
- Increase areas for trainees
- Job sharing
- Flexible working arrangements
- Change legislation

Priority theme – fear of prosecution

What we are doing about it now

- People reluctant to take up jobs
- Information overload
- Information suppression
- “Cover your arse” attitude

What we want to do in the future

- Push for sensible and fair legislation

*Priority theme - Management overload**What we are doing about it now*

- Email protocols
- Use of IT systems
- Reactive application of legislation

What we want to do in the future

- Better integrated systems
- RACI charts (role/accountability matrix)
- Better prioritisation
- More realistic expectations
- Use of management tools
- Time management skills
- Less meetings

Metalliferous and extractive employers*Pressure for middle management*

- Work smart not hard
- Time management
- Additional resources
- Delegation skills
- Share information
- Better communication and information from top

Shortage of skilled labour

- Training
- Overseas recruitment
- Modules for school students
- Development projects
- Remuneration parity

Fear of prosecution

- Good relationships with regulators

- Be confident in your system
- Know your law
- Positive middle management motivators

Contractors and services to the mining industry

Priority theme - skills

What we are doing about it now

- Graduate engineering program
- Annual apprentice intake
- Mentoring
- Training
- Skills profiling
- International recruitment

What we want to do in the future

- Industry development programs
- Retain skilled people
- See industry forward planning
- Integrated OHS training in programs

Priority theme – integrated systems

What we are doing about it now

- Not integrated with clients' OHSMS with others
- Time consuming
- Variations with clients' systems

What we want to do in the future

- Work closer with clients in system development
- Open communication
- Greater access to existing docs

Priority theme – middle management pressure

What we are doing about it now

- Development of people with skills base

- Providing services
- Internal resources

What we want to do in the future

- Increase administrative support for supervisors and managers
- Simplify processes
- Utilise spouses and local community to fill positions

Coal employees

Fatigue management

- Seeking to influence outcomes
- Identify as issue
- Lobby State Government
- Research

Employment relationships

- Challenge – including in courts
- Organising
- *Your rights at work* (political)
- Influence federal election outcome
- Lobby State Government

Consultation

- NMSF – lobby, influence
- MSAC – lobby, influence
- Agitate DPI to enforce

Time constraints

- Complaining to employers and DPI
- *Your rights at work* (political)

Metalliferous and extractive employees

Priority theme – skills shortage

- Resource boom is creating skill shortage,
- Making people move up at a faster level with training not keeping up at all levels.
- Lack of experience leading to lack of fore-sight

- Less funds available for training
- Shortening of time it takes to get qualifications – fast tracking

What we are doing about it now

- In extractive industries they have an extractive industry training package
- Metalliferous has a similar package
- National accreditation (metalliferous)
- Scholarship and apprenticeship schemes
- Tightening up of SOPs

What we want to do in the future

- Higher level of training
- Lobby for funds for training to be increased (company, industry, government)

Other employees and representative groups

Priority theme – pressure on middle management

- Resources not proportionate to expectations

What we are doing about it now

- Working longer hours – being whipped harder
- Cutting corners – not going underground
- Spreading resources thinner
- Resources not been allocated to safety
- More flexible management structure
- Little sympathy from above

What we want to do in the future

- Mass industrial action
- Industry abandoned by workers – will lead to unsafe industry
- Continue to push for reasonable hours and safe conditions

Priority theme – industrial arrangements

- Fear of retribution

What we are doing about it now

- Fear to report issues
- Link between AWA and long hours
- Lessening of safety standards and expectation

What we want to do in the future

- Move towards change to industrial relations
- Improving bargaining strength through unions
- Make sure contractors are in secure employment

*Priority theme - quality training**What we are doing about it now*

- Ageing workforce – lose experience with no training of replacement
- Foreign labour
- Consultants delivering training without necessary skills and knowledge
- Poor retention and outcomes
- Uneven internal levels of training in industry

Regulator*Priority theme - Ineffective communication between senior management and workforce**What we are doing about it now*

- SMC positive
- Consultation – audit tool
- Other tools

What we want to do in the future

- Audit communication
- Identify good performers/systems – case studies
- Change role of DPI – lessen fear

*Priority theme - Identification of good practice**What we are doing about it now*

- MSAC
- Sector Safety Advisory Committees
- Web
- Seminars and workshops
- Communication
- SMC

What we want to do in the future

- Rationalisation of information e.g. guidelines, Codes of Practice
- Awards, rewards system
- National framework
- Other states jurisdictions

*Priority theme - Demand on resources**What we are doing about it now*

- Negative compliance pressure
- Education and workshops
- Coaching advice
- Australian standards
- Provide kits
- International standards

What we want to do in the future

- More education
- Positive international standards – ILO
- Simplify legislation

Our ideal future – *NSW Mining Update 2017*

Participants were asked to project themselves ten years into the future; to treat 25 July 2017 as the present. In mixed groups, participants drafted up the front page of the *NSW Mining Update* for 25 July 2017, as if OHSMS and consultation in the NSW mining industry were ideal. They were told that what they describe should be feasible (people could do it if they wish), desirable (the whole community would benefit) and motivating (you would work to make it happen).

Group 1

Mining wins safest industry award yet again.

- Sustainable, safe profitable industry earmarked with excellent consultation
- Acceptance in industry of what good consultation is
- Leads to best practice – benchmarking
- Reduce industrial disputation – stake holders share common view
- Widespread adoption by industry
- Failing industry rates
- Self-sustaining systems – self audits, self correcting, continual improvement
- Greater use of technology
- NSW Mining industry becomes world benchmark model through consultation and management systems

How did we do it?

- Industry worked together to achieve common goals

Barriers in 2007:

- Agreement on Best Practice and consultation
- Development of trust and adversarial attitude of management and workers
- Implementation of National Legislation (seen as a resource)

What's been delivered:

- Profitable, sustainable, safe, efficient industry, which is providing employment and exports for Australia

Quotations

- Thank God 'political party' got in
- Now I can be more pro-active and less reactive
- Look what we can achieve by working together
- "I" as a worker contributed to this outcome
- This makes my job easier to attract people to this industry
- Let's not return to the Dark Ages

Group 2

Zero Harm, Record Production – 3 Years Running

The NSW Mining Industry is now the envy of the world. Technology driven improvements have increased productivity, reduced hours and increased wages and much improved conditions of employment.

- 2007 – Start of drive to improve OHS in the mining industry. Publication of Digging Deeper report
- 2008 – Improved technology begins to reduce the workers' exposure to risk. Change of skills sets of people
- 2009 – Consultation standards now considered to be vastly improved
- 2010 – Big influx of well-trained, competent people into mining. Resurgence in quality training and re-training
- 2011- ????????
- 2012 – so it continues
- 2017 –

Barriers in 2007:

- Human resources including admin staff to help with admin and governance requirements
- Admin support systems
- Economic constraints

Quotes:

Union: management have finally listened to the process we suggested in 2007

Management: pleasing to see that the union has finally embraced the intent of the word “collaboration”

Regulator: For Sale – unused body bags

Deputies: Finally the resources and time to carry out duties properly

Safety Manager: Finally the nightmares have stopped

Group 3

THE IDEAL WORLD

Injury and incident free year for mining industry

(picture of a smiley face with earrings)

Key milestones:

- DPI audit of all mines – mines earn a platinum award
- Consultation and communication improved
- Total commitment to safety matched with resources

- Technology improvements
- Labour turnover reduced or eliminated
- Happy consulted employees and consultation

OHS management systems have contributed by:

- Actively seeking and valuing everyone's views
- All high risk tasks eliminated
- No fear of retribution because increased communication, consultation - maturity about OHS
- Performance management systems actually value employees' input
- System values lead indicators, not LTIs

What barriers did we overcome back in 2007? How did we do it?

- Pressure on middle management – matched workload to priorities
- Lack of funding – appropriately funded OHS commitment
- Lack of recognition – produced effective OHS reward system
- Mistrust between management and employees- eliminated fear of retribution. Eliminated because:
 - Walked the walk,
 - management commit to OHS and lead and resource and
 - have appropriate industrial instruments

What is being delivered?

- Organisation
 - Greater efficiency and profits,
 - employer of choice,
 - high level commitment to company by employees
- Industry
 - your CEO = chair NSW MC
 - leading benchmark industry, peers copy our system,
 - safe industry
- Community
 - No injuries
 - CMI scheme in black
 - Can confidently invest in SR Industry
 - Contribute workers compensation saving to education and sport
 - Export safety innovations to those in need at no cost e.g. China
- Economy

- Prosperity
- Howard out
- Positive trade balance
- Nation
 - World leader in safe mining

Quotes

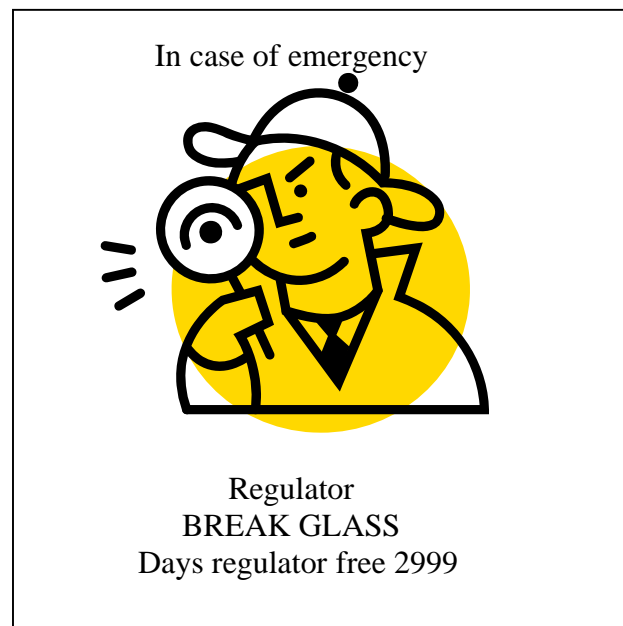
- “Walk the Walk”
- “Hard work but worth the effort”
- “We’ve come a long way and a long way to go”
- Total job satisfaction”
- “What’s next?”
- “Worker Nirvana”

Group 4

EXCLUSIVE!

MINING NOW NSW’S SAFEST INDUSTRY

25/7/2017



Full agreement led to:

- Effective systems
- Meet world best practice
- Effective consultation, involvement
- Complete openness and trust
- Mining now the employer of choice

- Commitment at all levels

Barriers in 2007:

- Lack of adequate training at all levels
- Communication
- Consultation
- Lack of trust
- Sharing of best practice across sites

Deliveries:

- Safe, healthy, effective, viable, productive industry
- Can weather cycles
- “It really wasn’t so hard was it?”

Group 5

Quantum Leap In OHS In 10 Years

- Consultation: full worker participation and involvement is undertaken at all NSW mines
- OHMS: detailed systems that are understood by all and fully implemented with an on-going change
- Consultation and OHSMS are to equal standard across Australia to highest bench mark

Milestones:

- Getting everyone to table and “agreement” – listening and valuing each others ideas
- No fatalities
- No serious accidents
- Very low injury rate
- Improved training – OHS rep and committee member, employee, supervisor
- Training and assessment provider accreditation
- Dissemination of best practice models – OHSMS and consultation

Contributions:

- No fatalities.
- Genuine consultation leads to information sharing and full participation.
- Continuous improvement in OHSMS.
 - All people have full understanding of risk management.
 - OHSMS implemented.
 - Application of superior systems that have full ownership.
- Full implementation comes from complete ownership by all people

Barriers:

- Barrier of participation by both parties resolved. Commitment by all parties.

- OHS resourcing becomes a fully integrated way of doing business

Delivering:

- Benefit of cost reduction across many areas e.g. Workers Compensation, prosecutions, defence, industrial.
- Retention of knowledge, skilled people.
- Sustainable productivity.
- Nation of choice for employment and industry leader

Quotes:

- “Consultation equals participation”
- “I get to go home safe and well”
- “Pleased to have contributed to the best mine safety in the world”
- “Ten years too late”
- “Glad to have been able to retire”
- “Pleased to see no fatalities”

Group 6

Our New Safety Culture Delivers World’s Best Performance

Milestones:

- Injury-free industry for past 5 years (debilitating and serious)
- Shared OHS vision among ALL stakeholders
- World’s best OHS practice
- Simplified OHS systems
- Risk-awareness culture (Hudson’s hierarchy No 1)
- Open and effective consultation between all stakeholders – no barriers

Contributions:

- Ownership and support of initiatives that drive improved safety performance
- Clear accountabilities
- Pro-active management of OHS
- Safety performance outcomes and expectations exceed compliance obligations

Deliverables:

- Greater productivity, profitability, staff retention, employee satisfaction
- Improved safety performance
- Meeting community’s OHS expectations
- Lower insurance premiums, liabilities
- Industry OHS leader (benchmarks)

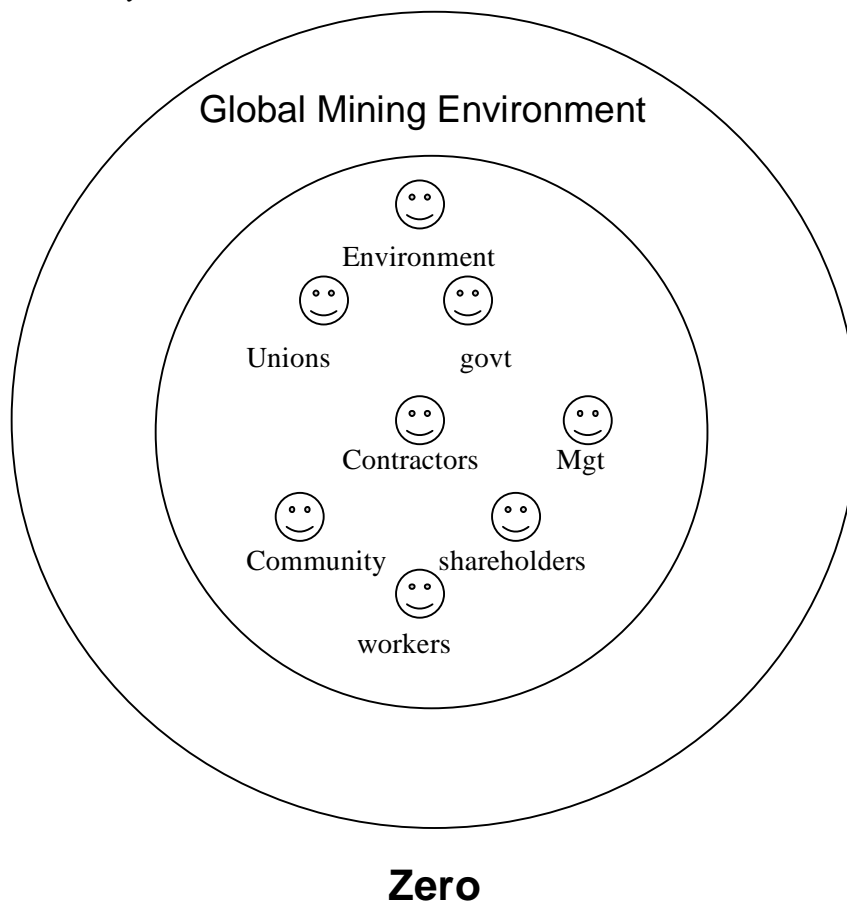
- Export benefits
- Improving GDP, royalties, taxation

Quotes:

- “I can sleep at night knowing the mine is safe”
- “I’ve now got time to focus on planning and core risk control!”
- “All stakeholders’ mine safety expectations have been achieved”
- “Happy workers = happy family life”
- “We manage the risk involved in everything we do”

Group 7

Zero: Safest Industry in Australia



- OHSMS
- Consultation
- Conflict resolution
- Communication
- Training
- Ownership

- Commitment
- Results
- Celebrate success

Contributions:

- Sustainability of industry
- Industry of choice
- Global leader
- Community respect
- Raising standards and expectations of other industries

Quotes:

- “Great”
- “With persistence we have succeeded”
- “The work has only just begun”
- “Let’s keep moving forward”

Barriers in 2007:

- Workforce perceptions
- Cooperation of key stakeholders (smiley face people)\
- No recognition that all contribute to outcome
- “She’ll be right”, “It’s not my problem” attitude – need to create ownership through consultation and involvement
- Ineffective leadership
- Resources
- Fear

	Organisation		
Industry	Community	Economy	Nation

- Profits
- Sustainability
- Jobs
- Development of youth
- Meeting moral expectations
- Increased performance bonuses and pay increases – more money to spend in community
- Industry of choice

Group 8

NSW Mining Industry Internationally Recognised as the Gold Standard in Health and Safety

- Our industry is considered to be the industry of choice for school leavers
- Young people have the opportunity to learn and develop their skills

Delivering:

- Organisation: closer relationship between management and employees
- Community: sustainable industry, good corporate citizenship, zero harm
- Industry: less injury, more productivity, less turnover of staff
- Economy: booming
- Nation: standard, safety economy
-

INTERNATIONAL CORPORATE COMMUNITY – founded in risk based business management system

Milestones

- Fair legislation
- Lead indicators focus
- Industry work in partnership to identify goals and improvement strategies
- Benchmarking process on a national basis
- Annual OHS returns to Government

Contributions that effective OHSMS and consultation are making to OHS outcomes

- All levels of workforce participate in the OHS decision making process
- Skilled in consultation
- MSAC setting the agenda in OHS – tripartite industry groups

Barriers:

- One common legislation body
- One common legislative principle
- Entrenched position of issues

Common themes

- Safe
- No injuries
- Zero
- Everyone working together

- Trust
- Sustainability
- Improved relationships
- Increased reliance on technology
- Participation
- Lead indicators
- World's best practice
- Highly skilled, highly trained workforce
- Mining an employer, industry of choice
- Improved relationships
- Effective systems
 - Integrated – business management systems, not just OHS
- Regulator – a partner – needed in emergency
- Less labour turnover
- Less labour

Our Ideal Future – strategies

The whole group identified common ideas from the newsletters. In plenary discussion these were worded to form strategies for action that would enable movement towards the desired future.

- Celebrate and share success better e.g. website – one place to go to see what others are doing – how to get best practice
- Ownership of safety process through involvement and accountability
- Legislation is over-bearing
- Ask employees at site – what do you want communicated?
 - What do you want consultation about?
 - Listening to and understanding employees
- Communication between both parties
- Greater involvement in decision-making – giving employee a role in decision-making at site and industry level
- Management and employees need to establish common goals – and establish the cultural behaviour in safe workplaces towards the goal of best practice
- Strong, robust health and safety system that is flexible – meet codes of practice, legislation – evaluated
- Put employees on the board
- Training at all levels
 - Re-birth of school of mines

- Clear guidance on what consultation means – make it more accessible and simple
- Increase trust and tell the truth
 - Active and genuine participation in industry consultative forums
- Get national mining focus- role of NMSF?
- Train the industry on how to consult
- Regulate consultation and ask questions and audit
- Match workloads to resources to give time to consult

First action steps

The strategies identified in the last section were divided up amongst the plenary group. Self-selected groups worked on specific strategies that the whole group identified as having priority. They discussed the first actions that should be taken to make them happen.

Strategy 1 – Consultation and Communication

Proposed actions

- Identify and promote best practice (case studies)
- Explain effective consultation (training)
- Develop more sophisticated approaches to consultation at large, complex sites
- Encourage sites to establish priorities for consultation and provide resources
- Audit, review, evaluate and monitor consultation in the workplace

Outcomes

- Well-informed workforce that is committed and owns systems and practices at the site

Data/information

- Audit results
- Workforce feedback

Drivers/barriers

- Resources (barriers)
- Lack of knowledge (barrier)
- Competing demands (barrier)

Strategy 2 – OHS Robust System

Proposed actions

- Don't try to design what "a" OHS system is. Rather "outline" criteria and evaluation/audit tool
- Rationalise, simplify regulators audit tool
- "Good practice element" to perform self-assessment of one's own management system
- Publish good practice and forums for advertising these
- 360° survey of workforce against audit tool
- Commitment by all levels of the work community
- Continuous improvement loop
- Simplification of the OHS management system interface not the system itself
- Elective bodies identifying good practice (NSW MC QIA CCAA)

Barriers

- Corporate culture
- \$\$ profit
- 25% OHS of time spent on this by line management

How to legislate

- Free up legislative prescription to allow individual approaches to health and safety management
- Establish flexible management systems (site based)

Elements of a flexible, robust system

- Identify, assess, control, review, inform, train, supervision, consultation and participation
- OHS management systems and performance quality management process
- Consultation and communication
- Risk management
- Training
- Record management
- Recovery and feedback injury management investment etc

Strategy 3 – Training

Proposed actions

- Rationalisation of industry training packages (RIISC)
- Industry training body e.g. Mines Training School
- Audit – what training do we have? Quality of training, who provides it? Can it be shared?
- What funds are needed?
- Where can funding be found?
- Mining industry image needs to be lifted and promoted
- School program to promote mining
- Legal change to age limits for young employees e.g. under 18 years
- Training program for all levels on consultation

Strategy 4 – National Approach

Proposed actions

- Why?
- ILO 176 – minimum starting point

- Sites in different states and different sectors of mining industry
 - Principals and contractors
- Very confusing
- Benchmark for comparison – comparing apples with apples
 - Barrier to information sharing e.g. data collected, disseminated
- Common licensing system
- 38 pieces of legislation! Better to look for one best way
- Flexibility with labour force – need consistency in legislation so they know their obligations
- Can do it for road laws – can do it for mining
- Competitive edge - barrier to information sharing – commercial reality – “safety shouldn’t be competitive edge”

Concrete steps

- Get it out of political arena, agenda
- National Framework (Australian Standard 4801?)
- How can we manage and implement OHSMS consistently?
 - Construction Industry – Office of Federal Safety Commission
- Not increase the bureaucracy e.g. single reporting system
- Guard against Commonwealth take-over – coordinate, not take over
- Consider in conjunction with interface legislation e.g. Workers’ Comp
- Body to coordinate – draft “best practice” Codes of Practice

Future Inquiry Workshop:

Hours of work and fatigue management

The *Future Inquiry* Workshop on hours of work and fatigue management was held at Penrith Panthers on 31 July 2007. There were 60 participants representing seven stakeholder groups, each identified by a colour. There were seven stakeholder groups:

Coal employers	
Metalliferous and Extractive Employers	
Contractors and services to the mining industry	
Coal employees	
Metalliferous and Extractive employees	
Other employees and representative groups	
Regulator	

Purpose

To let stakeholders know the progress of the research and what the main findings are—what works well and what the gaps are. To ask stakeholders how things should change to achieve a safer industry in the future. The outcomes of the workshop will inform the final report.

Aims of the workshops

1. To advise stakeholders about the literature and the research findings so far.
2. To hear stakeholders' reactions to the findings of the research.
3. To consider the consequences of the findings of the literature review and the data collection for the future of the industry.
4. To develop strategies for industry intervention to fill the observed gaps.

The purpose of the workshop was to engage the diverse stakeholder groups, which represent 'the whole system', in helping to develop the strategies to improve production bonus and safety incentive schemes in the NSW mining industry. The outcomes of the workshop form part of the data for the Digging Deeper project and will inform the final report.

Program

- The present
- The context
- The future
- What first steps can we take?

The present

In stakeholder groups, participants identified what works well and what doesn't work well in current arrangements.

Coal employers group

Positives

- Places of work do have guidelines on hours of work based on industry research based guidelines
- Fatigue management plans implemented on most sites
- R.A. conducted on rosters
- Consultation with employees on rosters
- Education programs

Negative

- Education on the effects of out of work activities
- People's expectations differ from reality (shift work)
- Managing contractors hours – between sites monitoring
- Ability to identify and manage fatigue on shift
- Monitoring of staff hours
- Inconsistency within industry
- Commuting time to site

Metalliferous and extractive employers

Positives

- Set cyclical roster - extractive versus coal
- Choice by employees of roster (within reason) – gives flexibility
- Small self-managed teams support each other (no false sick days)
- People-friendly companies allow managers to work from home

Negatives

- Ad Hoc rosters
- No spare people to fill rosters
- Commute times
- Demands of customer
- We don't really know what the worker really wants (lack of consultation)
- Pressures of business force roster patterns

- Shortage of skilled labour

A positive/negative factor could be an upturn/downturn in the market

Contractors and services to the mining industry

Works

Policy, agreement – 6 monthly review

- 10 hour breaks between shifts
- Time starts from home
- Optional overnight stays if more than 1 hour from home
- Communication between levels of management and workforce
- Take into account external activities

Part of Risk Management Program

- Designed RA
- Monitored through payroll
- Applies to salaried and wages staff
- Limit number of consecutive days and shift lengths

Contract agreements – sites monitoring contractors

Doesn't work

- Responding to clients demands 24/7
- Management work team fatigue doesn't work
- Compliance with requirements of SMP
- Breakdown response and maintenance
- Lack of clients' management of my people's fatigue
- Moving from job to job is a commercial requirement
- Losing jobs and fear of customers' response to excessive hours
- Individuals ability to manage fatigue (work, personal, social)
- Slow responses and reporting of excessive hours
- Mundane, boring work late in shift and in day (night)
- Very demanding work late at night
- Restrictions placed on companies to provide "competent, trained" people during resource drain during "boom"
- *Poaching of skilled people to operations*

Coal employees

Positives (where they occur)

- 10 hour breaks – current practice normally occur
- Starting to develop policies – lack of adequate consultation
- Meal breaks - (min 2 and 1 hour for 12 hour shift)
- Job rotation (when done)
- Not working RDOs

Negative

- One size fits all – should be based on roster
- Means to measure fatigue
- Don't have ground rules
 - Breaks (crib and between blocks)
 - Average hours per week
 - Hours sleep and leisure
 - Pattern of shifts
 - Length of shifts
 - Predictability of roster
 - Maximum hours per week
- Job rotation (doesn't normally happen)
- No napping policy
- No fault reporting – performance review impacts
- Not focused on real (high level) causes – blame employees' home life
- Access to additional breaks
- Travel time issues
- No consideration for the increased exposure to environmental containments (noise) and work system hazards (vibration)
- Rotating shifts
- Overtime – continuation on extended shifts – total/week/average
- Roster design – just because it's 8½ hours, doesn't mean it's a good roster
- RDO – being asked and working – meant to be recovery time - break

Metalliferous and extractive employees

What works?

- Paid overtime – monitored by managers
- Set breaks

- Little stolen sleeps – 10 minutes
- Set roster – easier to arrange life
- 10 hours minimum between shifts
- Financial constraints on bosses

What doesn't work?

- Self- assessment - fatigue
- Salary
- Requesting breaks
- Breaks too short
- Commute times not taken into account
- Lack of sympathy from bosses – covering backside

Other employees and representative groups

Works well

- Staff - hours are recorded in diaries
- 4 days (M-T) roster – 10 hour allow night shift 3 good sleeps
- Do rotating shifts work well? Unsure
- Commute considered when reach maximum hours – 17
- Ceiling of hours per week useful
- Employee consultation on changes to shift hours – usually an IR issue
- When done properly, fatigue education works well e.g. Queensland sites

Doesn't work

- Staff – no formal timesheets to analyse hours and impact on fatigue – leads to fatigue for staff not being included in risk management
- Inadequate breaks for e.g. CROs
- Permanent on call for certain jobs e.g. Long wall engineer – broken sleep
- Ceiling not working for some staff groups
- No statutory limit on hours

Regulator

Works well

- Acceptance and acknowledgement/understanding that the issue exists and needs to be addressed
- Many organizations have systems in place to manage risks related to the issue
- Guidance on fitness for work

Not working well

- No tools or yardstick to measure contribution to an accident from fatigue issues
- Lack of common standard for what is acceptable
- Adverse relationship between fatigue and hours of work and employment arrangements
- Lack of understanding of employer OHS law duties (S8) and management of fatigue/hours of work
- Management of fatigue/hours of work with contractors
- Salaried staff/management culture of working long hours

Common to all groups*Common positives*

- Availability of good guidance material
- Travel times – short, provide transport
- 10 hour breaks between shifts
- Consultation with employees
- Flexibility with arrangements
- Many have fatigue management plans and policies
- Night shift naps work

Common negatives

- Breaks inadequate – not long enough for hours of work – pressure not to take them
- Unplanned rosters – effects the family
- Travel times – long commutes and hazardous commutes – kangaroos, ice
- Lack of formal recording of staff hours and therefore no inclusion of their fatigue in risk management
- Long hours worked by managers, staff and supervisors etc.
- Demand in market place driving /forcing long hours
 - Customer demands – contractors with clients, external
- No naps policy – sacked, forced to work through danger period
- Tracking contractor hours difficult – a race to the bottom
- Lack of standards on fatigue management
- When consultation doesn't happen it's bad

The context – our Mind Map

Bridging the gap: 2007-2017

Participants identified current trends in the environment that might impact on achieving ideal hours of work and effective fatigue management. These were collected in a plenary session as a large group mind map. Each participant was given 5 sticky dots in the colour of their stakeholder group and asked to spread their votes over the trends they regarded as most significant. The trends and the voting are listed here. It is important to note that those trends that received *no* votes may still be significant; they were just not accorded *relative* significance on the day.

There were seven stakeholder groups:

Coal employers	
Metalliferous and Extractive Employers	
Contractors and services to the mining industry	
Coal employees	
Metalliferous and Extractive employees	
Other employees and representative groups	
Regulator	

Mind map branches and sub-branches	All							
Ideal hours of work and effective fatigue management								
↑ in staff who want to work less hrs	5				1		4	
● ↑ in people who work 12 hours who don't want to	1				1			
↑ labour cost								
↑ acceptance of longer hours by industry generally	10	1	2	1		1		5
● ↑ hrs of work	1		1					
● ↑ complexity of roster design	6			1			1	4
○ Being driven by employees and management								
↓ amount of housing supplied for operators in remote areas								
↑ shortage of skilled labour	16	3	5	3			1	4
● ↑ shortage of all labour	7	2			2		2	1
● ↑ in level of skill required in the industry								
● ↑ market demand – internal and overseas	2		1		1			
○ ↑ value of the resource								
● ↑ ageing	4		2	1	1			
○ ↑ lack of training to enable filling the gaps	5		2		2			1
▪ ↑ provision of training								
• ↓ quality of training	4		2		2			
• ↑ recognition of skill needs	2		2					
↑ use of contractors	10			1	2			7
● ↑ use of contractors to exploit roster patterns	4				3			1
↑ FIFO/DIDO	2		1					1
Lack of effective means to measure fatigue	13	6	2			1		4
● ↑ need for a way to measure impairment	4				4			
● ↑ use of tools to self-assess fatigue	2	1			1			

Mind map branches and sub-branches	All							
↑ acceptance of unpaid OT as the norm	9		2	1				6
● ↑ perception that you have to work extraordinarily long hours to get ahead	2						2	
↑ focus on FFW and well-being programs and their impact on fatigue								
↑ availability of expert advice and information	1	1						
● ↑ use of wellness programs to manage fatigue	2	1						1
● ↑ awareness and education about fatigue	10	6	2			1		1
● ↑ risk assessment at shop floor	1	1						
↑ use of technology	3		1			2		
● Manufacturers lag behind industry in design – we re-build	3	3						
○ OS manufacturers	1						1	
○ ↑ engagement for OS OEM to build fit for purpose								
● Improvements in ergonomics of truck design helps reduce fatigue	1	1						
● ↑ trend towards using old equipment, 2 nd hand, and extending life of gear	1							1
● In coal, ↑ supply of equipment that's not user-friendly	2				2			
↑ acceptance of no breaks or shorter breaks	12		1		2	9		
↑ reluctance of companies to reduce hours of work to address fatigue	4		2		1		1	
↑ in resources applied to OHS	5	3	1	1				
↑ tendency to work RDOs								
↑ legislative framework changing → ↑ preoccupation with paper	1		1					
● Dealing with ↑ prosecution	4	2		2				
Lack of agreed standard	6							6
↑ people moving to coast as a lifestyle choice (or other centres away from mining location)	2	2						
← → ↓ staff/workers consider staying away from work because being tired maybe regarded as “sooky”								
● ↑ in the “war on the sickie”	1					1		
↑ reluctance of workers to stand up for themselves because of changes in industrial environment - deregulation	7					1		6
● ↑ anxiety about job loss, insecurity								
↑ use of Fatigue Management Plans, required by legislation and company-driven	13	9	1	1			2	
↑ consolidation of companies/businesses	1				1			
● ↑ drive for profitability	10		7		1		1	1
● ↑ demand for higher production	4							4
● ↑ capital cost of equipment → can't afford to leave it idle → drive to 24/7 operation	2		1				1	
↑ the more you have the more you want								
↑ lack of understanding of family imperatives	3				1	2		
● ↑ lack of understanding of deep consultation	10				7	2		1
○ ↑ in consultation								
↑ standard and cost of living	13		4	2		4		3
↓ Total Recordable Injuries, work-related injuries and illness and fatalities								

Mind map branches and sub-branches	All							
↑ desire for leisure time	3	1	2					

Stakeholders' response to the mind map

In stakeholder groups, participants examined the mind map and chose a few trends that were important to their group. They discussed what they are doing now in response to that trend and what they (not others) want to do in the future about that trend. They were asked to avoid blaming others for not taking action right now, but instead to examine what their group might have left undone – “own it, don’t moan it”.

Coal employers group

Priority theme - Measuring fatigue

Means to address

- Seeking advice from ‘experts’ for tools
- Supervisor training packages and assessment checklist
- Use of self-assessment checklist (and training in use)
- Use of risk assessment to identify high issue areas and identifying controls
- Trials of various devices e.g. Ospat (not advocated) - glasses that monitor eye movement and trigger alarm
- Inclusion of measures of time, roster, shift etc in incident recording and investigation
- **No definitive technology**
- Potential – automation of high risk activities

Priority theme - Effective fatigue management plans and guidelines

Means to address

- Development of industry guidelines based on research
- Guidelines/hours limit within management plans
- Use of experts in development
- Better consultation in plan development
- Inclusion of fitness for work expectation and education
- Call back provisions (or call out)
- Acceptance of need for a break if fatigued e.g. napping policy
- More effective application of fatigue management plans
- Need to further address supervisor and manager hours control

Priority theme - Skills shortage and impact including rise in contactors

Means to address

- Operator training programs ie traineeships, apprenticeships, contractors forums, graduate programs

- Automation processes being investigated eg haul trucks
- Offering more attractive work conditions to become employer of choice
- Sponsorship of training organizations
- Increased retirement age
- Step up program
- Multiskilling
- Alignment and rationalisation of contracts/contract organization

Priority theme - Education

Means to address

- Use of experts to present to workforce
 - Healthy lifestyle
 - Sleep apnoea testing
 - Sleep coaching
 - Nutrition
- Supervisor awareness, skills training in management of fatigue
- Attendance at specific workshops and conferences
- Training of spouses/family
- Community training re driving and fatigue, commuting
- Drug and alcohol training/awareness
- Comfort in voluntary reporting of fatigue (put hand up)

Metalliferous and extractive employers

Priority theme - Skilled labour shortage

What we are doing about it now

- Outsourcing
- Utilising contractors
- Increased training in existing workforce
- More dollars

What we want to do in the future

- Increase apprentices and traineeships
- Specialised contractors
- Better quality of life

*Priority theme - Standard and cost of living/lifestyles**Priority theme**What we are doing about it now*

- Rosters to suit employees
- Endeavour to pay competitive dollars

What we want to do in the future

- Other benefits than dollars, eg medical coverage for family, education, etc

*Priority theme - Drive for profitability**What we are doing about it now*

- Lean and mean workforce
- Longer hours
- Fewer people

What we want to do in the future

- Share ownership in organization/job
- Margin improvement programs

Chris said – “Miners are the new fruit pickers!!”

Contractors and services to the mining industry*Priority theme - Shortage of skilled labour**Now*

- Suffering due to demands
- Poaching from competitors
- Upskill and train existing staff
- Attempt to retain staff
- Lobby government to develop schemes to address shortages
- Overseas recruitment of labour
- Attracting young workers through apprenticeships, traineeships, graduates, partnering education providers and institutions

Future

- Evaluate effective programs
- Aligned labour force with market demand and forecast

- Determine future skills/tech demands on labour force
- Industry stakeholders continue development of successful policy for the future
- Partnering between government and industry for skills development
- Become employers of choice through work life balance

Priority theme - Cost of living

What we are doing about it now

- Employees over-extended financially
- Working longer hours
- Trying to get promoted through our dedication to the job
- Get promoted and work even longer hours - death
- Managing boom and bust demand cycles
- Trying to drive profitability by minimising labour

Future

- Work-life balance
- Employers and employees valuing
- Develop philosophies and programs to support work-life balance
- Normalise work-life balance in industry
- Performance is measured by value of contribution not hours worked
- Realistic 'customer' expectations through key account expectations 'partnership' preferred by contractor

Priority theme - Dealing with prosecution

Now

- Work longer to ensure we have done 'what is reasonable'
- Telling worker to get more sleep
- Telling worker not use grog
- Telling worker to get more sleep
- Rudimentary well-being programs
- Fatigue management plans
- Struggling with rosters and providing skilled persons

Future

- Consultation with employees and clients to develop appropriate fatigue management/risk reduction and education

Coal employees

Priority theme - Deep consultation – lack of

What we are doing about it now

- Agitating for change
- Trying to consult on effective arrangements
- Negotiating shifts - where possible

What we want to do in the future

- Continue the above and agitate politically

Priority theme - Exploitation of Contractors and to undermine rosters

What we are doing about it now

- Where identified raise the concern
- Organise the contractors to give them the ability to stand up and not to be intimidated
- Increase their roster options
- Involvement in MSAC

What we want to do in the future

- Seek legislative minimum standards for rosters and consultation to protect contractors

Priority theme - Machinery/equipment not ergonomically designed

What we are doing about it now

- Working with industry to improve standards - fit for purpose

What we want to do in the future

- Have a system of consultation with OEM's owners and operators to ensure design is fit for purpose

Priority theme - Fatigue Impairment Measure

What we are doing about it now

- Trying to get good fatigue policies and systems
- Educate members about fatigue issues
- Overtime policy – informal process

What we want to do in the future

- Some scientific measure that accurately, consistently measures impairment

- Stop working RDOs

Metalliferous and extractive employees

Fatigued, stressed, tired, unhappy, unproductive workers

- Cost of living and family life
 - Work longer hours chasing money
 - Second job
 - Bargaining away breaks
- Family commitments
- Breaks during work
 - Production targets
 - Reliance on self-assessments
 - Less breaks
 - Perceived pressure not to have them

Happy and productive workers

- Cost of living and family life
 - Lobby government to high emphasis on family life
 - Humanise the workplace
 - Fair pay for fair day's work
- Breaks during work
 - Breaks that are formed from meaningful consultation
 - Coping with others' life and culture change

Other employees and representative groups

Priority theme - Staff want less hours

Now

- Issue raised with management – not OHS committees
- Review of management structure – downsizing = more work
- Monitoring of hours by survey
- Staff association acting on behalf of members

Want

- More focus on fatigue and work-life balance
- Look at social/family impact

- More agreements, after consultation on what constitutes reasonable hours

Priority theme - Use Fatigue Management plans and policies

Now

- Patchy, inconsistent
- Regular breaches – including by ignoring them

Want

- Increased monitoring of staff hours with respect to fatigue management
- Improved consultation
- Improved adherence

Priority theme - Companies unwilling to reduce work time

Now

- Restructuring makes reduced hours difficult
- Increase in ‘blue-collar’ not matched by ‘staff’ increases

Want

- Change in long hours culture –by management and staff
- Highlight success stories

Regulator

Priority themes

- Drive for profitability/production
- Acceptance of extended hours
- Contractors
- Unpaid work
- Lack of standards (agreed)
- Shortage of skilled labour
- Reluctance of workers to stand up for self
- Complexity of roster design

What we are doing about it now

- Contractor safety project (MSAC) - contractor management plan –MDG 5003 on contractor management
- New legislation
- Wran projects and audit of contractor performance

- Increased competency examinations to meet demand for skills – trades, TAFE
- MSAC and advisory committees
- Set standards by developing legislation and standards and application
- Provide a conduit for complaints and workplace concerns and audit of consultation
- Influencing culture by providing guidance in best practice and education

What we want to do in the future

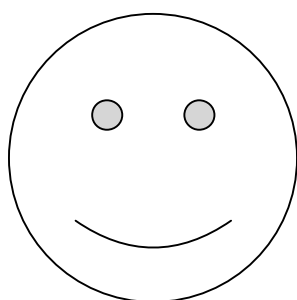
- Develop and promote nationally agreed standards on fatigue management
- Monitor industry performance and provide feedback.

Our ideal future – *NSW Mining Update 2017*

Participants were asked to project themselves ten years into the future; to treat 31 July 2017 as the present. In mixed groups, participants drafted up the front page of the *NSW Mining Update* for 31 July 2017, as if hours of work and fatigue management in the NSW mining industry were ideal. They were told that what they describe should be feasible (people could do it if they wish), desirable (the whole community would benefit) and motivating (you would work to make it happen).

Group 1

Profitable Mining Industry Leads Leisure Time



Milestones to reach Nirvana

1. Acceptance by whole of industry to a balance between hours of work and lifestyle
2. Establish a standard for hours of work and fatigue management which includes flexibility to deal with individual circumstances
3. Standards are complied with across the industry

Contributes to gain OHS outcomes

1. Most efficient mining industry in the world
2. Best OHS performer for all industries
3. Lowest turnover/absenteeism of workforce

Barriers in 2007

1. Industrial relations arrangement
2. Conflicting objects of employers versus employees
3. Shortage of skilled staff (workforce)
4. Fear of change impacting on lifestyle conditions

What is being delivered

- Industry: More efficient, stable workforce
- Organization: Better work/lifestyle balance
- Community: Greater participation in the community
- Economy: Sustainable industry

- Nation: Being global competitive

Quotes

- “Workers rich for better lifestyles”
- “I would not have lasted if not for change”
- “My kids say I am much happier”
- “This change has made me happy again”
- “What a great industry to be in”
- “Gradual change to work/lifestyle was the way to go”

Group 2

Mining – The lifestyle of choice!

Milestones

- Consultation deep and effective – open, balanced, respectful
- Flexible work arrangements that deliver:
 - Effective management and supervision
 - Individual work and social needs
 - Effective integration of contractors
 - Business needs
- Industry guidelines not prescriptive legislation
- Site specific guidelines that are owned and followed
- Education leading to understanding of all of the above by all
- Ongoing review and improvement
- Control of overtime

OHS Outcomes

- Zero harm due to fatigue
- Increased reporting of potential hazards, leading to effective controls
- Measurable fatigue: Individuals, KPIs, controls

Barriers

- Blame culture
- Personal accountability
- Efficiency levels
- Focus on hours overcome

Delivered

- Higher productivity and ROI
- Increased investment in Aussie mines

- A family life
- Job security
- Standard of living
- Better feeling when the alarm clock goes off at 5 am!

Quotes

- “GREAT”
- “Pleased that we no longer have fatigue related accidents”
- “I enjoy coming to work”
- “Mine Inspector looking for a job”

Group 3

Fatigue Conquered

Mining: Lifestyle of choice

Key milestones

- Fatigue guidelines agreed upon
- Fatigue standards implemented across the board
- Agreement/acceptance of standards by stakeholders
- Training standard developed and implemented

Contributions

- Zero fatigue absenteeism
- Zero fatigue related injuries
- Fit and healthy employees

Barriers overcome

- Lack of knowledge
- Competing agendas
- Skilled labour shortage
- Full employee involvement

Being delivered

- Efficiency
- Profits
- World class OHS
- Work/life balance
- Economic prosperity

Quotes

- “Think safe, work safe, go home well”

- “Refreshed”
- “As happy as a dog with 2 dicks”
- “My wife loves me again”
- “My wife wants me gone”

Group 4

Fatigue Incidents Eliminated

Drawing of family at the beach

Key milestones

- No fear – I can pull up now
- Fatigue understood and effective guideline and consultation established
- Employer and workers understand significance of “family issues” and health issues on fatigue health issues
- Work life balance achieved
- Fatigue related incidents have been eliminated thanks to successful management of fatigue

Barriers overcome:

- Knowledge of fatigue management perfected and transferred to stakeholder
- Effective consultation between stakeholders drive successful fatigue management based on mutual benefit and understanding of each others’ needs
- Mines, contractors and employees work together to ensure fatigue amongst contractors’ employees is managed

Deliverables:

- Industry get a safe workplace, flexibility and reduced regulation
- Workers and their families get a health safe life and good work life balance
- Economy and nation gets a reduction in costs associated with fatigue related injuries and diseases

Quotes

- “Not so hard after all “
- “Relief the hazard has been eliminated”
- “Could happen and it did”
- “I made it”
- “I never thought I would see the day”

Group 5

Fatigue put to bed!

Image of a family at home

Milestones

- Common understanding of fatigue management and acceptance of not one size fits all for hours
- Consultation
- Agreement
- Commitment
- Reduction in hours worked
- Flexible roster, part time work, weekend rosters and job sharing
- Increased skills needed – multiskilling so can move people around

Outcomes

- No LTIs
- No injuries or incidents
- No equipment damage

Barriers

- No agreement on what are ideal hours or reasonable hours
- Lack of measurement of fatigue
- 2 jobs and fatigue
- Maintaining salary with less hours
- Maintain production levels 24/7 versus desire for less hours – solution = different rosters

Delivering

- Industry: no skills shortage, industry of choice, better conditions
- Organisation: increased profitability, increased safety, increased employee happiness
- Community: better safety on roads, more soccer coaches, more voluntary work, etc
- Economy: increased employment, lower workers compensation and hospital costs
- Nation: lower insurance premiums

Industry demand has lessened, so less fruit to pick

Group 6*Industry awakens to fatigue**Milestones*

- Sufficient skilled, trained labour
- Openness, transparency, trust
- Agreed standards
- Full workforce participation in decisionmaking
- Work-life balance

- Implementation, review, evaluation of effective fatigue management programs and hours of work

Outcomes

- Zero fatigue-related incidents
- Improved profitability
- Lower employee turnover
- Retaining experienced employees
- Recognising performance, not hours worked

Barriers

- Perceived lack of trust and transparency
- Culture of long hours
- Financial/competitive pressures
- Shortage of skilled labour
- IR/employment conditions

Actions

- Open/frank dialogue
- Collaborative effort
- Promoted benefit of work-life balance
- Training development programs

Deliverables

- Industry of choice
- Sustainability
- Profitability
- Health and safety
- Good corporate citizens

Quotations

- “I never thought it would happen”
- “It’s good to be working together again”
- “Industry goals achieved”
- “I enjoy coming to work”

Group 7

Fatigue is a tired old concept

- Culture has changed from an industry focussed on hours at work to an industry focused on life balance
- Fatigue has become an integral part of health and safety management

- An agreed industry standard
 - Consultation
 - Flexibility
 - Ownership – rights and responsibilities
 - Parameters
 - Education – individually and organisationally
- Industry has invested in sustainable human resource and organisational development

Impacts OHS

- Reduced journey accidents
- Lower LTIFR and other indicators
- Lower absenteeism
- Increased productivity
- Decreased turnover of burnt out staff
- Improved physical and mental well-being
- Increased industry of choice

Barriers

- Lack of trust
- Industrial agreements
- Lifestyle balance
- Long hours culture

Quotes

- “Hi ho, hi ho, it’s off to work we go”
- “It’s been a worthwhile project and worth doing”

Group 8

“Time for family, fun and work”



“NO INJURIES OR ILLNESS”

Key Milestones

- Common goal for reduced hours of work
- Appropriate number of people for jobs/work

- Ideal technology and equipment
- Best practice hours of work monitoring management
- Change in culture to promote lifestyle balance at all levels

Contributions to OHS outcomes

- Fewer incidents
- Very few injuries and illness
- Improved morale
- Increased life expectancy/ improved health and fitness
- Quality output, high productivity
- Better business
- Employer of choice, industry

Barriers to get to today (2017)

- Maximum hours and output per person
- Industrial relations
- Political environment
- Culture of confrontation
- People living outside means (trapped in debts/\$\$/cycle)

Delivered

Families and community

- More time for family and community
- Security
- Fewer arguments and marriage problems
- Less stress
- Growing community

Economy and Nation

- Boom time \$\$\$
- Less industrial disputes
- More opportunity for children
- Improved environment, education, health (money for other issues)

Industry

- Lower costs
- Higher productivity
- Security
- Safe

Organisation

- “Happy workforce is more productive and safer”
- “Happy, safe, secure”
- “Focus on other issues”
- “Less workforce turnover”
- “Regulatory certainty, peace of mind”
- “Consistency, high quality and performance”

Our Ideal Future – common ground

The whole group identified common ideas from the newsletters. In plenary discussion these were worded to form strategies for action that would enable movement towards the desired future.

- Healthy workers
- No fatigue-related illness
- No fatigue-related incidents
- Reduction in absenteeism
- Flexibility of rosters to suit individuals
- Productivity improved
- Employer of choice – industry of choice
- Sufficiently skilled workforce achieved in 2017
- Lack of trust is a barrier
- IR agendas a barrier we had to overcome
- Drive for profit is a barrier
- Profitability (not the same as productivity)
- Cultural change
- “I never would have lasted”
- Adverse culture
- Culture of long hours is a barrier
- Appropriate work/life balance
- Balance between lifestyle and work – great
- Improved morale
- Improved perception of corporate citizenship in the community
- Agreed industry standards
- Effective consultation and participation in decision-making process

These were grouped into six areas for action:

1. Skill
2. IR – lack of trust
3. Drive for profit
4. Culture
5. Work/life balance
6. Healthy workers

First action steps

The strategies identified in the last section were divided up amongst the plenary group. Self-selected groups worked on specific strategies that the whole group identified as having priority, except that there were no takers for the last area, healthy workers, so this was not addressed on the day. In the very limited time that remained, they discussed the first actions that could be taken to make them happen.

Strategy 1 – Address skills shortage

Proposed actions

- Forecasting skills requirements for job categories and regions.
- Industry to embrace and implement strategies to address identified requirements.
- Industry and government to invest in joint venture of providing training scheme, which encourages participation.
- Education program to lift profile of mining industry as a career option.
- Cross-sector portability of skills; nationally consistent competencies.
- Amend OHS laws to promote statutory positions and address chronic shortage.

Strategy 2 – Lack of trust/ IR agendas

Proposed actions

- Common understanding of issues with fatigue
- Representative forum to address outcomes
 - Develop agreeable rosters
 - Develop agreeable [agreed?] controls which cover all the affects of fatigue
- Draft Industry Standards and Review Process
- “Say what you mean, mean what you say”
- one person: vote ALP

Strategy 3 – Steps for fatigue/profit balance

Proposed actions

- Increase productivity through fatigue management
- Reduce costs through technology/automation
- Improved corporate social responsibility/citizens
- Recognising hidden cost of fatigue and managing that to be a positive \$.

Strategy 4 – Cultural change

Proposed actions

- Employ more women
 - Dilute macho culture
- Education and shared understanding vital
 - Communication
- Overcome money issues
 - Need to make incomes secure
 - Education of impact of hours on health
 - Educate that increased wealth is not equal to happiness
 - Teamwork for completing job not hours based

Strategy 5 – Improving work/life balance

Proposed actions

- Multi-level consultation process that involves meaningful input from all stakeholders
- Process to develop model for fatigue management standards
- Identify good practice

10. Incentive scheme checklist

10

Safety incentive scheme review checklist

Purpose

This checklist will guide mine sites to review their safety incentive schemes.

Background

Safety incentive schemes in the NSW mining industry have generally been of two types:

- Reward schemes that offer financial or other tangible rewards (such as donations to charity or consumer items) as a result of achieving specific targets of OHS performance. Usually, these targets relate at least in part to outcome measures such as lost time incidents (LTIs), but they can also result from achieving targets related to process or behaviour indicators.
- Celebration schemes that provide recognition of achievements in OHS management, such as awards for safety innovations, eg the NSW Minerals Council Innovations Awards, or celebrations of key events, eg a dinner for an OHS committee.

Safety incentive schemes that involve payment in exchange for achieving particular outcome targets have not proved themselves to consistently or reliably improve safety outcomes. In a world class OHS system, people contribute to OHS management, not because of extra money, but because it is 'the right thing to do'. Approaches that recognize or reward high achievements and contributions may have more positive results than those that make payments in exchange for low levels of reported injuries.

Review

The Digging Deeper Wran Consultancy Project recommended that companies review their recognition and reward schemes in line with the following good practice principles:

Recognition and reward schemes should:

- Reward and encourage contributions to effective OHS management, not outcomes;
- Promote all aspects of a safe and healthy workplace;
- Have significant management commitment, which necessarily involves resource allocation;
- Be designed, implemented and reviewed in a consultative process;
- Be reviewed and evaluated regularly to ensure that the scheme is targeting the desired result and not producing perverse incentives;
- Be integrated within broader organisational improvement strategies; and
- Encourage effective OHS culture through team-based approaches.

This review can be done using the simple assessment checklist on the next page. This checklist should be used in a participative review process, perhaps by a site OHS Committee.

Checklist	Yes/No	Action needed
Development process		
<ul style="list-style-type: none"> ▪ Was the scheme developed with participation from employees? 		
<ul style="list-style-type: none"> ▪ Is the scheme adequately resourced and supported by management (eg through training and promotion)? 		
<ul style="list-style-type: none"> ▪ Does the scheme link with broader organisational improvement strategies, instead of just being an add-on? 		
<ul style="list-style-type: none"> ▪ Does the scheme have broad-based employee support? 		
Nature of Scheme		
<ul style="list-style-type: none"> ▪ Does the scheme have clearly defined and documented objectives? 		
<ul style="list-style-type: none"> ▪ Does the scheme reward positive contributions to effective OHS management and improvement? 		
<ul style="list-style-type: none"> ▪ Is the scheme regularly communicated to employees who understand and support its intent? 		
Scope of Scheme		
<ul style="list-style-type: none"> ▪ Does the scheme support a broad-based risk management approach (rather than focusing on one aspect eg, worker behaviour)? 		
<ul style="list-style-type: none"> ▪ Is the scheme focused at the team (rather than whole of site) level? 		
<ul style="list-style-type: none"> ▪ Are contractors included in the scheme? 		
Goals and Targets		
<ul style="list-style-type: none"> ▪ Does the scheme avoid using injury/incident outcome indicators as targets? 		
<ul style="list-style-type: none"> ▪ Does the scheme have goals and targets that are within the direct control of employees? 		
<ul style="list-style-type: none"> ▪ Does the scheme have goals that are linked to effectiveness, not just 'busy'ness, ie quality not quantity? 		
<ul style="list-style-type: none"> ▪ Is the scheme formally reviewed at regular intervals (eg each 2 years or 12 months or after significant changes)? 		
<ul style="list-style-type: none"> ▪ Is there evidence that the scheme is meeting its objectives and not producing perverse outcomes? 		

11. Guideline for fatigue management

11

Guideline on Fatigue Risk Management

September 2007

Acknowledgements

This guideline was prepared by Andrea Shaw of Shaw Idea Pty Ltd with input from Dr Sally Ferguson of the Centre for Sleep Research at the University of South Australia. It incorporates comments and suggestions from throughout the mining industry.

This guideline incorporates material based on Queensland's *Guidance Note for Management of Safety and Health Risks associated with Hours of Work Arrangements at Mining Operations*. For detailed information about fatigue and hours of work, refer to this Guidance Note.

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Purpose

This guideline will help mine sites develop strategies to effectively control the risks of fatigue. It sets out a risk management approach based on consultation with the workforce. This approach requires that mine sites:

1. Identify the hazards of fatigue
2. Assess the risks of fatigue
3. Implement effective risk control measures and
4. Monitor and review the effectiveness of the controls regularly.

A Fatigue Management Plan (FMP) will document the strategies you have determined to control the risks of fatigue.

Definitions

Active work	Total time spent at work including overtime. Does not include time travelling to or from the work site or rest breaks during shifts
Extended Working Hours	Any working hours in excess of established rostered hours, and includes overtime.
Rostered Hours	The hours for which an employee is rostered to work.
Time Not Working	Time outside of working hours. Does not include time travelling to or from the work site.
Work Cycles / Rosters	The working period scheduled between any significant break away from work.
Work Schedules	The hours to be worked for each day, shift, week, month or year, as scheduled by the employer.
Work Shifts	The hours worked between the start and finish of a shift, excluding any overtime or shift change-over period worked.

1. Background

1.1 *What is fatigue?*

Fatigue can be defined as increasing difficulty in performing physical or mental activities. Signs of fatigue include tiredness even after sleep, psychological disturbances, loss of energy and inability to concentrate. Fatigue can lead to incidents because workers are not alert and are less able to respond to changing circumstances. As well as these immediate problems, fatigue can lead to long term health problems.

1.2 *What causes fatigue?*

Fatigue results from insufficient rest and sleep between activities, eg from poor quality sleep. The inter-related causes of fatigue include:

- The time of day that work takes place
- The length of time spent at work and in work related duties
- The type and duration of a work task and the environment in which it is performed
- The quantity and quality of rest obtained prior to and after a work period
- Activities outside of work, such as second jobs and family commitments
- Individual factors such as sleeping disorders.

Acute fatigue is caused by immediate episodes of sleep deprivation, eg because of long periods of wakefulness from excessively long shifts or nightshifts without adequate daytime rest. Ongoing sleep disruption can lead to sleep debt and chronic sleep deprivation, placing individuals in a state of increased risk to themselves and to others. It results in:

- unpleasant muscular weariness;
- tiredness in everyday activities; and
- reduced coordination and alertness.

If sleep deprivation continues, work performance can deteriorate even further. This can be even more dangerous than going without sleep altogether.

Causes of fatigue can result from features of the work and workplace and from features of a worker's life outside work. Levels of work-related fatigue are similar for different individuals performing the same tasks. Work-related fatigue can and should be measured and managed at an organisational level. Non-work related causes vary considerably between individuals. Non-work related fatigue is best managed at an individual level.

1.2.2 **Work related causes**

Work-related causes result from:

- roster design, eg too many consecutive night shifts;
- aspects of the tasks being undertaken, eg greater workload within standard shifts; and
- features of the working environment, eg noise or temperature extremes.

1.2.2 Non-work related causes

Causes of nonwork-related fatigue include:

- sleep disruption due to ill family members
- strenuous activities outside work, such as second jobs
- sleep disorders
- inappropriate use of alcohol, prescription and illegal drugs
- stress associated with financial difficulties or domestic responsibilities.

1.3 *Why is fatigue a problem?*

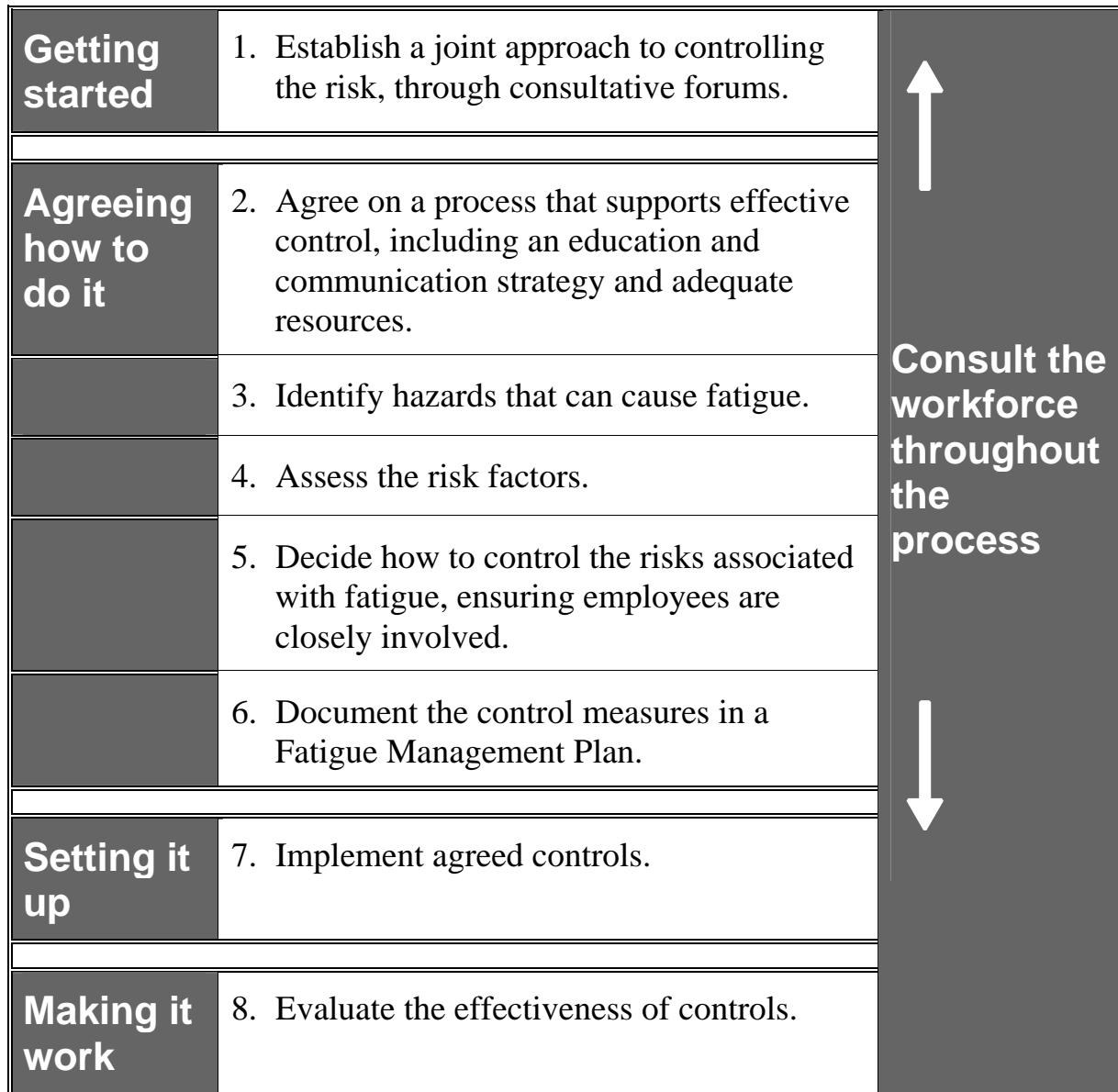
Fatigue causes an increased risk of incidents because of tiredness and lack of alertness. When workers are fatigued, they are more likely to exercise poor judgement and have a slow reaction to signals. This can increase all risks on site because fatigued workers are less able to respond effectively to changing circumstances, leading to increased likelihood of incidents due to human error.

Fatigue can also result in long term health problems such as

- Digestive problems;
- Heart disease;
- Stress; and
- Mental illness.

2. Fatigue management – step by step

This diagram sets out the basic steps to establish an effective approach to managing fatigue.



Step 1 **Establish a joint approach**

Like other risks associated with mining, the risks from fatigue need to be controlled in order to fulfil the employers' duty of care. The fact that individual behaviour outside of work can have a considerable influence on fatigue does not reduce the employers' obligation to address the issue consistently with the principles of risk management, including following the hierarchy of control.

The sensitive nature of many of the issues involved in this area means that *how* you undertake the fatigue management process is at least as important as *what* you do.

Experience shows that the rigid application of rules is counter-productive and that the approach must be flexible enough to respond to the views of the workforce. Sensitivity to the communication and consultation needs of those who work shiftwork is also critical – those who work nights and weekends may require special attention in communication strategies. You might also need to pay special attention to contractors and their employees.

Develop and implement your Fatigue Management Plan in a consultative, participative manner, involving all affected workers throughout the process and in decision-making about the outcomes. During the establishment of consultative mechanisms, development of strategies and the final documentation of the Fatigue Management Plan, employees should be given the opportunity to consult with representatives of an industrial organization or employees. Given the nature of the issues being dealt with, imposing risk control measures without consultation is unlikely to result in effective control of risks.

To establish a joint approach, work with existing consultative forums, eg an OHS committee, or set up a special consultative group. This group should agree roles and responsibilities.

The employer holds the fundamental responsibility for controlling the risks associated with fatigue. However, employees are responsible for ensuring that their behaviour does not create or exacerbate risks: they must ensure that they use the opportunities provided to obtain sleep and report occasions when adequate rest is not obtained. In particular, the parties have the following responsibilities.

Responsibilities of employers and employees

	Employer	Employee
Educate	<ul style="list-style-type: none"> To ensure that employees are informed of the risks associated with fatigue and how to participate in controlling these risks 	
Identify	<ul style="list-style-type: none"> To identify the risks associated with fatigue, including establishing and monitoring an ongoing system for identifying problems. 	<ul style="list-style-type: none"> To report problems with fatigue. To recognise and report their own fatigue symptoms To contribute to establishing and monitoring reporting systems.
Assess	<ul style="list-style-type: none"> To assess the risks associated with fatigue. 	<ul style="list-style-type: none"> To contribute to the assessment of risks.

	Employer	Employee
Control	<ul style="list-style-type: none"> • To control the risks associated with fatigue, specifically: <ul style="list-style-type: none"> - ensure that shift arrangements control the risk of fatigue; - ensure that work arrangements do not contribute to fatigue problems or interfere unreasonably with employees capacity to meet family and social commitments; - provide training, information and supervision that supports effective management of fatigue; - ensure that work systems are flexible enough to deal with factors influencing fatigue (eg allowing supervisors to reschedule tasks if fatigue becomes a problem). - Provide conditions that are conducive to sleep and where site accommodation is provided, supply a balanced diet. 	<ul style="list-style-type: none"> • To turn up and remain fit for work. • To obtain adequate sleep between shifts. • To cooperate with control measures. • To contribute to the design and implementation of control measures. • To manage individual factors which affect fatigue (eg ensuring adequate rest between shifts).

Step 2 Agree on a process

Once roles are clear, the group should determine a process to develop and implement a fatigue management plan. The basic steps in the process are set out above. To start the process, you will need to conduct an education and awareness program so that everyone understands what is involved.

Conduct a program of education and awareness

Everyone on the mine site should be aware of the risks of fatigue and have the opportunity to contribute to effective risk management. In particular, supervisors need to be able to identify when fatigue is a problem so that they can initiate immediate control measures.

As well, employers should provide education and awareness about the site's fatigue policy and procedures whenever:

- new workers are appointed
- induction training is provided
- contractors are engaged
- managers or supervisors are appointed or promoted.

The content of education and awareness could include the following information:

- what fatigue is
- warning signals of fatigue
- possible effects of fatigue
- control measures on-site

Step 3 *Identify hazards*

To identify whether hazards from fatigue exist in your workplace, consult with the workforce and talk to supervisors to identify if any of the fatigue risk factors exist:

- Roster design factors, ie
 - Night shifts, including the number of consecutive night shifts.
 - Long hours of work in a single shift or across a shift cycle or because of on-call duties. This includes travel time, especially for remote sites.
 - Short breaks between or within work shifts.
 - Shift start/finish times (eg a start time between midnight and 6 am).
 - Changes to rosters.
- Task related factors, ie
 - Repetitive or monotonous work.
 - Sustained physical or mental effort.
 - Complex physical or mental tasks.
- Work environment factors, ie
 - Excessive commuting times necessary.
 - Stress.
 - Adverse working conditions, eg noise, dust, vibration, temperature extremes.
- Non-work related factors, eg
 - family commitments.
 - sleeping disorders.
 - psychological issues.
 - alcohol and drug use.
 - second job/non-paid work.

Step 4 *Assess risks*

Assessing risks means to look carefully at the fatigue hazards you have identified to decide whether you have taken enough precautions. Do you need to do more to make sure that no one suffers ill-effects from fatigue? Do you need to do more to ensure that everything reasonably practicable is being done to control the risk of a fatigue-related incident occurring on your site? Remember that if individuals are working night shift or extended hours, then by definition fatigue will be increased. In this circumstance, you must ensure that the risk of fatigue resulting in an incident is controlled so that it is as low as reasonably practicable. To do this, you should assess risks so that you can make sure you control them effectively and to make sure that you address the most serious problems first.

To assess risks, examine each of the risk factors in detail to determine their impact on sleep opportunity and the length of time individuals are required to be awake. Reviewing errors and incidents to determine any contribution that fatigue has made is also vital. Such

investigations will determine where the system is breaking down, eg rosters, people not getting sleep, job design.

Risk factors

<i>Roster design factors</i>	
Night shifts, including the number of consecutive night shifts.	<ul style="list-style-type: none"> • Are too many consecutive night shifts worked? • Is more than eight hours work required over night shift? • Are tasks requiring sustained physical or mental effort undertaken on night shift? • Are complex physical or mental tasks undertaken on night shift? • Do night shift workers have difficulties getting undisturbed sleep during the day?
Long hours of work in a single shift. This includes travel time, especially for remote sites.	<ul style="list-style-type: none"> • Does one shift involve more than 12 hours in a day (including call outs)?
Long hours of work across a shift cycle	<ul style="list-style-type: none"> • Do hours of active work (total time spent at work including overtime) exceed 50 hours in any seven days?
Long hours because of on call duties	<ul style="list-style-type: none"> • Are there irregular and unplanned schedules as a result of call-outs? • Is the working day or working week extended beyond 12 hours in a single day or 50 hours in any seven days as a result of call outs?
Short breaks between work shifts.	<ul style="list-style-type: none"> • Is there enough time between work shifts to allow for adequate sleep : <ul style="list-style-type: none"> ○ Enough time in a break for 5 hours uninterrupted sleep in 24 hours (only for one night) AND ○ Enough time in breaks for 12 hours of sleep in 48 hours AND ○ Enough time in breaks for 50 hours sleep in 7 days? • Is the break between shifts less than 10 hours? • Are there at least 2 consecutive night time sleep opportunities every 7 days?
Short breaks within work shifts	<ul style="list-style-type: none"> • Are breaks within shifts long enough and frequent enough to allow workers to rest, refresh and nourish themselves?

Shift start/finish times	<ul style="list-style-type: none"> • Do any shifts start or finish between midnight and 6 am? • Are there split shifts? • Are complex, difficult or strenuous tasks required at the start or end of such shifts?
Changes to rosters.	<ul style="list-style-type: none"> • Do workers get sufficient notice of roster changes? • Is fatigue management taken into account in roster changes?
<i>Task related factors</i>	
Repetitive or monotonous work	<ul style="list-style-type: none"> • Do jobs involve repetitive or monotonous work, eg haul truck driving?
Sustained physical or mental effort.	<ul style="list-style-type: none"> • Is the work physically demanding? • Is there time pressure due to a heavy workload? • Is work fast paced? • Is work intensive? • Can workers vary work pace or work tasks as desired? • Do workers have a say over work tasks or how to carry them out?
Complex physical or mental tasks.	<ul style="list-style-type: none"> • Is high vigilance and/or concentration required? • Are there different demands that can be difficult to combine? • Are complex, difficult or strenuous tasks required at the end of shifts or shift cycles?
<i>Work environment factors</i>	
Excessive commuting times necessary.	<ul style="list-style-type: none"> • Is significant travel to and from work necessary each day so that time for adequate sleep is reduced? • Are long distance commutes necessary at the beginning of a work cycle?
Stress	<ul style="list-style-type: none"> • Do jobs involve high demand, but low control? • Are there poor social relations at work, eg bullying? • Is there low social support from peers and supervisors at work? • Is there low recognition for the effort involved in the work?
Adverse working conditions	<ul style="list-style-type: none"> • Do adverse working conditions exist, eg exposure to: <ul style="list-style-type: none"> ○ Noise? ○ Heat? ○ Cold? ○ Dust? ○ Hazardous substances?

<i>Non-work related factors</i>	<ul style="list-style-type: none"> • To what extent is there evidence of problems as a result of: <ul style="list-style-type: none"> ○ family commitments? ○ sleeping disorders? ○ psychological issues? ○ alcohol and drug use? ○ second job/non-paid work?
---------------------------------	---

Review incidents

As well, look at your experience to see whether you have already evidence of fatigue-related incidents. Review:

- Incident reports;
- Self-reports and complaints from employees;
- Reports from supervisors about any evidence of fatigue;
- Aggregate data from any employee assistance programs (ensure that confidentiality is maintained in using such data); and
- Environmental and medical monitoring and other advice from those with technical expertise in the relevant disciplines.

Individual testing

Individual testing can involve a range of different types of tests, ranging from cognitive psychomotor tests (hand-eye coordination), through to central nervous system tests. Testing is not a control measure since it does not prevent fatigue. Testing is a tool for assessing risks and on its own may not give enough information to allow accurate risk assessment. These tests are not infallible. The fact that an individual employee has passed a fatigue test only shows that the person could pass the test. It does not provide any guarantee of fitness for work, particularly in the absence of proper risk control measures. Also, testing needs to be clearly related to the job task and in a way that reflects the real life situation of the employee.

Conclusion

From this information, determine the risk factors that need to be controlled and prioritise actions. You could use a simple and standard risk matrix comparing consequences and likelihood or you could prioritise on the basis of the views of the OHS committee.

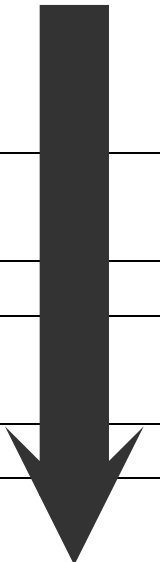
Step 5 Determine how to control the risks

To control the risks of fatigue, control the risk factors that you have identified and assessed using the hierarchy of control.

1. Eliminate - wherever possible, the sources of high risks should be removed from the workplace, eg eliminating night shift in some areas or for high risk tasks.
2. Substitute - substituting safer practices for those currently used is the next most effective set of control strategies, eg increasing the length of breaks in a shift.
3. Engineer - engineering controls may be a necessary adjunct to shift arrangements, eg improving ventilation and heating to improve alertness.
4. Administrative controls – procedures and training programs are critical supports to effective control of fatigue. In particular, vigilance by line managers, monitoring whether workers are experiencing fatigue, is a fundamental control measure that will support all other risk control measures. A checklist to help supervisors identify and assess fatigue impairment is provided as an appendix.
5. Personal protective equipment - the use of protective gear as a control measure needs to be carefully managed, because it may not provide sufficient reductions in exposures (eg hearing protection devices may not provide sufficient attenuation over a 12 hour as opposed to an 8 hour shift).

Unless you can eliminate the risk, you will need to use a range of control measures from across the hierarchy. The following diagram sets out an approach that builds up layers of risk control to ensure that the risk of fatigue-related incidents is controlled.

Defences in depth

Risk assessment	Error trajectory	Risk controls
Risk assessment checklists		Roster design Task design Work environment
Sleep opportunity Average sleep obtained		Hours of service rules Prior sleep/wake rules
Actual sleep obtained		Prior sleep and wake data
Behavioural symptoms (Supervisors' checklist)		Self-report procedures Supervisor report procedures
Fatigue-related errors		Error reporting procedures
Fatigue-related incidents		Incident investigation procedures
	Actual incident	

The first row of defences is the most important – without controls that act on the workplace and work systems, controls that act on individuals are your only defence. These will not provide enough protection.

Here are some possible control measures for the different risk factors:

<i>Roster design factors</i>	
Night shifts, including the number of consecutive night shifts.	<ul style="list-style-type: none"> • Eliminate or limit night work • Eliminate the use of nightshifts for particular jobs or activities • Limit the number of consecutive night shifts worked • Move as much activity as possible to day shifts, particularly work which may be a high risk at night, particularly on the first night of a night shift cycle. • Schedule complex tasks for daytime • Minimise or redesign routine administrative tasks to ensure employees can focus on core duties during their night work • Improve the order, speed, direction and length of rotation of the shift cycle • Ensure adequate time off after a set of night shifts. • Allow for naps during night shifts
Long hours of work in a single shift. This includes travel time, especially for remote sites.	<ul style="list-style-type: none"> • Reduce working hours • Increase resourcing • Eliminate the use of extended hours for particular jobs or activities • Control the length of shifts • Limit the use of overtime, especially unscheduled overtime • Monitor hours of work
Long hours of work across a shift cycle	<ul style="list-style-type: none"> • Reduce working hours • Reduce the number of consecutive day shifts that can be worked
Long hours because of on call duties	<ul style="list-style-type: none"> • Limit use of standby and on-call duties • Ensure that exchange of shifts does not result in excessive hours

<p>Short breaks between work shifts.</p>	<ul style="list-style-type: none"> • Increase the length of breaks between shifts • Allow for recovery between work periods • Defer non-urgent work to allow appropriate rest and recuperation for employees • Provide rest days • Improve the timing of shifts • Allow for family and social commitments between shifts and shift cycles • Make sure that there is sufficient prior sleep: <ul style="list-style-type: none"> ○ Enough time in a break for 5 hours uninterrupted sleep in 24 hours (only for one night) AND ○ Enough time in breaks for 12 hours of sleep in 48 hours AND ○ Enough time in breaks for 50 hours sleep in 7 days
<p>Short breaks within work shifts</p>	<ul style="list-style-type: none"> • Provide more and/or longer breaks to allow for recovery within work periods • Provide adequate resources to cover breaks • Ensure adequate number and location of crib and toilet facilities • Reduce the use of split shifts • Allow for family and social commitments within shifts.
<p>Shift start/finish times</p>	<ul style="list-style-type: none"> • Don't start or finish between midnight and 6 am. • Minimise the work that has to be done between midnight and 6am.
<p>Changes to rosters.</p>	<ul style="list-style-type: none"> • Reduce irregular and unpredictable work schedules
<p><i>Task related factors</i></p>	
<p>Repetitive or monotonous work</p>	<ul style="list-style-type: none"> • Eliminate boring, repetitive jobs • Improve communication • Provide training to allow multi-skilling and effective job rotation • Use alarms and monitors, particularly for solo work (eg driving vehicles)
<p>Sustained physical or mental effort.</p>	<ul style="list-style-type: none"> • Provide suitable resources • Ensure adequate breaks during shifts • Eliminate sources of risks that might exacerbate fatigue (eg lack of job control, manual handling, extremes of temperature) • Improve communication processes • Improve the duration and timing of work • Roster enough employees during peak times and demands • Allow supervisors and workers to reschedule tasks if fatigue becomes a problem

Complex physical or mental tasks.	<ul style="list-style-type: none"> • Ensure safe and efficient shift hand-over • Use alarms and monitors, particularly for solo work (eg driving vehicles)
<i>Work environment factors</i>	
Excessive commuting times necessary.	<ul style="list-style-type: none"> • Start work at long distance commute sites on the day AFTER arrival and start travel home on the day AFTER the shift cycle is finished • Assist with travel arrangements, eg provide transport
Stress	<ul style="list-style-type: none"> • Improve job control and the other risk factors associated with stress • Improve communication
Adverse working conditions	<ul style="list-style-type: none"> • Control exposure to hazardous substances and environments • Provide effective protective clothing and equipment, allowing for different shifts. • Use heating and cooling to control ambient temperatures to support alertness
<i>Non-work related factors</i>	<ul style="list-style-type: none"> • Provide suitable professional advice, eg an EAP, sleep disorder clinic • Maintain vigilance in identifying non-work related factors • Subsidise modifications to private homes to improve sleeping conditions (eg air conditioning) • Provide information and education about how non-work related factors can increase the risks of fatigue.

Step 6 *Document the fatigue management plan*

A Fatigue Management Plan should be integrated as part of an overall OHS management system. The plan should be:

- Specific to your site
- Developed through consultation
- Publicly available (eg on display)
- Communicated regularly and appropriately (eg in inductions)
- Reviewed to take account of changes in site needs and knowledge about the risks.

It should include:

- A statement of the principles for managing fatigue;
- Roles and responsibilities for all levels of the enterprise;
- The risk assessments that have been undertaken
- The risk controls that are and will be in place along with an implementation plan
- A description of how actual hours of work and sleep will be monitored and reviewed; and
- The support systems that already exist and that will be set up along with an implementation plan (eg hours of work monitoring, EAPs, training programs, monitoring systems).

Step 7 *Implement the agreed plan*

The most important step in this process is implementing the Fatigue Management Plan. Without adequate risk controls in place, the work that has gone into preparing the Fatigue Management Plan will not be useful. Key issues to consider in implementing the plan are:

Timeframes

Keeping to the agreed timeframes is very important. If you let the actions slip behind, you will not have adequate control measures in place. The workforce will also become less supportive if they can't see the agreed actions being done. You should monitor your action plan regularly to make sure that the agreed timeframes are being met.

Testing

For some risk controls, you might like to test the control measures before they are permanently put into place. For example, if you decide to redesign a roster, you might want to pilot this with one work group before the final arrangements are made. By testing, you will be able to find out if there are any unexpected problems with the new way of doing things. It will also give the workforce a chance to trial the new arrangements without the normal day to day work pressures.

Training

Many of the new risk control measures will involve training. Training is not a suitable control measure in itself, but training is essential to good risk control. Training gives the workforce the skills and knowledge they need to work with risk controls for fatigue and so that they know about the fatigue hazards and risks in the workplace. Make sure that everyone on the mine site knows about the Fatigue Management Plan and has the skills and knowledge they need to play their part.

Roles and responsibilities

The Fatigue Management Plan should name the people who are responsible for different actions. It is the employer's job to make sure that the Fatigue Management Plan is implemented. However, different people on the mine site might actually do the different jobs. In particular, the Fatigue Management Plan should clearly state the responsibility of employees to turn up and remain fit for work.

The Fatigue Management Plan should be signed off by senior people in the organisation – the CEO or owner should confirm in writing that the plan has been approved. As well, you must provide adequate resources so that the plan can be implemented.

Communication

The entire workforce needs to know about the Fatigue Management Plan. Different groups on the mine site will have different needs, for example:

- some workers may not be able to read English very well,
- night shift workers may not get the informal communication that day shift workers receive;
- Some workers may have difficulties attending information meetings because they work away from a central workplace.

Your methods for communicating need to take different needs into account. This will mean that different methods should be used for different groups.

If the communication methods you used while preparing the Fatigue Management Plan were effective, keep using them as you implement the Plan. If they need to be improved, now is your chance to try out better ways.

Participation

Everyone should be involved in making the Fatigue Management Plan happen. If only a few people are involved, they might not have time to do everything. As well, the more people who are involved, the more support there will be for the improvements.

Make sure that the workforce has the information and skills needed to make the Fatigue Management Plan work. A participative approach will help deal with any problems quickly.

Step 8 *Evaluate the effectiveness of controls*

All aspects of fatigue management should be reviewed at regular intervals to ensure continuing suitability, adequacy and effectiveness of the controls for eliminating risk. Make sure you review your policy when circumstances change at the mine, rostering patterns change or when there is any indication that risks are not being controlled. Regular inspections and auditing of all aspects of fatigue management will help to ensure that your risk controls are working as they should. In particular, make sure that your incident investigation tools are able to identify the contribution that fatigue may be making to incidents.

Appendix 1 Risk Management Worksheets

Identifying hazards

To identify whether any hazards from fatigue exist in your workplace, check if any of the following risk factors exist in your workplace.

	Yes/No	Work areas or jobs affected	Action needed
<ul style="list-style-type: none"> • Roster design factors, ie <ul style="list-style-type: none"> ○ Night shifts, including the number of consecutive night shifts. ○ Long hours of work in a single shift or across a shift cycle or because of on-call duties. This includes travel time, especially for remote sites. ○ Short breaks between or within work shifts. ○ Shift start/finish times (eg a start time between midnight and 6 am). ○ Changes to rosters. 			
<ul style="list-style-type: none"> • Task related factors, ie <ul style="list-style-type: none"> ○ Repetitive or monotonous work. ○ Sustained physical or mental effort. ○ Complex physical or mental tasks. 			
<ul style="list-style-type: none"> • Work environment factors, ie <ul style="list-style-type: none"> ○ Excessive commuting times necessary. ○ Stress. ○ Adverse working conditions, eg noise, dust, vibration, temperature extremes. 			
<ul style="list-style-type: none"> • Non-work related factors, eg <ul style="list-style-type: none"> ○ family commitments. ○ sleeping disorders. ○ psychological issues. ○ alcohol and drug use. ○ second job/non-paid work 			

Assessing risks

Examine the risk factors in detail to decide where action is needed:

Risk factors	Yes/No	Work areas or jobs affected	Action needed
<i>Roster Design Factors</i>			
<p>Night shifts, including the number of consecutive night shifts:</p> <ul style="list-style-type: none"> • Are too many consecutive night shifts worked? • Is more than eight hours work required over night shift? • Are tasks requiring sustained physical or mental effort undertaken on night shift? • Are complex physical or mental tasks undertaken on night shift? • Do night shift workers have difficulties getting undisturbed sleep during the day? 			
<p>Long hours of work in a single shift. This includes travel time, especially for remote sites:</p> <ul style="list-style-type: none"> • Does one shift involve more than 12 hours in a day (including call outs)? 			
<p>Long hours of work across a shift cycle</p> <ul style="list-style-type: none"> • Do hours of active work (total time spent at work including overtime) exceed 50 hours in any seven days? 			
<p>Long hours because of on call duties</p> <ul style="list-style-type: none"> • Are there irregular and unplanned schedules as a result of call-outs? • Is the working day or working week extended beyond 12 hours in a single day or 50 hours in any seven days as a result of call outs? 			

Risk factors	Yes/No	Work areas or jobs affected	Action needed
<p>Short breaks between work shifts:</p> <ul style="list-style-type: none"> • Is there enough time between work shifts to allow for adequate sleep : <ul style="list-style-type: none"> ○ Enough time in a break for 5 hours uninterrupted sleep in 24 hours (only for one shift) AND ○ Enough time in breaks for 12 hours of sleep in 48 hours AND ○ Enough time in breaks for 50 hours sleep in 7 days? • Is the break between shifts less than 10 hours? • Are there regular opportunities for extended periods of rest: <ul style="list-style-type: none"> ○ Two consecutive night time sleep opportunities every 7 days? 			
<p>Short breaks within work shifts</p> <ul style="list-style-type: none"> • Are breaks within shifts long enough and frequent enough to allow workers to rest, refresh and nourish their body? 			
<p>Shift start/finish times</p> <ul style="list-style-type: none"> • Do any shifts start or finish between midnight and 6 am? • Are there split shifts? • Are complex, difficult or strenuous tasks required at the start or end of such shifts? 			
<p>Changes to rosters.</p> <ul style="list-style-type: none"> • Do workers get sufficient notice of roster changes? • Is fatigue management taken into account in roster changes? 			
<p><i>Task related factors</i></p>			
<p>Repetitive or monotonous work</p> <ul style="list-style-type: none"> • Do jobs involve repetitive or monotonous work, eg haul truck driving? 			

Risk factors	Yes/No	Work areas or jobs affected	Action needed
<p>Sustained physical or mental effort.</p> <ul style="list-style-type: none"> • Is the work physically demanding? • Is there time pressure due to a heavy workload? • Is work fast paced? • Is work intensive? • Can workers vary work pace or work tasks as desired? • Do workers have a say over work tasks or how to carry them out? 			
<p>Complex physical or mental tasks.</p> <ul style="list-style-type: none"> • Is high vigilance and/or concentration required? • Are there different demands that can be difficult to combine? • Are complex, difficult or strenuous tasks required at the end of shifts or shift cycles? 			
<p><i>Work environment factors</i></p>			
<p>Excessive commuting times necessary.</p> <ul style="list-style-type: none"> • Is significant travel to and from work necessary each day so that time for adequate sleep is reduced? • Are long distance commutes necessary at the beginning of a work cycle? 			
<p>Stress</p> <ul style="list-style-type: none"> • Do jobs involve high demand, but low control? • Are there poor social relations at work, eg bullying? • Is there low social support from peers and supervisors at work? • Is there low recognition for the effort involved in the work? 			

Risk factors	Yes/No	Work areas or jobs affected	Action needed
<p>Adverse working conditions</p> <ul style="list-style-type: none"> • Do adverse working conditions exist, eg exposure to: <ul style="list-style-type: none"> ○ Noise? ○ Heat? ○ Cold? ○ Dust? ○ Hazardous substances? 			
<p><i>Non-work related factors</i></p>			
<ul style="list-style-type: none"> • To what extent is there evidence of problems as a result of: <ul style="list-style-type: none"> ○ family commitments? ○ sleeping disorders? ○ psychological issues? ○ alcohol and drug use? ○ second job/non-paid work? 			

Controlling risks

Question	Yes/No	Action needed
<p>Can you eliminate any risk factors, eg</p> <ul style="list-style-type: none"> • Reduce hours of work? • Eliminate or limit night work? • Eliminate shifts that start between midnight and 6 am? • Eliminate the use of shiftwork or extended hours for particular jobs or activities? • Move as much activity as possible to day shifts, particularly work which may be a high risk at times when impairment is likely (eg at night)? • Eliminate sources of risks that might exacerbate fatigue (eg lack of job control, manual handling, extremes of temperature)? • Start work at long distance commute sites on the day AFTER arrival and start travel home on the day AFTER the shift cycle is finished? 		
<p>Can you improve work scheduling, eg</p> <ul style="list-style-type: none"> • Improve the duration and timing of work? • Minimise the work that needs to be done between midnight and 6 am? • Allow for recovery within and between work periods, including allowing for naps while on night shifts? • Schedule complex tasks for daytime? • Minimise or redesign routine administrative tasks to ensure employees can focus on core duties during their night work? • Roster enough employees during peak times and demands? • Defer non-urgent work to allow appropriate rest and recuperation for employees? • Allow supervisors and workers to reschedule tasks if fatigue becomes a problem? • Reduce the use of split shifts? 		

Question	Yes/No	Action needed
<p>Can you improve roster design by addressing:</p> <ul style="list-style-type: none"> • The speed and direction of rotation? • The number of consecutive shifts, both night and day, worked? • Provision of rest days? • The timing of shifts? • Order of rotating shifts? • Roster pattern and length of cycle? • Increasing the length of breaks between shifts? 		
<p>Can you improve control over hours of work, eg</p> <ul style="list-style-type: none"> • Reduce irregular and unpredictable work schedules? • Control the length of shifts? • Limit the use of overtime? • Limit night work? • Ensure adequate breaks during shifts? • Limit use of standby and on-call duties? • Ensure that exchange of shifts does not result in excessive hours? 		
<p>Can you control the consequences of non-traditional shifts, eg</p> <ul style="list-style-type: none"> • Control exposure to hazardous substances and environments? • Ensure safe and efficient shift hand-over? • Allow for family and social commitments? • Assist with travel arrangements? 		
<p>Can you use engineering controls, eg</p> <ul style="list-style-type: none"> • heating and cooling to control ambient temperatures to support alertness? • alarms and monitors, particularly for solo work (eg driving vehicles)? 		
<p>Can you provide relevant training?</p>		
<p>Is the use of protective gear effectively managed, allowing for the different shifts?</p>		

Appendix 2 Supervisor’s Guideline on Fatigue Impairment

YES NO

STEP 1. OBSERVATION

(What can be observed about this person’s functioning/behaviour?)

Is there a significant change in the person’s behaviour? 0 0
 In what area has there been a change?

Physical Symptoms

- 1. Eyes bloodshot 0 0
- 2. Slower movements..... 0 0
- 3. Poor co-ordination 0 0
- 4. Slower than normal response time eg. response to radio contact 0 0

Cognitive Functioning

- 1. Distracted from task..... 0 0
- 2. Poor concentration/lapses in concentration 0 0
- 3. Doesn’t complete tasks 0 0
- 4. Short-term memory loss (forgets instructions) 0 0
- 5. Nodding-off momentarily 0 0
- 6. Fixed gaze and/or reports blurred vision 0 0

Emotion/Motivation

- 1. Seems depressed 0 0
- 2. Irritable 0 0
- 3. Doesn’t care anymore..... 0 0
- 4. Easily frustrated with tasks..... 0 0

If 3 or more indicators of fatigue are present, proceed to STEP 2.

STEP 2. RISK

- 1. Has a fatigue-related incident occurred?..... 0 0
- 2. Has the person (self-report/ by another person) been identified as at fatigue risk? . 0 0
- 3. Is there a risk associated with the person’s functioning/behaviour?..... 0 0
 (ie. risk to self, others or equipment)
- 3a. If Yes, What is the level of risk? 0 High 0 Moderate 0 Low
 (your best estimate)

If you form the view that the risk is unacceptable proceed to Step 3.

STEP 3. CONVERSATION

Insight/Understanding

1. What is the person’s explanation of what you have observed?

Sleep

1. How many hours since they last slept? _____ hours
2. How long did they sleep? _____ hours
3. Have they experienced a recent change in their sleeping habits?
4. Is there a reason/s for not enough sleep or poor sleep?

Work

1. What tasks have they been working on this shift?.....
2. Are those tasks “high-risk” for fatigue? ie. repetitious or hot conditions...
3. If Yes, How long have they been working on that task? _____ hours

Breaks

1. When did they last have a break in shift? _____ hours
2. How long was that break? _____ hours

Fatigue Management

1. When did they last drink some water or eat something? (ie. dehydrated or hungry)?
2. What do they usually do to prevent fatigue?

STEP 4. SUPERVISORY ACTION

1. What is the level of risk associated with this person’s continuing without intervention?
2. If that risk is unacceptable, what steps need be taken to minimise the immediate risk?
 - a. Task rotation option
 - b. Short break option.....
 - c. Go home option
3. Has this person been associated with previous fatigue issues?
4. Follow-up procedures:
 - a. First occasion – deal with it informally, but record incident.....
 - b. Incident report completed.....
 - c. Training in fatigue management recommended
 - d. Referral to EAP

Guidance Notes

FATIGUE IMPAIRMENT

The Fatigue Impairment: Supervisors' Guideline is designed as a framework for a step-by-step process for making decisions about fatigue impairment and the most appropriate supervisory response. The guideline should not be seen as a definitive measure, but rather as a guide to conversation.

STEP 1.

The first step is to formalise what you have noticed about the person's functioning or behaviour. While most of us have an intuitive sense for when a person is tired, this simple checklist asks us to take specific notice of some of the known symptoms of fatigue. It is worthwhile going through the checklist and checking the appropriate boxes.

If the person exhibits three or more of the typical symptoms of fatigue, or very marked symptoms in any one or two areas, proceed to Step 2.

STEP 2.

The second step is to estimate the degree of risk associated with what you have observed. Risk depends on the likelihood and severity of the consequences of the person's functioning/behaviour. There will be many factors that will influence your estimate of risk for this person in his/her situation.

Having gained a sense of the level of risk involved, you must ask the question, "Is this an acceptable level of risk?"

If you conclude that the risk is beyond an acceptable level, proceed to Step 3.

STEP 3.

The third step is to engage the individual in conversation about his/her symptoms. It is important for you to clearly state what you have observed and your estimate of the risk involved, and the reasons for your estimate of the risk involved. Has the person an explanation for what you have observed? An explanation does not discount what you have observed, but may put it in another context, or offer a reason for why they are not functioning normally. For example, the person may not have eaten for 8 hours, have low blood sugar levels and be exhibiting symptoms of fatigue.

The explanation may offer some answers to the next set of questions. Remember the purpose of asking these questions is to encourage the individual to take responsibility for their functioning and to think about the reasons behind their fatigue-related risk. Potential reasons for fatigue related risk lie in inadequate sleep, inappropriate work in harsh conditions, inadequate breaks, inadequate nutrition or hydration, and/or a high level of personal stress. It is also worth asking the question about the individual's fatigue management strategies, ie How do they go about preventing fatigue related risk? This question suggests the person has a role to play in thinking about their work and in preventing fatigue risk.

STEP 4.

Having observed symptoms of fatigue, formed a view of the risk involved, gained an understanding of the person's own understanding of the situation and their functioning, it is time to make a decision about whether you are prepared to allow the situation to go unchecked. Your decision should be based on your estimate of the risk involved. The critical aspect is what needs to happen to minimise the risk to an acceptable level? Potential steps for intervention are to instruct the individual to take a short break, to do a different task, or if you form the view that the risk is high and that they are so fatigued no break or different task will make a difference to their fatigue risk, then get them off site. It would not be appropriate to allow a person this fatigued to drive home.

Follow-up question for supervisors involve strategies to prevent this from happening again. Has the person a history of fatigue related impairment or incidents? What action do you need to take? Do disciplinary actions apply? Is the person demonstrating an inability to manage fatigue? Do they need some additional information on fatigue management or referral to the EAP? Do you need to involve someone else in the decision? These questions will be shaped to a significant degree by local policy and procedures, and supervisors should act within the local approach to managing fatigue.

From: Australian Coal Association Research Program (2002), Risk Management Tool for Shiftwork, Brisbane, Queensland

References

Australian Coal Association Research Program (2002), *Risk Management Tool for Shiftwork*, Brisbane, Queensland.

Department of Minerals & Energy (2000), *Fatigue Management for the Western Australian Mining Industry*, Perth, WA.

Department of Mines and Energy (2001), *Guidance Note for Management of Safety and Health Risks Associated with Hours of Work Arrangements at Mining Operations*, Brisbane, Queensland

12. Guideline for employee consultation

12

Guideline on Employee Consultation

September 2001

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Employee Consultation – Step by Step

This table sets out the basic steps to establish effective consultation. It gives the relevant sections from the OHS Act and mining and general OHS regulations. The table sets out the parts of the guideline that will help at each step.

		Relevant OHS Act and Regulations	In this Guideline
Getting started	Step 1 Identify the issues and decisions with health and safety implications	Section 14, OHS Act; Coal Mines (General) Regulation 1999, clauses 22, 42 and 75; Mines Inspection General Rule 2000 clauses 9, 10, 20, 29, 30, 31 and 54.	Part 5
Agreeing how to do it	Step 2 Discuss the options for consultation	Section 16; OHS Act; Mines Inspection General Rule 2000 clause 15; Coal Mines (General) Regulation 1999, Part 6.	Part 6
	Step 3 Decide the most effective consultation methods for different issues	Section 15, OHS Act.	Part 6
Setting it up	Step 4 Establish the consultation arrangements	Section 17, OHS Act.	Part 7
	Step 5 Provide training for all of those involved	Regulation 310, OHS Regulation 2000.	Part 8
	Step 6 Record and publicise the arrangements	Regulation 306, OHS Regulation 2000.	Part 8
Making it work	Step 7 Use the agreed arrangements to consult about OHS	Section 13, OHS Act.	Parts 8 & 9
	Step 8 Review the effectiveness of the arrangements regularly, say every year or so	Regulation 302, OHS Regulation 2000..	Parts 8 & 9

1. Introduction

One of the key tools to achieving safe, healthy and productive mining is consulting with the workforce. Effective OHS management depends on consultation because it provides essential information and opportunities to work out effective management strategies. This Guideline advises how to establish and maintain effective processes for employee consultation.

The Guideline includes the following seven parts:

- What is consultation?
- Why consult with employees?
- What types of consultation might be appropriate?
- What issues should consultation consider?
- How should consultation be established?
- What support systems are needed to ensure effective consultation?
- How can we deal with difficulties in consultation processes?

The relevant Division of the OHS Act 2000 is provided as an Appendix.

2. Purpose

The guideline sets out information and guidance on how to meet the employer's responsibility to consult with their workforce. It aims to help employers determine how they can best meet their obligations to consult and to support effective OHS management. It complements but does not replace general guidance provided by the Approved Industry Code of Practice on OHS Consultation.

3. What is consultation?

The OHS Act 2000 defines consultation to mean:

- (a) *the sharing of relevant information about occupational health, safety and welfare with employees, and*
- (b) *that employees be given the opportunity to express their views and to contribute in a timely fashion to the resolution of occupational health, safety and welfare issues at their place of work, and*
- (c) *that the views of employees are valued and taken into account by the employer.*

(Division 3, Section 14)

Employees includes all contractors' employees as well.

Consultation must be timely: informing the workforce after decisions have been made is NOT consultation. Consultation is also not the same thing as communication. While communication is essential, consultation means that the response of employees is valued and taken into account in any further decisionmaking.

Consultation does not affect the employers' responsibility to provide a safe and healthy working environment. Regardless of the views of the workforce, employers must ensure that any changes to the workplace do not adversely affect health and safety.

Effective consultation uses a wide variety of methods, both formal and informal. This guideline describes the different options for consultation and provides guidance about which methods may be most suitable in different circumstances and how to deal with any problems.

The OHS Act 2000 allows for different methods for formal consultation:

- OHS Committees,
- OHS representatives; and
- other methods agreed between the employer and employees.

Equivalent legislation covering mining also deals with consultation, eg through providing for the appointment of check inspectors at minesites in the Mines Inspection General Rule and the Coal Mines (General) Regulation. These arrangements are not mutually exclusive. You should use informal consultation as well as formal methods provided under legislation. An effective approach to consultation in OHS uses the full range of consultation methods according to the issues being considered.

4. Why consult with employees?

There are two main reasons why employers should consult with employees:

4.1 To meet legal requirements

As described in the previous part, the OHS Act 2000 requires that employers consult with their employees:

An employer must consult, in accordance with this Division, with the employees of the employer to enable the employees to contribute to the making of decisions affecting their health, safety and welfare at work.

Section 13

As well as being an effective tool for OHS management, consultation is also an end in itself. The OHS Act means that employees have the right to be consulted over issues that affect their health and safety. Other relevant legislation includes the Mines Inspection General Rule 2000, which requires consultation with persons working at a mine about a number of issues (see Part 5 of this guideline).

4.2 To support effective OHS management

Effective consultation is an essential aspect of effective OHS management. Many studies have shown that participation in decision making about OHS is a key feature of high performing organisations. Employees can provide information and advice on how to deal with OHS issues that cannot be obtained from any other source. Research has shown that workforce consultation and participation in managing a variety of risks significantly increases the effectiveness of risk controls. For example, Baker, Roberts and Dawson found that employee participation in designing shift rosters improves the quality of the rosters and helps to control the risks associated with shiftwork (Baker, Roberts and Dawson, 1997, p. 453).

The capacity of employees to have a say about changes at work is a significant influence on whether the changes are perceived as positive. Workers are more likely to accept and help to implement changes to risk control strategies if they have had a role in designing and shaping the changes.

5. What issues should consultation cover?

Requirements under the OHS Act and mining legislation are complementary.

The OHS Act says that consultation should occur:

- (a) *when risks to health and safety arising from work are assessed or when the assessment of those risks is reviewed, and*
- (b) *when decisions are made about the measures to be taken to eliminate or control those risks, and*
- (c) *when introducing or altering the procedures for monitoring those risks (including health surveillance procedures), and*
- (d) *when decisions are made about the adequacy of facilities for the welfare of employees, and*
- (e) *when changes that may affect health, safety or welfare are proposed to the premises where persons work, to the systems or methods of work or to the plant or substances used for work, and*
- (f) *when decisions are made about the procedures for consultation under this Division.*

Section 15

Mining legislation also requires consultation about:

- Fire control and emergency systems;
- First aid;
- Plant safety (specifically a defect management system);
- Mine safety management plans;
- OHS policy;
- Major hazard management procedures;
- Fitness for work procedures; and
- Health surveillance (associated with exposure to hazardous substances).

These requirements suggest that consultation should occur for:

- Strategic issues, such as policy, plans and capital investments. These probably require more formal arrangements, such as committees and representatives.

- Day to day OHS management, such as undertaking risk assessments and designing risk controls. These might best be dealt with through informal or temporary arrangements such as tool box talks or team meetings.

6. What types of consultation might be best?

The best ways to consult will vary between mining enterprises and depend upon:

- the issues for consultation;
- the organisational structure of the minesite, including contractors;
- the timeframe available for consultation;
- the views of the workforce about how they would like to be consulted; and
- the effectiveness of existing forms of consultation.

Different methods will be appropriate on the same minesite at different times and for different issues.

6.1 Formal consultation methods

Usually, consultation means formal approaches through committees and other representative structures. These approaches have particular advantages when dealing with strategic issues such as planning and overall policy. They may also be most efficient when dealing with a large workforce. However, they can be time consuming and may not be effective methods to use when dealing with immediate issues, such as undertaking risk assessments and job safety analysis.

6.1.1 Roles of formal consultation methods

Under the OHS Act 2000, representatives and committees have the following roles and rights:

- (a) *to keep under review the measures taken to ensure the health, safety and welfare of persons at the place of work,*
- (b) *to investigate any matter that may be a risk to health and safety at the place of work,*
- (c) *to attempt to resolve the matter but, if unable to do so, to request an investigation by an inspector for that purpose,*
- (d) *such other functions as are prescribed by the regulations.*

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6.1.2 Health and safety committees

Health and safety committees are specified in the Act and must be established when requested by the majority of the workforce (if over 20 people are employed) or ordered by WorkCover. Committees are made up of employee and management

representatives, with employee representatives forming at least half the membership. Committees are a formal way for a minesite to:

- consult over OHS issues;
- provide information;
- develop and review policies and procedures with the involvement of workforce representatives;
- evaluate the effectiveness of OHS management; and
- resolve OHS issues.

Committees can take many forms and can be called many different names. Some sites prefer to call their OHS committee a team, to reinforce that the group is action oriented and works together. Some sites have a majority of employee representatives and provide the committee with considerable autonomy to get things done.

6.1.3 Health and safety representatives, such as check inspectors

If any employee requests, health and safety representatives can be elected by the workforce to represent them for the purposes of consultation. Representatives can be useful to ensure that different workforce groups are involved in consultation, particularly groups that may otherwise have limited participation. Once elected, a representative would normally represent the safety and health of employees within his or her agreed area of responsibility for two years. If it became necessary, they could also carry out the functions of a representative in another area (eg investigating an accident immediately after it occurs or dealing with a hazard which arises suddenly) if the usual representative for that area is not available (eg off-shift or on leave). Employee representatives can also be members of OHS Committees.

Under mining legislation, check inspectors and representatives have specific rights to:

- have access to information;
- conduct inspections; and
- make reports to management about the findings of these inspections.

6.1.4 Teams to deal with specific issues (eg particular risks)

Short term joint teams can be established to deal with specific issues that require concentrated effort. For example, a team may be established to conduct a three-month project to implement a manual handling program at a minesite. Teams could also be established to conduct regular workplace inspections.

6.2 *Informal consultation methods*

Informal consultation methods do not rely on formal structures such as committees, teams or representatives. They are based on integrating OHS into everyday processes and discussions. The success of these methods depends upon the support given to them. Informal consultation should not mean that the approach is haphazard or careless. Careful planning and implementation can be even more important for informal methods to ensure that consistent information is provided and that all employees are involved. Without a clear framework or system, informal methods can rely on the management style of key decision makers, which can change with personnel changes. They can also focus more on the issues of importance to one group, eg management, and neglect the workforce's priorities.

6.2.1 *General discussions with the workforce*

This can be done along with formal consultation methods. For example, members of OHS committees can discuss issues while distributing minutes of committee meetings. Managers and supervisors should use every opportunity to discuss and review OHS management with the workforce. This can occur through meetings called for other purposes, eg staff meetings and pre and post shift meetings, or can be done through toolbox meetings. Making safety the first agenda item for all meetings can send a powerful message and support integration of OHS into all consultation activities.

6.2.2 *Incorporating consultation into risk management activities.*

Consultation should be an integral aspect of risk management activities. For example, job safety analyses and risk assessments should be prepared by the people who do the relevant jobs. For this to be effective, those involved in the risk assessment should be informed about the outcomes of the work. Risk controls should be implemented and those involved should be informed about progress in implementing the recommendations. Strategies for managing implementation should be clear, particularly responsibilities for actions.

6.3 *Which method for which issue?*

The following table sets out suitable consultation methods for different consultation purposes.

	OHS Committee	Employee representatives	Special purpose teams	Tool box talks	General discussions
Determining OHS policies and procedures	For enterprise wide policy and procedures.		Dealing with specific risks.	For specific work groups.	
Developing safety management plans	For enterprise wide plans.		Dealing with specific risks.	For plans for specific work groups.	
Reviewing the effectiveness of OHS management.	Essential to make sure that opportunities for improvement are realised.			As a contribution to evaluation, but effective contributions are most likely using formal methods.	
Identifying workforce concerns about OHS		The primary purpose of employee representation.		For workgroup specific concerns.	
Making decisions about capital investment with OHS implications	Strategic issues like this should be dealt with in a structured forum.				
Determining communication and training needs.	For enterprise wide strategies and needs.			For specific work groups.	
Contributing to decision making about proposed changes to the workplace, including changes to working arrangements.	To help frame how such consultation will occur with the workforce as a whole.	Should be directly involved, whether committee members or not.		Proposed changes should be discussed with affected work groups in tool box talks or other meetings.	Proposed changes should be discussed generally with the workforce prior to decisions being made.

	OHS Committee	Employee representatives	Special purpose teams	Tool box talks	General discussions
Developing OHS management systems.	Strategic issues like this should be dealt with in a structured forum.			Issues relevant to specific work groups should be discussed in tool box talks or other meetings.	Application of systems to the work group should be the subject of consultation.
Undertaking risk management activities.	Committees can make an effective contribution through establishing a participative framework.		Temporary, focussed teams can be the most effective way for doing risk management activities and can help to integrate risk management into day to day work activities, particularly where broad involvement occurs.	Should cover risk management and can be an important way for identification, assessment and control to be done.	
Inspecting the workplace.		This is an important function of representatives under mining OHS legislation.	Workplace teams		
Investigating incidents.	Committees should review investigation reports, especially the outcomes and their implementation.	This is an important function of representatives under mining OHS legislation.	Special teams may be relevant here too.	Tool box talks can be used as a way to discuss investigations incidents and determine measures to prevent recurrence.	

7. How should consultation be established?

Approaches to consultation should not be imposed. Employers and employees should reach agreement about the methods to be used and the issues to cover through consultation. Where requested, relevant unions should be involved in the establishment phase:

A Federal or State industrial organisation of employees may represent, for the purposes of consultation under the agreed arrangements, any of those employees who request the organisation to represent them.

Section 17, OHS Act.

The table on page 2, *Employee Consultation – step by step*, outlines the key steps involved.

7.1 Establishing OHS committees

Representation for an OHS committee should be agreed so that:

- all workforce groups are represented (pay particular attention to special needs, such as shift work and workers from a non-English speaking background);
- the committee has access to appropriate expertise;
- decisions can be made by the committee within agreed rules without reference to other managers.

Agree a charter or guidelines for the operation of the committee. This should set out:

- agreed objectives and functions for the committee;
- meeting arrangements;
- responsibilities and rights of management and employee representatives on the committee;
- powers of the committee;
- how issues that affect other areas or personnel will be dealt with; and
- reporting and communication requirements.

Training should be provided to the committee to ensure that members have the competencies they will need to operate effectively and deal with relevant OHS issues (see below).

Take the following steps to set up your OHS committee:

Step 1 Agree the committee's purpose

Step 2 Develop membership criteria (eg how will workgroups be defined?) and elect workforce representatives. Management representatives may be appointed.

Step 3 Decide short and long term objectives for the committee.

Step 4 Determine a method for consulting with and reporting back to management and the workforce

Step 5 Agree a process for resolving issues.

Step 6 Train the committee members.

Step 7 Choose a facilitator, if required.

Step 8 Hold the committee's first meeting.

7.2 Employee representatives

The appropriate sections of the workforce should elect employee representatives. Before any election, the employer and workforce will need to agree on:

- the number of employee representatives to be elected;
- how to deal with contractors;
- the term of office of representatives;
- who will conduct the election; and
- how it will be conducted.

To determine the number of representatives, the employer and employees should take account of:

- the type of work being done;
- the location(s) of mine(s) ;
- shiftwork arrangements;
- the use of contractors;
- types of hazards and risks that exist; and
- other matters that may affect safety and health of employees.

During the establishment phase, the parties should also agree on the area each representative will cover, such as:

- a separate functional area, such as administration, stores or workshop;
- a separate geographic area, such as a head office or a branch office;
- groups of mobile workers;
- groups of workers with specific occupations or working for specific contractors; and
- workers covered by a particular union, award or agreement.

Take the following steps to establish a representative structure:

Step 1 Agree on the number of representatives and the areas or work groups they will represent. It may also be useful to consider the role and purpose of representatives.

Step 2 Agree on an election process.

Step 3 Inform the workforce (including managers) about the role, purpose and agreed arrangements for representatives.

Step 4 Conduct the elections.

Step 5 Train representatives.

Step 6 Make sure that representatives have the resources necessary to fulfil their role, eg to conduct inspections, discuss issues with their work group.

Step 7 Involve representatives at appropriate stages in decisionmaking with health and safety implications.

7.3 Risk teams

Like health and safety committees, representation for risk teams should ensure that the team has access to all relevant expertise, particularly experience relating to relevant jobs and activities. All affected employees should be represented on the team. Risk teams can be established to undertake specific stages of risk management relating to particular risks, or could be formed to support integration of risk management into the general activities of work teams. Like committees, risk teams should have clear operational guidelines and the responsibilities, rights and powers of team members should be clearly stated.

7.4 Tool box talks

Tool box talks are designed to be an informal method for regular consultation about OHS issues. They should therefore not involve significant administration. However, clear guidance should be provided to those who will conduct them about how and why tool box

talks should be done. If tool box talks are an important part of consultation, this guidance should be publicly available.

7.5 *General discussions*

Informal arrangements may not require any specific strategies such as elections to implement them, but should be discussed in any consultative forums prior to particular initiatives. This is particularly important to avoid the potential pitfalls of such a broad approach to consultation, described below.

8. What support systems are needed to ensure effective consultation?

Effective consultation requires support such as training and communication.

8.1 Training

Traditionally, training for committee members and employee representatives has focused on the details of meeting procedures and processes. While such training can have its place, the critical areas for training in consultation should relate to the specific needs of the enterprise and its employees.

Training for those involved in formal consultative methods should therefore cover:

- Principles of effective OHS management, including risk management;
- Principles of effective consultation;
- Working effectively as a team, including participative decision-making and priority setting;
- Communicating OHS information;
- Evaluating OHS performance;
- Investigating OHS issues;
- How to run and participate in meetings; and
- Other specific issues of relevance to the workplace, eg control measures for specific hazards.

Providing consultation training to committee members and representatives is a requirement of the OHS Regulations (310). An approved trainer must provide this training.

Training for those involved in facilitating informal consultation is perhaps even more important. By its very nature, informal consultation will not involve the same level of scrutiny and review involved in formal methods. If those undertaking the consultations are not competent to conduct consultations, informal methods can deteriorate into a 'rubber stamp' exercise, where management proposals are not subjected to appropriate scrutiny or probing by the workforce. Training needs for these people therefore include those listed above as well as facilitation skills to ensure maximum participation.

8.2 Communication

Any method for consultation relies upon effective communication – without communication, consultation cannot take place. Communication about OHS and the consultation activities in place should be open and regular across the organisation. In particular, employee and management representatives should ensure that:

- their respective groups are well-informed about the activities of consultative forums: and
- the people they represent provide input to consultation.

8.3 Time

Time is also essential for effective consultation, both for an employer to consult with the workforce and for employee representatives to consult with the employees they represent. If sufficient time is not provided, consultation will not fulfil its purposes, either in helping to improve the effectiveness of OHS management or in providing employees with a say in their health and safety. The amount of time required will vary depending upon the issue and the method concerned.

8.4 Administrative support

Effective consultation requires administrative support, such as secretarial support to prepare minutes, access to a photocopier for minutes, to a phone and to meeting facilities.

8.5 Monitoring and review

Periodic reviews will help make sure that consultation continues to be effective. Check that consultation is timely and relevant and that decisions with health and safety implications always involve consultation with the workforce and their representatives. Also, make sure that the entire workforce has avenues to be involved. Sometimes changes in the workplace can mean that representative structures might need to be reviewed. Such reviews could be done annually or more frequently if the need arises.

9. How can we deal with difficulties in consultation processes?

The following table lists common problems experienced in undertaking different forms of consultation and suggests possible solutions.

<i>Problems</i>	<i>Possible solutions</i>
<i>General</i>	
1. Consultation doesn't lead to action.	<ul style="list-style-type: none"> • Make sure that management are committed to consultation and the agreed mechanisms. • Make sure that the committee or teams have access to problem solving tools and expertise. • Choose an appropriate person to facilitate any meetings or other consultation forums.
<i>Formal methods</i>	
2. Members do not see meetings of committees and teams as important.	<ul style="list-style-type: none"> • Make sure that the committee/team's role and membership are known to management and the workforce. • Set the meeting schedule in advance at times when members are more likely to be able to attend (eg take shift schedules into account) • Make sure that the committee/team is dealing with issues of relevance and importance in the workplace.
3. Committee meetings are bogged down in issues that should have been dealt with immediately.	<ul style="list-style-type: none"> • Make sure that the committee has an effective charter that sets out objectives and functions that all members accept. • Make sure that issues can be dealt with at the workplace: workgroups need resources, skills and procedures so that issues can be resolved at the workplace as much as possible. The committee should only be a last resort for issue resolution. • Set the ground rule that problems cannot be brought to the committee, only solutions can be shared.
4. Issues remain on the committee's agenda for long periods of time without resolution.	<ul style="list-style-type: none"> • Make sure that management representatives on the committee are able to make and implement decisions without reference to other people. If this is not possible, set specific procedures in place for seeking such support (eg allocating the responsibility for involving the correct decision-makers outside meetings). • Set a performance target that specifies an age limit for agenda items. The chairperson of the committee should ensure that items are dealt with within this timeframe.

<i>Problems</i>	<i>Possible solutions</i>
<p>5. Actions determined by the meeting are not implemented.</p>	<ul style="list-style-type: none"> • Make sure that agreed actions are clearly recorded in the minutes and committee member(s) are allocated responsibility for implementing the actions. • Display the committee minutes so that the responsible committee member is known and can be held accountable for implementing the actions. • Make sure that appropriate resources are available for implementing agreed actions.
<p>6. The committee or team lacks direction and doesn't deal with issues that are important to the workforce or to the mining enterprise.</p>	<ul style="list-style-type: none"> • Make sure that key decision makers are involved in the committee or team. • Develop a charter for the committee or team, including agreed objectives and priorities. • Make sure that training focuses on the key functions of the committee or team. Training which focuses entirely on the formalities of meeting procedures can be counter-productive. • Make sure that communication between the committee or team and management and the workforce is open and regular.
<p>7. Committee or team meetings always run out of time and key issues do not get dealt with adequately.</p>	<ul style="list-style-type: none"> • Prepare realistic agendas and develop clear priorities if too many issues are part of the committee or team's core functions. • Make sure team or committee members are punctual and prepared for meetings. • Prevent the meetings getting bogged down in day to day issues by insisting that these are sorted out without having to be referred to the committee or team (see above). • Develop effective issue resolution processes for the committee or team to ensure that issues are speedily and effectively resolved.
<p>8. Particular members dominate committee or team meetings.</p>	<ul style="list-style-type: none"> • Make sure that all committee or team members are trained, well-informed and confident about their role. • Set time limits for each member to make a contribution to discussion about particularly contentious issues. • Set ground rules with committee or team members to deal with dominant individuals. • Determine an appropriate size for the committee or team – if it is too large, shyer members may be less likely to contribute and giving everyone the chance to contribute may take considerable time.

<i>Problems</i>	<i>Possible solutions</i>
9. The committee/team is too big and individual members don't get a proper opportunity to contribute.	<ul style="list-style-type: none"> • Determine representation carefully to ensure a balance between having enough representatives for consultation to be effective and not having too many members on the committee or team. • Support the formal consultation method with adequate informal consultation through discussion in the workplace. This should ensure that representatives can accurately report the views of the groups they represent.
<i>Informal methods</i>	
10. Not all workforce groups are consulted.	<ul style="list-style-type: none"> • Make sure that those who are responsible for informal consultation (often supervisors or representatives from formal bodies) understand the importance of taking all views into account, even unpopular views. • Even though consultation is informal, make sure that all relevant workforce groups (eg all shifts, crews and contractors) are consulted by developing a program of consultation.
11. Opportunities for consultation over strategic issues are limited.	<ul style="list-style-type: none"> • Informal methods may not be the most effective way to deal with strategic issues. More formal approaches through a committee or team involving workforce representatives may be necessary.
12. Feedback about the results of consultation is not provided.	<ul style="list-style-type: none"> • Provide regular reports about progress relating to the issues that have discussed through consultation. Make sure that the ways in which employees' views have been taken into account are clear.
13. The framework within which consultation is occurring is not clear.	<ul style="list-style-type: none"> • Make sure that all employees are aware of the scope and nature of consultation, particularly if specific issues are being discussed. For example, if employees are involved in undertaking risk assessments, make sure that the scope for change (eg budgetary constraints, timeframes) is known up front.
14. The extent and regularity of consultation depends upon the style of the individual manager.	<ul style="list-style-type: none"> • Make sure that the roles of different workplace groups are clear and that individuals are accountable for fulfilling their roles. For example, make sure that the role of supervisors is clearly stated. • Provide training to those responsible for informal consultation so that they can implement the required procedures, eg how to facilitate effective risk assessments.
15. Different sections of the workforce can receive different information, depending upon who manages the consultation.	<ul style="list-style-type: none"> • Establish clear guidance about the content of informal consultation and ensure that those responsible for managing the consultation understand that it is important that consistent messages are delivered. • Provide training to those responsible for informal consultation so that they can implement the required procedures, eg how to present OHS information.

Adapted from: Occupational Health and Safety Authority (1993), *Health and Safety Committees: A guide for workplaces*, Share Information Booklet Number 5, Melbourne, Occupational Health and Safety Authority.

References

Baker, A, Roberts, T and Dawson, D (1997), “Improving Shiftwork Management – Changing Hours of Work”, *Journal of Occupational Health and Safety – Australia and New Zealand*, 13(5): 451-460.

Occupational Health and Safety Authority (1993), *Health and Safety Committees: A guide for workplaces*, Share Information Booklet Number 5, Melbourne, Occupational Health and Safety Authority.

Appendix

Extract from the Occupational Health And Safety Act 2000

13 *Duty of employer to consult*

An employer must consult, in accordance with this Division, with the employees of the employer to enable the employees to contribute to the making of decisions affecting their health, safety and welfare at work.

14. *Nature of consultation*

Consultation under this Division requires:

- (a) the sharing of relevant information about occupational health, safety and welfare with employees, and
- (b) that employees be given the opportunity to express their views and to contribute in a timely fashion to the resolution of occupational health, safety and welfare issues at their place of work, and
- (c) that the views of employees are valued and taken into account by the employer.

15 *When consultation is required*

Consultation under this Division is required:

- (a) when risks to health and safety arising from work are assessed or when the assessment of those risks is reviewed, and
- (b) when decisions are made about the measures to be taken to eliminate or control those risks, and
- (c) when introducing or altering the procedures for monitoring those risks (including health surveillance procedures), and
- (d) when decisions are made about the adequacy of facilities for the welfare of employees, and
- (e) when changes that may affect health, safety or welfare are proposed to the premises where persons work, to the systems or methods of work or to the plant or substances used for work, and
- (f) when decisions are made about the procedures for consultation under this Division, and
- (g) in any other case prescribed by the regulations.

16 How consultation to be undertaken

Consultation under this Division may be undertaken by any one or more of the following means:

- (a) consultation may be undertaken with an occupational health and safety committee or committees established by the employer and employees for the place of work or the employer's undertaking (an OHS committee),
- (b) consultation may be undertaken with an occupational health and safety representative or representatives elected by the employees to represent them (an OHS representative),
- (c) consultation may be undertaken in accordance with other arrangements agreed by the employer and the employees.

17 Establishment of OHS committees, election of OHS representatives or other agreed arrangements**(1) OHS committees**

An OHS committee is to be established for the purposes of consultation under this Division if the employer employs 20 or more persons in the employer's undertaking and a majority of those employees request the establishment of the committee or if WorkCover so directs. More than one committee is to be established if a majority of those employees request their establishment and the employer agrees or if WorkCover so directs.

(2) OHS representatives

An OHS representative is to be elected for the purposes of consultation under this Division if at least one of the persons employed by the employer requests the election of the representative or if WorkCover so directs. The employees may elect more than one OHS representative if the employer agrees or if WorkCover so directs.

(3) Other agreed arrangements

Other agreed arrangements for consultation with employees are to be made in accordance with any requirements of the regulations. A Federal or State industrial organisation of employees may represent, for the purposes of consultation under the agreed arrangements, any of those employees who request the organisation to represent them.

(4) General

The employer may make arrangements for the establishment of an OHS committee or the election of an OHS representative whether or not it has been requested by any of the employees of the employer.

(5) An OHS representative may also be appointed to an OHS committee.

18 *Functions of OHS committees and OHS representatives*

An OHS committee or an OHS representative has the following functions:

- (a) to keep under review the measures taken to ensure the health, safety and welfare of persons at the place of work,
- (b) to investigate any matter that may be a risk to health and safety at the place of work,
- (c) to attempt to resolve the matter but, if unable to do so, to request an investigation by an inspector for that purpose,
- (d) such other functions as are prescribed by the regulations. Note. See section 69 for power of employees' representative to accompany an inspector on an inspection of a place of work. See section 137 for offence of unauthorised disclosure of confidential information by any member of a committee or representative.

19 *Regulations with respect to consultation*

The regulations may make further provisions with respect to consultation under this Division and, in particular, for or with respect to:

- (a) negotiations between employers and employees (or persons acting on their behalf) with respect to consultation arrangements, and
- (b) the establishment, composition, procedure and functions of OHS committees, and
- (c) the election and functions of OHS representatives, and
- (d) the powers of members of OHS committees and of OHS representatives with respect to inspections of the place of work and the obtaining of information relating to the place of work and other things in relation to the place of work, and
- (e) the training of members of OHS committees and of OHS representatives.

13. The Platinum Rules

13

First steps for action

The NSW mining industry is committed to improving health and safety performance at all levels in the industry. Making the workplace healthy and safe is the ultimate goal shared by management and employees alike. The Digging Deeper project found that it is not lack of knowledge that is holding the industry back from achieving the goal, but a lack of action.

Digging Deeper identified an underlying theme across the industry: the need to get the basics of OHS management right. In pursuing OHSMS certification, in implementing health and well-being programs to address fatigue and in dealing with the OHS and industrial relations complexities of production bonus and safety incentive schemes, sites may have lost sight of the basic principle of OHS management. To make the workplace healthy and safe, there is no substitute for making the workplace healthy and safe.

The *Platinum Rules* codify the fundamental steps the industry should take to more effectively manage OHS. Following these rules would substantially fill the gaps the Digging Deeper project identified in OHS management in the NSW mining industry. They are addressed to all people who work in the NSW mining industry – whether in management, the workforce, industry associations, unions or government – because each individual has some role to play in building a healthy and safe mining industry in NSW. How you apply them will depend on your role in the industry. Whatever your role, dig deeper into the culture and operating systems of your enterprise, identify where the gaps are and work to fill them. The Platinum Rules are a good place to start.

In short, the industry needs to, “*Just do it!*”

The Platinum Rules

1. **Remember you are working with people—**
 - Don't exhaust them.
 - People aren't machines.
 - Treat them with dignity and respect.
2. ***Listen to and talk with your people—***
 - Be inclusive.
 - Do it frequently.
 - Value and develop people skills in supervisors and managers.
3. **Fix things promptly—**
 - Don't let issues fester.
 - Keep people informed of progress.
4. **Make sure your paperwork is worth having—**
 - Keep it current.
 - Make sure it's meaningful.
5. **Improve competence in OHS—**
 - Particularly at management levels.
6. **Encourage people to give you bad news—**
 - Canaries are the most important workers in a mine.
7. **Fix your workplace first—**
 - Before even thinking about the bells and whistles.
8. **Measure and monitor risks that people are exposed to—**
 - Don't just react to incidents: fix things before incidents happen.
 - Control risks at their source.
9. **Keep checking that what you are doing is working effectively—**
 - Are you achieving what you think you are?
10. **Apply adequate resources in time and money**

Rule 1

Remember you are working with people—

- **Don't exhaust them**
- **People aren't machines**
- **Treat them with dignity and respect**

Healthy and safe workplaces have a culture of respect at their foundation. Building a culture of respect starts at the individual level, but it needs to permeate through organisations and ultimately through the whole industry. Respect is not something given lightly; it needs to be earned. Leaders in organisations, at whatever level of the hierarchy they are found, have an important role in making the first moves. It takes people with gumption to do this because change is not always comfortable; it can challenge the way accepted norms operate in an organisation, even if those old norms make the workplace an uncomfortable place to be. It requires persistence and patience to get respect off the ground. People may throw challenges in your way and test your sincerity, so sticking to the script is imperative.

There is a two way street here too – if workers react aggressively we end up with quite a poisonous work environment. Give people the benefit of the doubt. Stay engaged.

Treating people with respect is not just about changing the language you use – although this may well be an action you take. What you say must be backed up by what you do. There is no point telling people you care about their health and safety if your shift regimes prevent them from being able to drive home safely and have a decent nights sleep. In any case, if your employees are always tired, then they can't do the best job for you, even with the best will in the world.

Rule 2

Listen to and talk with your people—

- **Be inclusive**
- **Do it frequently**
- **Value and develop people skills in supervisors and managers**

Good consultation is critical to effective OHS. Workers' knowledge of their workplace and conditions is valuable information for any enterprise. Taking advantage of that knowledge is cost-effective and good management practice.

Consultation relies on being able to work with people – managers and supervisors need to be able to manage effective consultative processes. Listening is the core skill of consultation. Good consultation also relies on being able to hold respectful conversations.

Set up agreed formal structures for consultation so that everyone can be confident that consultation is happening, and that there are clear responsibilities and accountabilities for all participants. In small organisations this need not be complex, but as organisational size increases, so the complexity of formal structures may increase. Include people who can represent the variety of people in the organisation— shift workers, part-timers, casual workers and contractors are most frequently left out, even though they bring a different perspective and may have needs and concerns that are unique to them. Terms of reference or a constitution for a committee, developed consultatively by the committee, and in the words of the participants (not copied from a consultant or some other source) set the ground rules for consultation.

A calendar of meetings shows that everyone is prepared to give priority to OHS. Members must also actually attend meetings and contribute constructively to demonstrate their commitment. Most importantly, the results of consultation must be acted on, eg by changing the work environment in response to consultation. Such actions will increase confidence in the process and its outcomes.

Informal consultation, such as 'corridor conversations', discussions over a meal and so on, can occur within the formal framework and be linked to them. Informal interactions can also help to build trust and mutual respect.

Rule 3

Fix things promptly—

- **Don't let issues fester**
- **Keep people informed of progress**

When OHS committee members find the same items on the agenda month after month, with no resolution or explanation for the lack of progress, they reasonably assume that the personal effort they put into consultation is wasted. When people who raise concerns with their supervisor or manager see no outcome, they do not believe that OHS has priority. When issues are allowed to fester that sends a clear message to the workforce that OHS is important in name only, that dealing with OHS is “all talk”. The result is that people grow cynical, become frustrated and strident, leave the process, or just go quiet and stop reporting issues. None of these outcomes is desirable and they work against achieving the goal of a healthy and safe workplace and of being an employer of choice.

If an issue can't be fixed straight away, then people need to be informed about the reasons. This especially applies to those who raised the issue in the first instance. Although management makes the decisions about the use of resources and the priority given to particular tasks, feedback to employees is critical.

Rule 4

Make sure your paperwork is worth having—

- **Keep it current**
- **Make sure it's meaningful**

You need documents that ensure that you:

- comply with the law, such as plant and equipment maintenance records, training records, medical and other records of personnel and so on.
- clearly set the boundaries of your operation or establish rules about the various aspects of the business, such as policies and procedures.
- set out what needs to be done or establish your goals, such as plans, hazard reports and so on.
- report on how you are progressing towards achieving your goals, such as reviews, audits, minutes of meetings and so on.
- create continuity and allow important information to be passed on the next shift, new employees etc.

Regularly review your paperwork to check that it still contributes to the overarching goal of making the workplace healthy and safe. If not, then it might well be time to stop keeping some of it. If people who collect and maintain your records don't understand what they are for or what their value is, then they are unlikely to put effort into ensuring that they are accurate anyway. If it requires more effort to complete the paperwork than the perceived benefit, then it won't happen.

The documents you do decide to keep must be maintained well so that they are meaningful and current. Good document control is essential if paperwork is to be useful rather than a burden. Also keep the format and language simple – make sure that instructions are clear and address the target group. Make it easy for people to use the paperwork, eg make hazard reporting easy.

Rule 5

Improve competence in OHS—

- **Particularly at management levels**

The Digging Deeper project showed that people believe in the commitment of managers who are also competent in OHS. Unless they demonstrated competence in OHS, employees did not believe that they were committed to OHS. Building competence in OHS at management level will therefore contribute to building an effective OHS culture.

Without a reasonable knowledge of OHS at management level, judging the quality of the advice received from both internal and external sources may not be reliable. Good advice is critical so that decision-making about OHS matters contributes to making the workplace healthy and safe.

Trained HSRs often have better knowledge about OHS than their supervisors and managers. This can lead to unnecessary and destructive disagreements.

Rule 6

Encourage people to give you bad news—

- **Canaries are the most important workers in a mine**

Being able to see what is wrong or what is likely to go wrong is a vital part of making the workplace healthy and safe. It's the first step in the hazard management process: identify hazards. Some people are more alert to finding fault, and some of these are quite willing to let others know what they see — and sometimes they earn a negative reputation and a label as a result. These people can be challenging, but they are also valuable. Brought into discussions and treated with respect, they are likely to have a positive influence. Marginalised or labelled as “whingers” or similar, they will tend to respond negatively.

Sceptics and organisational dissidents who look for error, fault and problems need to be engaged to help improve OHS. Like the canary in mines in the old days, they tell you what's going wrong. It is much better to hear what's going wrong than to be told that things are going well when they are not. Rewarding people for highlighting problems is a positive reinforcement of the type of behaviour that creates a healthy and safe workplace.

Rule 7

Fix your workplace first—

- **Before even thinking about the bells and whistles like Behaviour Based Safety**

Go back to basics; the way to make the workplace healthy and safe is to actually *make* it healthy and safe. There is no substitute for taking action to get things right. Behaviour has a place to play in OHS, but if this is the focus there before fixing the travelling/haul roads, the dust, the noise, the toilets, what message does this send to the workforce? In the context of a less than satisfactory working environment, introducing behaviour-based safety systems and well-being programs is like putting the icing on the cake before the cake is put in the oven.

The law places the responsibility for providing a healthy and safe working environment on management. That is the bottom line – make the workplace healthy and safe. Just do it.

Rule 8

Measure and monitor risks that people are exposed to—

- **Don't just react to incidents: fix things before incidents happen.**
- **Control risks at their source.**

Monitoring exposures to the risks and controlling risks from this information means you can act to make the workplace healthy and safe before people are injured or made ill. Monitor the physical conditions in the workplace through regular inspections; monitor exposure to hazardous substances through appropriate techniques, keep track of manual handling exposures, monitor hours of work and sleep opportunity. Use this information to design better risk controls. Don't wait for the incidents, injuries or diseases to occur before you act.

The most effective control measures act on the source of the risks. Relying on worker behaviour will always fail – we are all humans and make mistakes. Worker behaviour will not be able to reliably make up for dangerous working conditions. If the workforce doesn't get enough time for adequate sleep, then redesign shifts so that the sleep opportunity is increased. Management has no right (or capacity) to control the behaviour or activities of employees in their private lives, so simply advising employees to eat right and sleep longer will not work to control the risks of fatigue.

Rule 9

Keep checking that what you are doing is working effectively—

- **Are you achieving what you think you are?**

You might be very, very busy with managing OHS, but is your effort effective? Is your workplace healthy and safe? Knowing your LTI rate won't tell you if your workplace is healthy and safe. In fact, depending on other aspects of your business, your LTI rate might fool you into complacency; it's relatively easy to have low LTI rates, but much more difficult to make the workplace healthy and safe.

There are some key sources of information that can help you assess your performance.

- Formal and informal consultative processes give you the opportunity to hear how the workforce sees OHS and its management. They are a good place to review performance against key performance indicators, especially if those indicators are *lead*, rather than lag indicators.
- Workplace inspections tell you how things are working on the ground.
- Hazard reports tell you where things have gone wrong and need fixing.
- Internal and external audits deserve a close look because they tell you if you are doing what you said you'd do. But they won't tell you what you *ought* to be doing; you need a review process to tell you this.
- Put your effort into keeping the focus on the levels of exposure, rather than outcomes: for example, knowing how much respirable dust there is will tell you much more about how healthy and safe your workplace is than the number of people with dust-related disease. And you are then forewarned and able to take action to control the risk at source — before people are made ill or are injured.

Review processes and practices; constantly fiddle the switch until you are right in tune.

Rule 10

Apply adequate resources in time and money

Being healthy and safe, consulting effectively, fixing hazards in the workplace — they all cost time and money. If you skimp on this, then it will show. The workforce, who face the reality of working around poorly controlled hazards, inept systems and long working hours, will only stay in the job as long as they have to. The organisation may well be an employer of necessity rather than choice.

Yes, OHS costs money, and sometimes you won't see an immediate or a direct return on this investment; but more often than not spending on OHS pays off. You are likely to see the results in higher productivity and quality — where the impact is directly on the bottom line. You are also likely to see an improvement in morale and all the associated areas of workplace culture that make your organisation a desirable place to work. This also has an impact on your bottom line. At a time of skills shortage having a healthy and safe workplace can be a strategic, competitive advantage if you want to attract and retain skilled employees.

Importantly, decide what it is you need to do (ideally through a strategic plan) and fully fund and implement it. Drive it from the most senior levels. If you add activities refer back to your plan and consult with your people, then add sufficient additional resources or cut something you are currently doing to free up resources. You may not be able to do everything you want this year – so you need to plan ahead and keep employees in the loop!

