



This Guidance Handbook is produced by the Chamber of Mines of South Africa for the use of its members in collaboratively working towards the achievement of a mining industry in South Africa that is able to mine successfully and responsibly with zero harm to its workers and surrounding communities.

MOSH Leading Practice Adoption System Guidance Handbook

Rev 4.1
30 April 2014

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2. To return to a previous view click on View in Adobe Reader and then select Page Navigation followed by Previous View.



MOSH Leading Practice Adoption System

Guidance Handbook

This Guidance Handbook is produced by the Chamber of Mines of South Africa for the use of its members in collaboratively working towards the achievement of an industry that is able to mine successfully with zero harm to its workers and surrounding communities.

Prepared on behalf of all who participated in the origination and piloting of the system, and who contributed material for inclusion in the handbook. In particular, recognition is given to Gordon Butte and Sarah Thorne of Decision Partners, LLC, Pittsburgh, USA, for their input in general, but more specifically for their contribution of material associated with behaviour-based procedures.

J M Stewart

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Towards zero harm in the South African mining industry: Culture change management

At the round-table meeting of the Chief Executive Officers of the major mining companies in the South African mining industry in 2008, the CEOs agreed to collaboratively work towards the achievement of “zero harm” in the mining industry. In doing so they identified a set of beliefs, values, and behaviour that characterise the culture of health and safety that they set as their goal, and agreed to set of specific objectives and actions that would need to be realised along the way to achieving their ultimate goal.

Two of the important actions that were agreed upon are:

- *The development of an occupational health and safety culture framework as a basis for improving Occupational Health and Safety Culture in the South African mining industry, and*
- *The establishment of a Learning Hub to promote learning in the mining industry.*

This handbook is concerned with the MOSH Leading Practice Adoption System, which addresses the latter of these two actions, but in ways that impact significantly on the former. One of the key considerations in the adoption system is that of securing leadership behaviour that leads to eager adoption of an identified leading practice. Accordingly, the adoption system is sharply focused on identifying the required leadership behaviour and then facilitating the necessary change. These changes amount to a change in management culture. The adoption system is thus a powerful bottom-up mechanism for bringing about a culture change in the mining industry. It follows that this culture change must be consistent with that intended through the top-down action being taken to improve the Occupational Health and Safety Culture in the South African mining industry.

The purpose of this up-front note is thus to prominently flag the importance of ensuring alignment between the two parallel activities that are being undertaken. Equally, it is to point out that unless this alignment is achieved, the MOSH Adoption System is unlikely to enjoy long-term success. The adoption system needs to be an integral part of the total management and operational culture of the mine and not a stand-alone or add-on initiative. Although the longer time scale of the top-down approach to bringing about the desired culture change may be forgiving of an unintended misalignment in the short-term, in the long-term such misalignment would almost certainly be fatal to the adoption system.

The task of monitoring and influencing developments to ensure an appropriate degree of alignment is thus clearly a high-level task of major strategic importance. It is a key success factor for the MOSH Leading Practice Adoption System and it must become one of the major tasks and responsibilities of the Head of the Learning Hub.

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Note

The entries printed in grey text are for sections that still have to be written. These sections will be included in a later revision of the handbook.

A brief outline of the scope of each section is however provided in this document.

Key user pages

Explanatory note: Given on this page is a list of bookmarks that users of this handbook may find useful. It is usual for users of a substantial reference document to bookmark pages of key interest for future quick access, and the set of bookmarks presented below has been identified and hyperlinked to the relevant pages for this purpose. In some respects it serves as an extension of the Table of Contents, in others as an index, but in practice, because of the hyperlinks in the accessed documents it may also be likened to a web-site home page for electronic navigation to what the user is looking for.

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20. Pro-forma Leading Practice Adoption Guide – Ref Doc #47 ...[↓](#)
21. One page summary description of adoption process at adoption mines ...[↓](#)
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Facilitating
adoption

23. Summary schedule of SLP adoption process and activities ...[↓](#)
24. Summary table for systematic investigation of a candidate SLP ...[↓](#)
25. Example plan for adoption of an SLP ...[↓](#)
26. Pro-forma SLP adoption brief ...[↓](#)
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System
management

Foreword: Use of this handbook

This handbook sets out guidance on the use of a system designed to facilitate the identification and widespread adoption of leading practice in the area of occupational health and safety in mines. Its potential application is however far wider than this. It is thus envisaged that the handbook may be used by a wide range of persons, with each reader likely to have a significantly different interest and purpose in reading those parts of the handbook that are relevant to them. Given below is a list of potential readers of the handbook:

- **Specialist Secretariat**
- **Adoption Teams**
- **MOSH Task Force members**
- **Adoption Team Sponsors**
- **Senior Executives in the mining industry**
- **Mine Managers**
- **Specialist on mines and mine adoption teams**
- **Key stakeholders at mines**
- **Key mining industry stakeholders**
- **Training and education institutions**
- **Chief Executives of major companies**
- **Mining industry suppliers**

As an aid to readers each section of the handbook is headed by a list of key points that readers are expected to gain from reading and using the section. This is intended to assist readers in orientating themselves prior to reading the section, but also to provide a means for potential readers to assess the benefit they can expect to derive from reading the section.

Finally, a brief note for each of the above potential readers is provided below as an extension of this brief foreword to indicate the aspects of the handbook that are likely to be of most interest to them.

Notes for potential readers

Specialist secretariat: The specialist secretariat is responsible for overseeing implementation and operation of the adoption system. The handbook is expected to serve as their constant source of guidance in ensuring that all aspects of the adoption system are systematically considered and applied. They are likely to become deeply familiar with all aspects of the handbook. It is expected that they will be well positioned to note where improvements are possible so that the handbook can be updated in due course in the light of operating experience.

Adoption Teams: The adoption teams carry direct responsibility for identifying the risks that need to be addressed and for facilitating the widespread adoption of the leading practices that

they identify to address these risks. The Adoption Team Managers are thus expected to use the relevant sections of the handbook as a field guide in planning their programme to facilitate widespread adoption of leading practice. Accordingly, with the support of their Adoption Specialist they are expected to become fully familiar with these sections of the Handbook. For the other Adoption Team members it is likely to be a source of reference to deal with various issues as they arise, and more generally to assist them in gaining a deeper understanding of the Adoption System and its various processes.

MOSH Task Force members: The MOSH Task Force members carry a high-level oversight responsibility for implementation of the Adoption System. They are likely to find the sections that set out the overall system and which define the roles and responsibilities of the key players in the system to be of most interest and assistance. They may also need to review various sections to gain a deeper appreciation of the nature of the various processes, with a view to identifying the most appropriate persons to serve on the adoption teams, and to evaluate and interpret progress reports submitted by the adoption teams.

Sponsors: Each adoption team has a high-level sponsor to provide assistance in resolving persistent or sensitive issues that may arise from time to time. At the outset they should read the sections that provide a broad view of the adoption system and of the roles and responsibilities of the various key players. Following this initial use the handbook should serve as a source of reference to understand issues to be discussed with the adoption teams, and to provide detailed information about aspects of the system that arise in discussion with their peers.

Senior Executives in the mining industry: Having agreed to the establishment of the Adoption System, many but not all senior executives in the mining industry should be familiar with the essence of the system. Those that are not are likely to be most interested in the sections that set out the overall system and which define the roles and responsibilities of the key players in the system. The handbook is then likely to serve as a source of reference to consult when particular issues arise, such as the identification of persons to be seconded to join an adoption team, or in preparation for discussions about particular aspects of the system. However, senior executives keen to facilitate the identification and adoption of practices in areas other than health and safety should examine the handbook in much greater detail before deciding on such a matter.

Mine Managers: Mine managers will need to develop a broad understanding of the system in preparation for discussions about the involvement of their mine in the adoption system in various ways. In the event that they agree that their mine become involved in the system, as a source of leading practice, as a mine that hosts the demonstration of leading practice, or as mine that wishes to adopt a leading practice, they will find the handbook a useful source of reference to clarify the nature of their intended involvement. It is hoped that in time most mines will at least seek to benefit from the adoption of leading practices that have been identified. Those sections of the handbook that deal with the adoption of a leading practice should thus be well understood by all managers so that they can help ensure the successful adoption of practices that will lead to improved occupational healthy and safety performance at their mine. All of the information relevant to a leading practice of interest to them should however be conveniently packaged for their use in the form of the applicable Leading Practice Adoption Guide.

Specialist on mines and mine adoption teams: Specialists on mines and others who are key players in one or other aspect of occupational health and safety are in time likely to participate in a team set up at their mine to facilitate and manage adoption of a leading practice at their mine. Some are also likely to become involved in one or more communities of practice for adoption of leading practices in their specialty. The sections of the handbook that deal with these aspects of the adoption process will assist these persons in understanding the role that they are expected to play in these processes, so that they can best facilitate a successful outcome for their mine. Some specialists may also be invited to participate as members of the MOSH Adoption Teams that are set up to initiate and lead the adoption process. Use of the handbook by specialists at mines is thus likely to be quite varied and possibly quite extensive. It will serve as a source of reference and as a guide to this rather broad spectrum of people as the need arises. However, as above for mine managers, most of the information of interest to them is likely to be found in the Leading Practice Adoption Guide applicable to a leading practice of interest to their mine.

Key stakeholders at mines: This would include the mine's Health and Safety Committee, safety representatives, union officials and departmental heads of all departments that will be affected in one way or another by the adoption of a leading practice at the mine. Such people will benefit from the sections that provide an overall description of the adoption system and of the adoption process at individual mines that elect to adopt leading practices that have been successfully demonstrated. In addition, the handbook is likely to be used as a source of reference to clarify issues as they arise.

Key mining industry stakeholders: There is a wide range of mining industry stakeholders that may have an interest in various aspects of the handbook. This includes all of the Mines Professional Associations, The National Department of Mineral Resources and the Mine Safety Inspectorate, the various worker Unions, the Mine Health and Safety Council, The Mining Qualifications Authority, The National Institute of Occupational Health, the CSIR and possibly others. Such stakeholders are likely to be interested in those sections that provide an overall description of the adoption system and of the roles and responsibilities of key participants. In addition, the handbook is likely to be used as a source of reference to clarify issues as they arise.

Training and education institutions: Institutions involved in training or educating persons to work in the mining industry are likely to be interested in the handbook. Apart from having a general interest in the process, they are likely to use it as a source of reference in preparing their lecture or training material concerned with occupational health and safety at mines. It may also be used by students in projects and assignments concerned with occupational health and safety.

Chief Executives of major companies: The Chief Executive of any major company that has a number of separate operating units might find the prospect of applying the adoption system in their organisation attractive. In this context the sections of the handbook that provide an overall description of the adoption system are likely to be the initial focus such interest. This comment would apply not only to major mining companies, but also to any major company. In the event that the initial interest leads to a decision to use the system, the handbook would become a source of reference and a guide for implementing the system within their particular circumstances.

Mining industry suppliers: A wide range of mining industry suppliers involved in supplying equipment and services in the field of occupational health and safety are likely to be interested in the Adoption System. Their primary interest is likely to focus on how their products or services might assist in implementing the adoption process, or indeed form part of the various leading practices being considered. The sections of the handbook that provide an overall description of the adoption system are thus likely to be the initial focus of their interest, followed by those sections that deal with the identification of key risks and potential leading practices to address the identified risks. In some cases the interest may extend to the details of the adoption process, with a view to identifying areas where they may play a role in implementing the process. More generally, the handbook is likely to be used as a source of reference to clarify issues as they arise.

SECTION 1

Introductory overview

- 1.1 Introductory overview of the adoption system and of the handbook
- 1.2 Vision, Mission and Values of the Learning Hub and Adoption System

This handbook is as much a guide as it is a handbook. It sets out and describes the system of structures and processes developed in the South African mining industry to facilitate the identification of leading practices and their widespread adoption by many different mining companies across an entire industry. The system has become known as the MOSH Adoption System. It is thus a source of reference and guidance to those concerned in one way or another with the use of the System to achieve improved performance through the adoption of better technology and practice.

The System is designed to facilitate eager adoption as opposed to reluctant compliance. It does this through processes devised to ensure that *the right people receive the right information in the right way at the right time within the right organisational climate*. The approach outlined is thus holistic in concept, and although there are many aspects that can be applied usefully in their own right, the system is intended to be applied holistically.

The purpose of this introductory overview is to enable the reader to gain a good understanding of the major concepts and processes that constitute the Adoption System, and of the potential use of the Handbook within the context of their own requirements.

Key things the reader needs to know about this handbook.

This introductory overview presents key things that the reader needs to know about the Adoption System and the Handbook before moving to the many topic specific sections that follow. The information is presented in point form under various appropriate headings:

The challenge addressed

1. At the Mine Health and Safety Summit held in 2003 the tripartite partners under the Mine Health and Safety Act of 1996 agreed that the ultimate target in the area of Occupational Health and Safety must be zero harm, and established a set of milestones that should be achieved in working towards that objective. These milestones, which are referred to as the Mining Industry Tripartite milestones, are given in the box alongside
2. The magnitude of the challenge that these milestones represented at the time they were set is evident from the next side-box, which identifies the improvements in safety performance that were required to meet the 2013 milestones. In this table the relevant international safety benchmarks referred to in the Tripartite agreed milestones were determined by taking the average performance achieved by underground metal and minerals mines as being applicable to gold mines, and the average of all other mines as being

MINING INDUSTRY TRIPARTITE OCCUPATIONAL HEALTH AND SAFETY TARGETS AND MILESTONES

OCCUPATIONAL SAFETY

Industry Target: Zero rate of fatalities and injuries

Milestones:

- **In the Gold Sector:** By 2013 achieve safety performance levels equivalent to current international bench marks for underground metalliferous mines, at the least;
- **In the Platinum, Coal and Other Sectors:** By 2013 achieve constant and continuous improvement equivalent to current international benchmarks, at the least.

OCCUPATIONAL HEALTH

Industry Target: Elimination of Silicosis

Milestones:

- By December 2008, 95% of all exposure measurement results will be below the occupational exposure limit for respirable crystalline silica of 0.1mg/m³ (these results are individual readings and not average results)
- After December 2013, using present diagnostic techniques, no new cases of silicosis will occur amongst previously unexposed individuals (Previously unexposed individual = individuals unexposed prior to 2008, i.e. equivalent to a new person entering the industry at 2008).

Industry Target: Elimination of Noise Induced Hearing Loss (NIHL) (The present noise exposure limit specified in regulation is 85dB(A))

Milestones:

- After December 2008, the hearing conservation programme implemented by industry must ensure that there is no deterioration in hearing greater than 10% amongst occupationally exposed individuals
- By December 2013, the total noise emitted by all equipment installed in any workplace must not exceed a sound pressure level of 110dB(A) at any location in that workplace (includes individual pieces of equipment).

applicable to all other sectors of the South African mining industry. The fatality rate benchmark figures so determined were 0.15 and 0.13 fatalities per million hours worked respectively. It was clear from this table that the mining industry would need to do something significantly different from that of the past ten years if the 2013 milestones are to be achieved.

3. Significantly, in 2005 the Chief Executive Officers of the major mining companies met and committed their companies to the achievement of these tripartite agreed Occupational Health and Safety milestones. This translated the broad industry commitment into a much more immediate commitment with direct CEO and company accountability.

Required percentage improvements in fatality rates to achieve the Mining Industry Tripartite 2013 milestones			
Sector	South African fatality rates in 2003	%-age achieved over past ten years	%-age required over the next ten years
Gold	0.37	20	59
Platinum	0.24	1	65
Coal	0.20	50	59
Diamonds	0.38	20	78
Other	0.19	20	56

4. In a review in 2006 of progress towards achievement of the agreed milestones, it was clear that the required levels of improvements were not being achieved. The leaders of the mining companies then established a Mining Industry Occupational Health and Safety Task Force to identify how the industry could best work together to achieve the 2013 milestones.
5. Work commissioned by the MOSH Task Force led to the development of the Adoption System, which was presented to and accepted at the Employer Occupational Health and Safety Summit held in 2007. A copy of the proposed system that was presented at the Summit is provided in the reference part of this handbook, as section 15.1. The members of the Chamber of Mines agreed that the Adoption System should be piloted at their mines during the course of 2008, and it is this System, and the experience gained in piloting it that formed the basis of the initial version of this handbook. This version of the handbook takes account of the substantial experience gained in operating the System in the five years since then.

The approach adopted in addressing the challenge – innovation

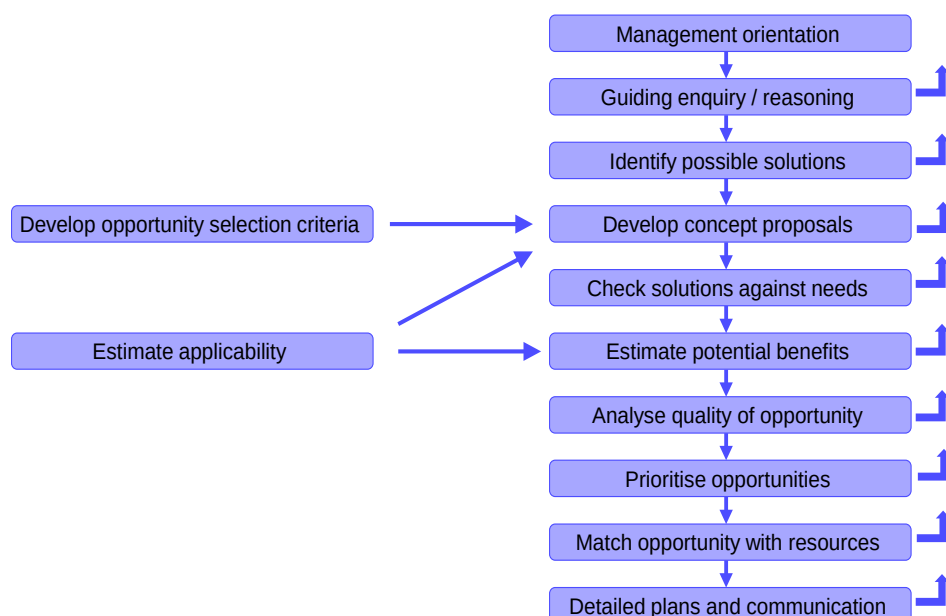
6. In broad terms it was recognised that individual mines would need to adopt new technology or practices in order to bring about the required occupational health and safety improvements. The approach adopted was thus to review experience gained over the past twenty years in addressing the notoriously difficult problem of successfully introducing new technology and practice into operating organisations. The review was broad, as a great deal of experience has been accumulated in many initiatives aimed at converting knowledge gained into practical application. The work involved two major strands. The one strand focused on critically analysing past experience in technology transfer, primarily in the South African mining industry, to identify the lessons learnt and to develop the insights needed to devise a system that could facilitate successful adoption of identified new technology or practices. The other strand focused on the use of direct enquiry and behavioural science skills to develop custom designed plans to bring about the behavioural changes needed to enhance and sustain the adoption process.
7. Fundamental to the process of synergistically combining these two strands into a coherent Adoption System was the use of an expert model of the innovation process. It was recognized that the identification, communication and adoption of a technology or leading practice to improve performance are indeed fundamental aspects of the well-recognised

innovation process. The potential benefit of applying the innovation model to secure the required adoption of new technology or practice was thus clear. In broad terms the concept of innovation may be defined as stated in the side-box with the various key steps of the innovation process being as outlined schematically below:

The concept of innovation

Innovation involves the creation, exchange, evolution and application of knowledge, in whatever form, for the success of an organisation, the vitality of a nation's economy and the advancement of society as a whole. Innovation cannot be claimed in the absence of successful application.

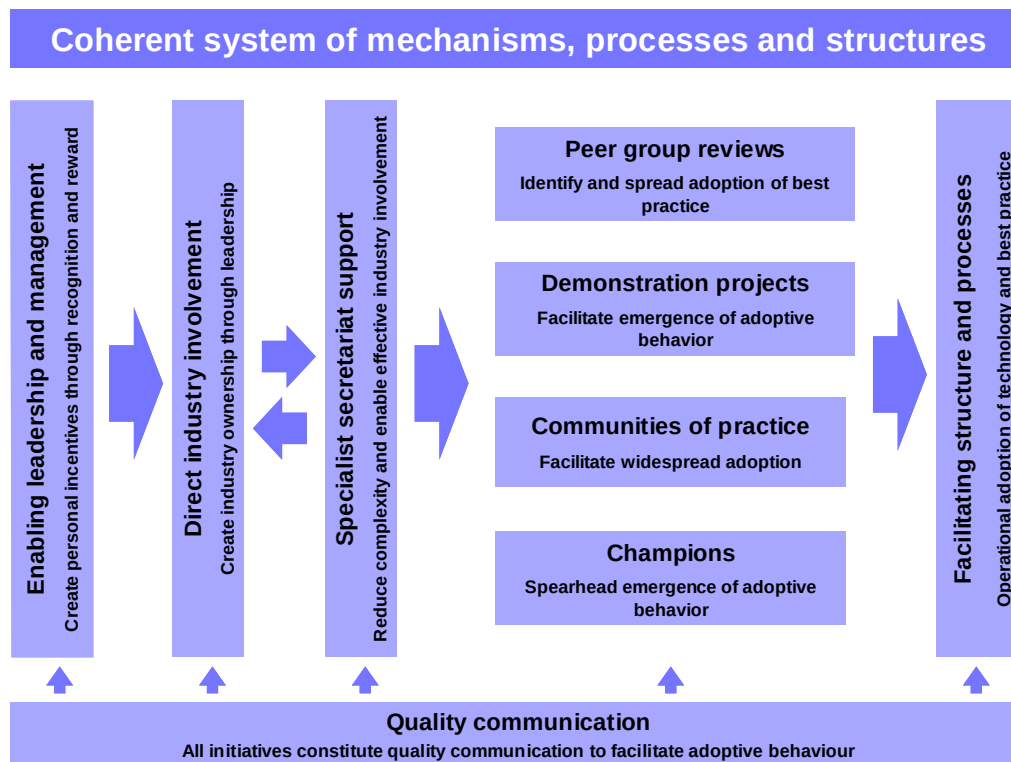
Expert model of innovation



8. Although the process outlined in this diagram may appear to have a strong linear component, it must be emphasised that *in practice the various steps may overlap considerably and include some iteration* to achieve the required outcomes. To graphically emphasise this point, a potential feedback loop has been associated with each of the process steps. The expert model of innovation shown in this diagram strongly informed the adoption process that is outlined in detail later.

Conceptual framework of the adoption system

9. The exploratory work undertaken to enable development of the Adoption System made it clear that there is no single mechanism that can be used to reliably convert existing knowledge into widely adopted operational practice. It showed that particular mechanisms and processes may deliver good results in certain circumstances, but fail badly in others. The exploratory work thus explained the diversity of views that exist on how one might achieve the adoption of technology or best practice. In doing so it also brought out the need to identify a coherent set of mechanisms, processes and structures within a system that guides the selection of appropriate mechanisms and processes for use in a particular set of circumstances. The key elements of the system that was developed, and the way in which they constitute a coherent system, is shown schematically and described briefly below. A full explanation of the system and its development is provided in section [15.1](#).



10. In presenting the above diagram it is important to point out that the originally developed system sought to address the full range of adoption opportunities and challenges. Since then it was decided that the system should be focussed initially on the challenge of identifying and facilitating the widespread adoption of existing good practice. In so doing it would seek to operationalize the concept of achieving the tripartite agreed milestones by spreading the pockets of excellence that enable acceptable levels of safety performance to already be achieved at some mines. Other aspects of the originally developed system would be added to the Adoption System when appropriate.
11. The initial version of the handbook thus dealt with the challenge of identifying and facilitating the widespread adoption of existing good practice, although it also identified the scope of envisaged future sections. This version of the handbook includes some of those originally envisaged sections, as well adjustments to the earlier sections in order to take account of experience gained in operating the system over the past five years.
12. Brief comments on each of the elements in the above diagram provide a high-level outline of the key concepts that are embodied in the Adoption System described in this handbook. It also draws attention one of the major changes that was introduced to simplify the originally developed process:
- *Enabling leadership and management:* Leadership and management need to create an environment that is enabling and reinforcing of adoption activity, and personally rewarding to those engaged in the adoption process. This needs to be done at Industry level for the adoption processes to be effective. As mentioned earlier, the Chief Executives of the major mining companies have gone a long way to achieving this by agreeing to a set of values in the area of occupational health and safety, and to work towards the achievement of zero harm operational environments. There is however still much that can be done in this most important area.

- *Direct industry involvement:* The importance of achieving industry ownership and buy-in emerged as one of the most strongly and consistently expressed views in the exploratory work. Consideration of this reality has led to industry staffed adoption teams being the primary facilitating agent in the adoption process. These teams are called MOSH Leading Practice Adoption Teams. The use of appropriately supported industry experts is a core operational principle of the Adoption System, which is particularly relevant during the planning stages when attention is focused on the identification of key risks and potential leading practices.
- *Specialist secretariat support:* Another key finding of the exploratory work was the difficulty industry persons experience in devoting time to projects that are additional to their normal operational responsibilities. With a view to easing this burden, but also with a view to ensuring operational continuity, specialist support and an effective institutional memory, the system included the establishment of a specialist secretariat to support the MOSH adoption teams.
- *Peer group reviews:* A system of peer group reviews was originally envisaged as one of the primary mechanisms for identifying and spreading leading practice, but the envisaged concept does not form part of the system currently being implemented. It is envisaged that it will be implemented in due course.
- *Demonstration projects:* Demonstrating the process of adoption of an identified leading practice at an operating mine is an important means of enabling the right information to be communicated to the right people in the right way. It also enables the adoption team to refine both the leading practice and the adoption process to the benefit of future adoption mines. As described in the side-box, for most leading practices it has been possible to eliminate the time consuming step of conducting a stand-alone demonstration project prior to presenting the leading practice to industry for adoption. This time-saving simplification has proved to be most important.
- *Communities of practice:* Establishing a community of practice to facilitate the widespread adoption of a leading practice is a core aspect of the adoption process. The identification of potential adoption mines and of the people who will play a key role in deciding and enabling adoption of the practice at those mines is a major challenge addressed by adoption teams from an early stage of the process. It is one of the key determinants of the success of the adoption process.
- *Champions:* The positive role of “Technology Champions” in facilitating the adoption of new technology is well known. Effective champions demonstrate the power of peer to peer communication and this and their other attributes is a major consideration in the selection of persons to lead the adoption teams, as they are expected to play this role in facilitating the adoption process.

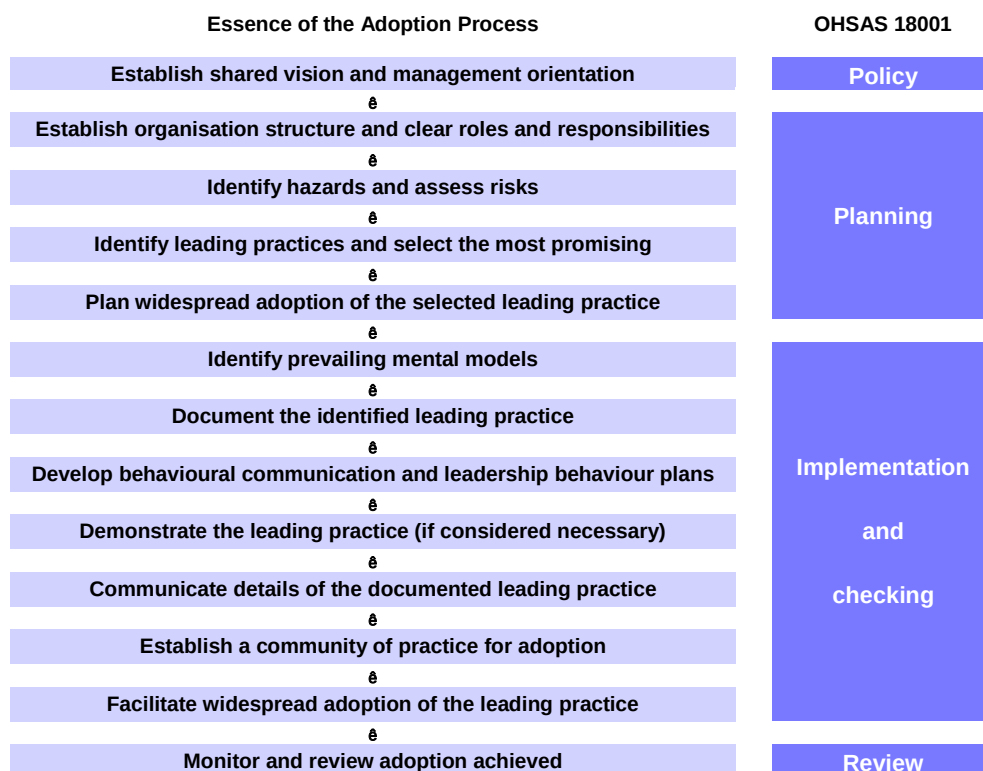
Shortening of the adoption time scale

In reviewing experience gained with the adoption system over four years it became apparent that the benefits of conducting a demonstration project could still be realised by working closely with the first mine that elects to adopt the leading practice amongst a group of mines that then simultaneously adopt the practice. The experience gained with the first adopter mine is readily shared with the other adoption mines provided they are all members of the Community of Practice for Adoption that is set up for each leading practice. In many respects the shortened process has the potential to enhance the peer to peer communication and to more effectively energise the process of facilitating widespread adoption. It has also been possible to make available accumulated adoption experience in the draft Leading Practice Adoption Guide that is now prepared to guide the adoption process at the lead adopter mine. The shortened process is explained in more detail in section 3.1.

- *Facilitating structures and processes:* The linkages between the parties involved in the adoption process, as well as their responsibilities, need to be as simple as possible, but also effective and clear to all parties. In particular they need to facilitate the adoption process. The establishment of effective facilitating structures and processes is thus fundamental to the success of the adoption system.
- *Quality communication:* All parties who play a role in the adoption process are communicating in one way or another all the time. It must be recognised that no action, and or silence, is indeed a form of communication, usually negative, and sometimes very powerfully so. The system recognises that successful adoption depends on the full range of communications by people who affect the adoption process and that communication of the right quality is required to achieve the desired widespread adoptive behaviour. Quality communication is thus fundamental to the collective effectiveness of all elements of the Adoption System, and thus of the Adoption System itself.

Implementation of the Adoption System

13. In practice the expert innovation model and the identified key elements of the Adoption System need to be realised through a logical set of implementation actions. In broad terms such a set of implementation actions is depicted in the following schematic, which captures the essence of the adoption process. Although the adoption system is not an Occupational Health and Safety System of the form envisaged in OHSAS 18001, there are similarities, and for those familiar with OHSAS 18001, these are also shown in the diagram below.

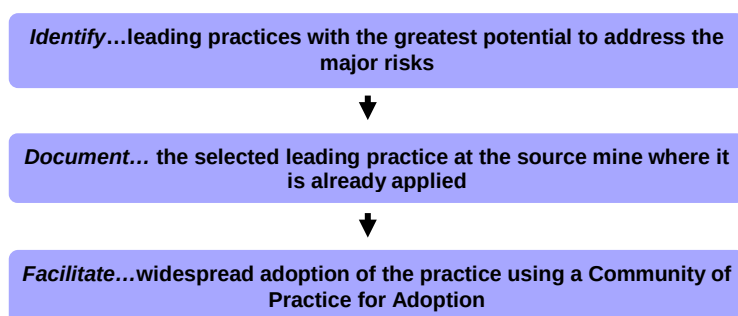


Note: The process is not strictly linear and may involve feedback and iteration at times

14. Although the handbook generally follows the sequential steps outlined in the above diagram there are variations, usually in the interests of clarity, but also because some of the elements are spread across several of the steps. Nevertheless, the thirteen elements of this diagram provide a helpful means of identifying which part of the process is being addressed by each of the various sections of the handbook. Accordingly, a thumb-nail version of the above diagram is included at the start of each section for this purpose. In those cases where a section addresses more than one of the elements, all of the elements addressed are identified. An example of the thumb-nail tracking diagram is provided in the side-box to illustrate how the tracking arrangement works. The thumb-nail diagram has been marked up to show how it would apply to the present introductory section.

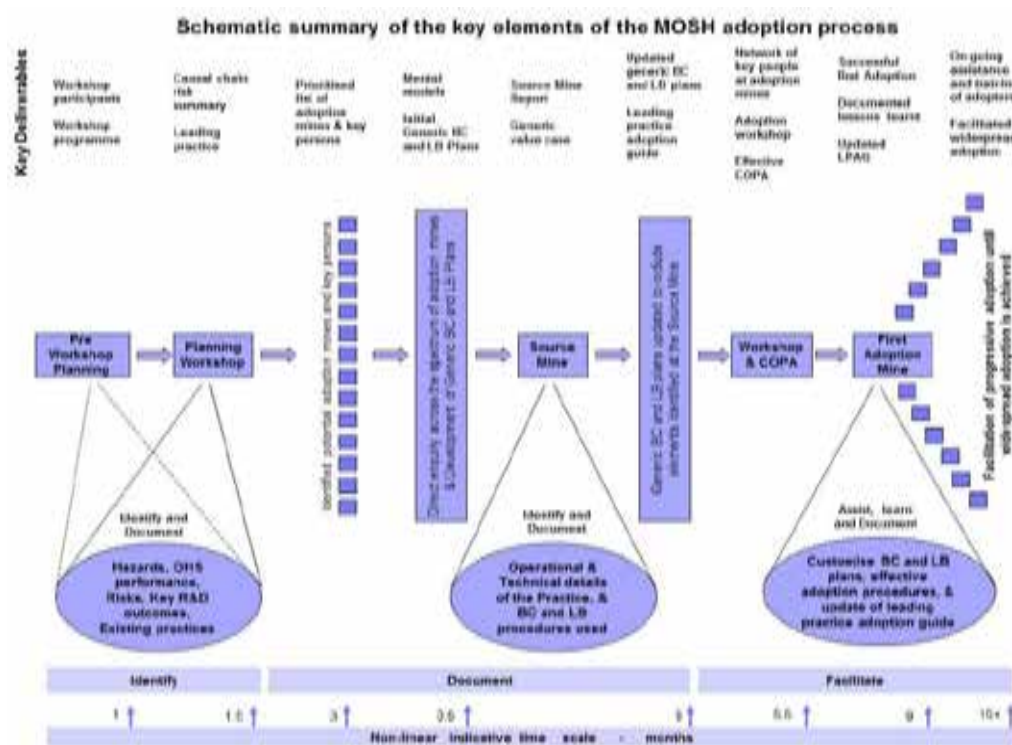
Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

15. While it is most important to bring out the sound scientific and experiential basis of the adoption system, as has been done above, it is also necessary to present the essence of the system in terms that resonate with the practical mining people, as it is they who need to implement the system. Initially, it was recognised that the system could be characterised as comprising of four conceptually simple steps, namely, *identify – document – demonstrate – facilitate adoption*. Following the decision to eliminate the demonstration step in all but a few exceptions, the shortened process may be characterised by just the following three steps:



16. Unfortunately, although this three-step representation is initially helpful in explaining the simple logic of system, in the longer term there is a very real danger of presenting the adoption system in such simple and seemingly familiar terms. Unintentionally, it may foster a mind-set conducive to brushing aside crucially important elements of the adoption system, which would then soon be lost. To some extent, this already appears to have been the case. It is these key elements that differentiate the MOSH Adoption System from previous unsuccessful approaches to facilitating widespread adoption of technology and practice. These key differentiating elements are elaborated upon shortly.

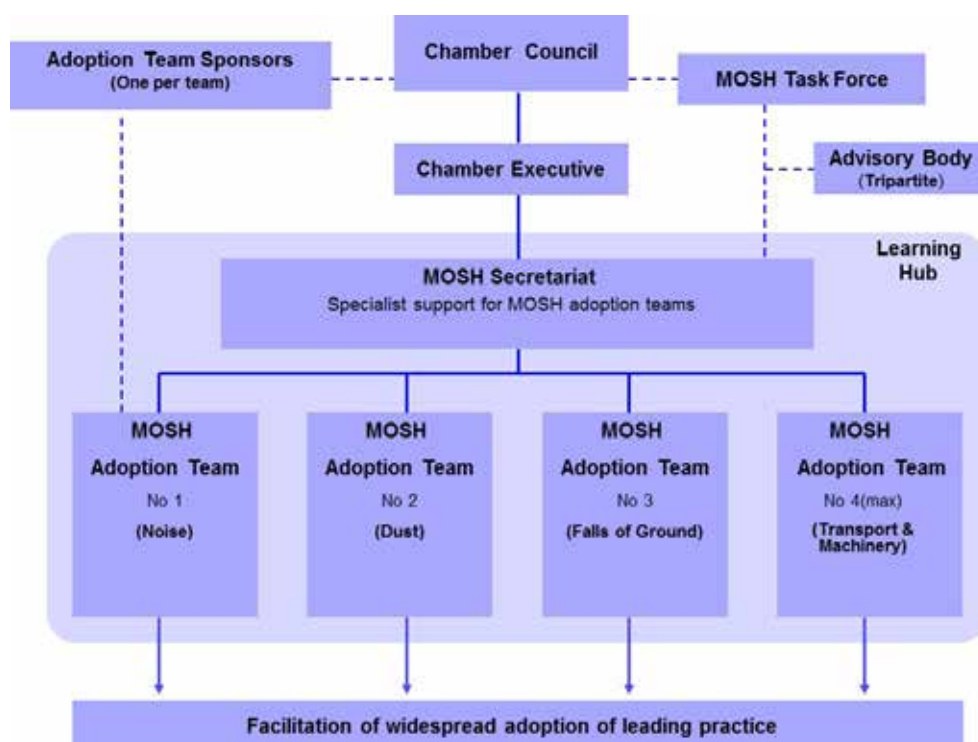
17. In this context, it is helpful to present the following practically informative schematic of the adoption process. This schematic, which is largely self-explanatory, graphically illustrates the integrated process nature of the adoption system. Full descriptions of the various processes and deliverables referred to in the schematic are provided in later sections, although a brief description of many terms may be found the glossary of key terms provided in Section 17.



Note: BC = Behavioural Communication, and LB = Leadership Behaviour

Organisational framework of the adoption system

18. The essence of the organizational structure responsible for implementing the adoption System may be depicted quite simply, as indicated in the following figure:



The detail of the structure is considered later. For completeness, and as a point of reference for those considerations, a more detailed representation of the structure is provided at the end of this section.

The operation of the structure is in principle also relatively simple, and is as follows:

- The MOSH Task Force identifies the priority areas in need of attention. (The priority areas that have been identified to date are shown in the diagram.)
- The Executive Council considers these along with a proposed budget and plan of action.
- The approved plan is then implemented by the MOSH Learning Hub through the MOSH Adoption Teams.
- The specialist secretariat of the Learning Hub facilitates all of these processes, including the establishment and subsequent operation of the MOSH Adoption Teams.
- Each MOSH adoption team has a high-level sponsor to ensure ready access to high-level advice and assistance should the need arise.

19. Conceptually and organizationally the Adoption System is thus relatively simple and straight forward. However, and most importantly, it is the operational detail that distinguishes the MOSH Adoption System from other approaches to achieving adoption of new technology or practice. It is the presentation of this operational detail that is the focus of the handbook.

Key differentiators – what makes the Adoption System special?

20. There are many operational aspects of the Adoption System that differentiate it from other approaches with similar objectives, but the following four are considered to be the most important:
21. *Behavioural communication*: This is a special type of communication that is derived from a science-based direct enquiry process to identify those aspects of prevailing mental models of key persons that would drive behaviour antagonistic towards adoption of the leading practice in question. The analysis then provides the basis for identifying and appropriately communicating information to correct identified misperceptions knowledge gaps, and in general to provide information that will enable better decision making and behaviour conducive to the adoption of beneficial leading practice. Although traditional means of communication may be used in communicating the information, the key difference lies in the derivation of the information that needs to be communicated.
22. *Leadership behaviour*: Behaviour is anything that a person says or does, good or bad. It is also what a person does not say or do. For leaders to be effective they need to manage not only the behaviour of others, but also their own behaviour since it is their own behaviour that has a profound effect on the way others behave. Clearly, their own behaviour needs to be such that it will lead to others behaving in ways that closely match what is desired. This concept is operationalized in the adoption system through systematic application of the so called “**ABC**” model. This involves leaders providing subordinates with the **A**ntecedents necessary to prompt and enable the desired **B**ehaviour and then applying an appropriate reinforcing or inhibiting action as a **C**onsequence of the observed behaviour. It is important to note that application of this model in the Adoption System differs significantly from that which pertains to its application in behaviour based safety programmes. This is explained in section 15.4.
23. *Communities of practice for adoption*: Trust and credibility of the source in any communication are key determinants of the effectiveness of the communication delivered. It is for this reason that peer to peer communication is so effective. Accordingly, the Adoption System involves the establishment of a Community of Practice for Adoption, COPA,

comprised of key persons responsible for adoption of the practice at mines, to facilitate and assist each other in successfully adopting the leading practice at their mine. In addition to its facilitation role, the COPA has the potential to continuously energise the adoption process, and ultimately, to enable the peer group to bring about continuous improvement of the leading practice in question.

24. *Specialist secretariat:* The success of the Adoption System is dependent not only on the ownership that industry feels through the participation of their key persons in the adoption teams, but also on the performance of these persons in the teams. It is the specialist secretariat of the Learning Hub that facilitates appropriate appointments and effective performance of those appointed. In particular, the specialists within the secretariat provide expert assistance where needed, and generally ensure that the adoption teams are adequately informed about important operational detail, and assisted in its execution where necessary. The secretariat also enables the development of an institutional memory. The provision of an effective specialist secretariat is thus a crucially important means of enabling the operation of an effective system that engenders a feeling of industry ownership.

Scope of application of the Adoption System

25. *Occupational health and safety:* The immediate scope of application of the MOSH Adoption System is clearly that of facilitating the identification and widespread adoption of leading practice in the area of occupational health and safety across mines that are members of the Chamber of Mines of South Africa. Its application is thus across different mining sectors involving many mines belonging to different mining groups that have their own management structures and systems. Importantly, its application involves mining companies that have agreed to work together to achieve the tripartite agreed occupational health and safety milestones. It is intended to progressively extend application to non-member mines, so that the entire South African mining industry can benefit from the system. The potential scope of application of the Adoption System is however much wider than this.



CEOs who were party to the commitment made at the 2005 Employer Summit on Occupational Health and Safety

26. *Other applications:* With very little adjustment the Adoption System has the potential to be applied to any area where there is benefit in identifying and spreading leading practice across many operations that have agreed to work together. The primary requirement is simply that they should agree to work together and to use the Adoption System as the basis for doing this. A few examples are provided below.
27. *Sustainable development in mining:* As with occupational health and safety, this is an area where members of the Chamber of Mines could agree to use the Adoption System to identify and spread leading practices to their mutual benefit. It is an area where poor performance by some can harm an entire industry, and where the benefit of working together should outweigh the usual competitive dynamics that inhibit joint action. It is also an area where application could be extended progressively to mines that are not members of the Chamber.

28. *Application within large organisations:* With relatively minor adjustment the Adoption System may be applied within a single large company to identify and spread leading practice across its many different operations. Within large companies the areas of potential application of the System are much wider, as the process of identifying and spreading leading practice should not be subject to quite the same dynamics that inhibit joint action between competing companies. Within the mining industry the large multi-national mining companies might consider using the Adoption System to identify and spread leading practice within their company. This could well be in areas considered competitive in relation to other multi-nationals, but could clearly be in any area where the identification and spreading of leading practice would be of benefit. This comment is equally applicable to any large company having many separate operations.

The way the handbook is organized

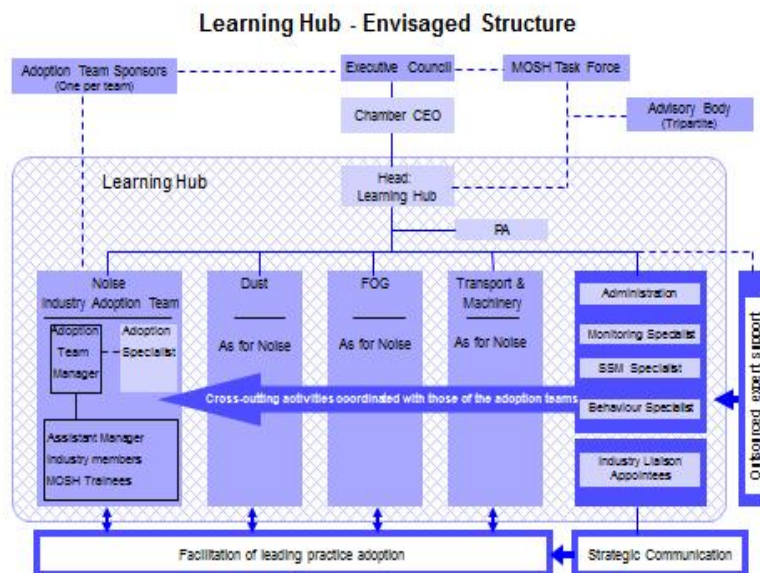
29. There are a number of points about the handbook that are noted below to assist the reader in using the handbook.

- The material is presented in roughly the order that it is likely to be used in implementing the adoption system. Its style of presentation is thus more along the lines of a guide than a traditional specialist handbook.
- The Handbook is presented in three Parts, the first dealing with the core of the adoption process, the second with complementary processes and the third with reference material. The order of presentation seeks to limit the extent to which the reader is diverted from the process under consideration at any particular time.
- Although the content is grouped into major sections, the handbook is made up of smaller sections written largely in the form of stand-alone guidance notes. Each of these stand-alone sections is thus essentially focused on a particular element of the overall adoption process.
- As explained earlier, each section contains an up-front tracking thumb-nail to assist the reader locate the section within the overall adoption process.
- Each section also contains an up-front list of the key things that the user is expected to gain or learn from reading the section.
- A substantial part of the handbook is also intended to be used as a workshop workbook. This is true of the sections dealing with the systematic analysis and evaluation of risks, the identification and evaluation of potential leading practices to address these risks, and the initial planning of the adoption process. It is intended that this work be undertaken in workshop mode and the necessary worksheets are thus provided in the reference part of the handbook. The electronic version of the handbook provides these worksheets in electronic form.
- Side-boxes containing key points of explanation or substantiation, or stories of experience to illustrate a point, are provided throughout the handbook. They are separated from the main text so that the detail provided does not disrupt the reader from the logic of the main text, but they are nevertheless essential reading to gain the intended level of understanding of that section.

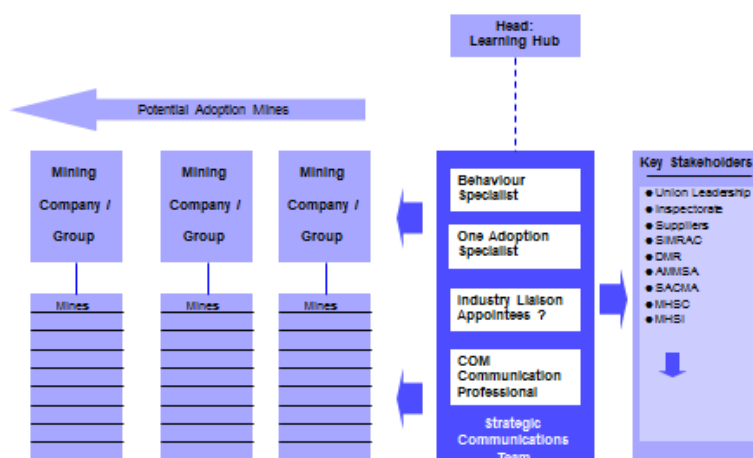
- The handbook is laid out with a side margin not only to facilitate easier reading but also to provide the reader with space to enter notes to aid their use of the handbook.
- Lastly, a glossary of terms is provided at the end of the handbook to clarify or define terms that are used. Attention has been given to sensitive use of language, but not to the point of deviating from the use of simple language. In a few instances where the use of simple terms may evoke counter-productive interpretations, an appropriate explanatory note is included.

Concluding comment

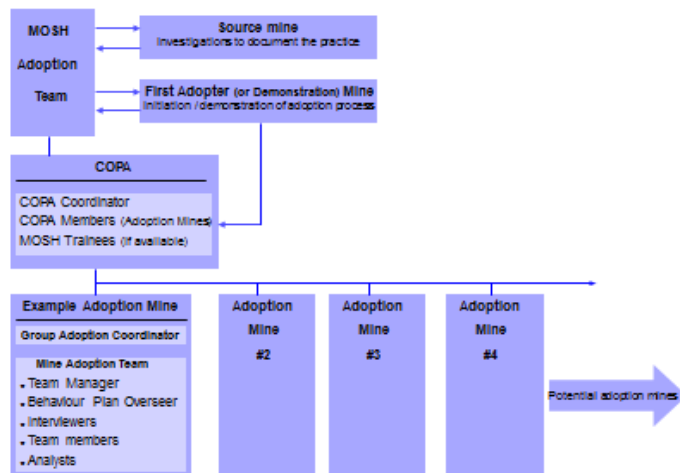
Having considered the information provided in this introductory overview the reader should be well positioned to decide how best to go about using the handbook. As indicated in the Foreword, this is expected to differ between readers.



Strategic Communications Team – in support of adoption teams



Facilitation of Leading Practice Adoption – structures



Notes

Given below are notes in respect of various bodies and persons identified in the structures presented alongside. The numbers in brackets identify relevant sections of the handbook.

MOSH Task Force (13.2)

Comprised of high-level OHS specialists from the mining companies, it provides strategic leadership, ensures that the work is focussed on Industry's needs, fosters industry ownership of the Adoption System, facilitates information dissemination, assists in setting up Adoption Teams, and exercises oversight responsibility for the work of the Learning Hub.

Adoption Team Sponsor (Section 13.1)

A high-level executive who informally provides support and advice to the MOSH Adoption Team and its COPA, and promotes its work

MOSH Adoption Team (2.1, 2.2 & 13.3)

A team of leading industry specialists established to identify key risks in a particular area and existing practices that have the potential to bring about significant improvements, and to then execute a plan to document and facilitate their widespread adoption.

MOSH Adoption Team Managers (2.3)

Each team has two knowledgeable and credible industry persons seconded full-time to lead the work of a MOSH Adoption Team for two years. Their appointments are staggered to ensure continuity in the work of the team.

Adoption Specialist (2.2 & 13.3)

A professional person employed by the Learning Hub, who is knowledgeable in all aspects of the adoption process, and who works closely with the Adoption Team Managers to assist and facilitate effective implementation of the adoption process.

Industry members of MOSH adoption teams (2.4)

Expert persons employed by mining companies who become members of the adoption team to assist and advise in the planning and execution of the work, and in facilitating adoption of the leading practices within their own company.

Behaviour Specialist (5.4 to 5.12, 6.5 & 12.1)

A person employed by the specialist secretariat of the Learning Hub to assist the MOSH and Mine Adoption Teams with the development and execution of the behaviour based plans, on a needs driven basis.

MOSH Trainees (2.2 & 2.6)

Promising young professionals at mines seconded to the Learning Hub for a year to work with adoption teams to assist them and to acquire knowledge and experience of the adoption process.

COPA (6.4 & 6.8)

A network of key persons located at mines interested in adopting a particular leading practice, that is established by the MOSH Adoption Team, and who work with the adoption team and each other to effectively achieve widespread adoption of the leading practice.

COPA Coordinator (6.4 & 6.8)

A person appointed by the adoption team to coordinate and lead the work of the COPA. Initially this would be one of the Adoption Managers, but later on it could be one of the COPA members.

Group Adoption Coordinator (2.5 & 13.2)

A person appointed by a mining group, usually the Task Force member, to coordinate the various adoption activities that the group elects to undertake.

Mine Adoption Team Manager (5.16 & 6.5)

A person appointed by the mine to lead the process of piloting adoption of the leading practice at the mine and to then facilitate its adoption across the entire mine.

Behaviour Plan Overseer (5.16 & 6.5)

A person appointed by a Mine Adoption Team to ensure that the task of customising the generic behaviour plans to take account of mine specific circumstances is properly and effectively undertaken.

Interviewers (5.16 & 6.5)

Persons who have been trained in conducting one-on-one direct enquiry interviews designed to identify mine specific issues that need to be taken into account in facilitating adoption of the leading practice.

Analysts (5.16 & 6.5)

Persons within the adoption team who analyse the responses obtained from the one-on-one interviews to identify the issues that need to be taken into account in facilitating adoption of the leading practice.

Strategic Communications Team (12.1)

A team led by the Head of the Learning Hub to plan and execute a programme of communication and dialogue with key stakeholders to ensure effective communication on key issues that impact on the long-term future of the Learning Hub.

Industry Liaison Appointees (12.2)

Senior persons from industry, who have credibility and who know the industry, who may at times join the Learning Hub on secondment or contract to assist in communicating the work of the adoption system and its teams at key industry meetings and to key industry structures.

COM communication professional (12.1)

A person nominated by the Chamber's Communication Advisory function to participate as a member of the Strategic Communication Team, in particular to facilitate interaction between the team and the mining group communication specialists.

Outsourced Expert Support (2.2)

Expert assistance brought in by the Secretariat to assist the adoption teams or the Learning Hub Specialists to address special issues if and when necessary.

Section 1.2

Vision, mission and values of the Learning Hub and Adoption System

Key outcomes

- A clear understanding of the vision, mission and values that underpin the adoption system
- Clear role of the Secretariat in ensuring that new participants in the adoption system develop a similar understanding

Background

In any large or diverse system involving a group of people drawn from different operational environments, the establishment of clarity about their purpose in working together will be fundamental to the success that they achieve. They need to share the same view of their joint purpose and of a set the values that is intrinsic to the way they go about achieving their shared objective. In establishing the MOSH Leading Practice Adoption System a brief but clear mission statement along with a set of values was developed and accepted by industry leadership. Since then, these founding statements have been reviewed and improved to include a statement of vision for the Learning Hub. It is this vision, mission and set of values, as set out below, that need to be shared and internalized not only by those who work within the Learning Hub, but also those who work within the Adoption System from time to time.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Present the vision mission and values that underpin the Learning Hub and the Adoption System, and
- Emphasise the importance of ensuring that the vision, mission and values are shared by all persons operating within the system.

Vision mission and values of the Learning Hub and MOSH Leading Practice Adoption System

Vision

To be the leading and widely accepted change agent for achieving zero harm.

Mission

To investigate and facilitate the adoption of leading practices through a people oriented process to significantly improve occupational health and safety in the mining industry.

Values

People: Zero harm to people is what we care about; it is our ultimate and continuing objective.

Empathy: Demonstrated alignment with people's values for safety and health and effective communication is our primary means to earning the confidence of employees, and Leadership credibility.

Excellence: Goals and standards for our work will be consistent with the highest standards worldwide for safety and health performance.

Involvement: Employees at all levels will be involved in the design, implementation and measurement of technologies and best practices that may affect them; it creates ownership and better assures success.

Key considerations

In presenting the above vision mission and values, there are four key points that need to be emphasised:

1. The Adoption System involves a continual process of key people joining and working within the System for a period, and then returning to their previous position in Industry. A process of providing, discussing and sharing the vision mission and values of the Learning Hub and the MOSH Adoption System must therefore be a prominent first step in the process of engaging persons or teams who are to play a significant operational role within the System. This is particularly true for the Industry Adoption Teams, which play such an important role within the Adoption System.
2. Such people and teams also need to have a good appreciation of the broader vision and values held by senior industry leaders within the mining industry about occupational health and safety. This orientation can play an important enabling role in the adoption process.
3. The orientation of high-level management towards occupational health and safety orientation was clarified at a workshop involving mining company CEOs. It is thus given appropriate attention later as part of the process of identifying and planning the work of the various Industry Adoption Teams.
4. Given the transient nature of the Adoption Team membership, and others important to the operation of the Adoption System, the essentially permanent secretariat of the Learning Hub has a crucially important role to play in ensuring that both of the first two points above are appropriately addressed.
5. The Adoption Specialists should ensure that this happens in respect of industry members when they join the MOSH Adoption Team, and the Head of the Learning Hub should ensure that all new persons who join the Learning Hub go through an induction process to acquire this orientation.



CEO Roundtable workshop in progress

Concluding comment

The concept of beginning with the end in mind underpins most successful activity and the Head of the Learning Hub and its specialist secretariat need to ensure that they play their role in ensuring that the Vision, Mission and Values of the Adoption System are embraced and shared by all who are to play a significant operational role within the System.

SECTION 2

Establishment of adoption teams

- 2.1 Establishment and composition of the adoption teams
- 2.2 Effective operational arrangements for adoption teams - role of the secretariat
- 2.3 Role and function of the adoption team managers
- 2.4 Role and function of industry members of adoption teams
- 2.5 Role and function of Group Adoption Coordinators
- 2.6 Role and function of MOSH Trainees

Section 2.1

Establishment and composition of the adoption teams

Key outcomes

- Clarity about the responsibilities and processes within the secretariat for establishing the adoption teams
- An initial appreciation of what is expected of adoption team managers and industry team members
- Clarity about the level and type of person that should be considered for secondment to manage an adoption team
- An initial appreciation of the training opportunity that is available to promising persons on mines as MOSH Trainees

Background

One of the most important principles that heavily influenced the formulation of the Adoption System was that it should tap expertise available in mining companies in a way that engenders a sense of ownership, not only by these companies, but also in key mining industry stakeholders. As outlined earlier, the fundamental building blocks of the Adoption System are the MOSH Adoption Teams. It is these teams that are responsible for the identification of leading practices that have the potential to bring about a significant improvement of occupational health and safety performance in industry, and for facilitating their widespread adoption by industry. The establishment and composition of these teams is thus a critically important matter.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

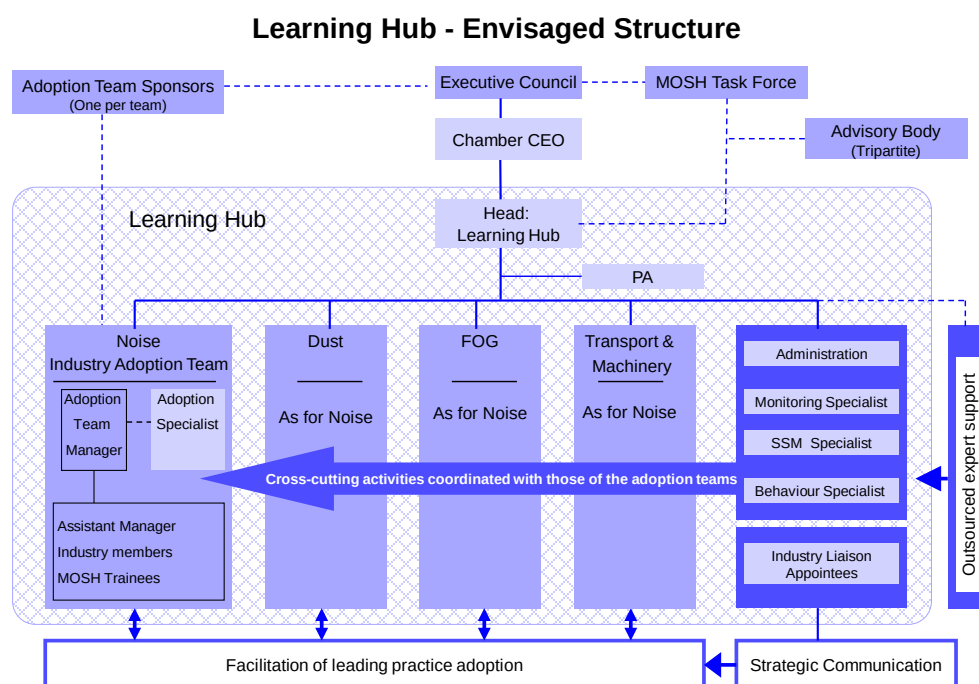
The purpose of this section is to:

- Outline key points for consideration in establishing the MOSH Adoption Teams, and
- Provide guidance on the steps to be taken in establishing the teams.

The structure of the Adoption System

With a view to indicating the position of the MOSH Adoption Teams relative to other elements of the Adoption System, a detailed schematic of the envisaged Learning Hub structure is presented below.

The schematic, which builds on the simple diagram of the Adoption System presented in the introductory overview, is the relevant part of the more detailed schematic of the entire Adoption System presented at the end of that overview. The blocks dealing with the facilitation of leading practice adoption and strategic communication are elaborated upon in sections [6.1](#) to 6.8, and section [12.1](#) respectively.



Identification of industry priorities

The credibility of the Adoption System and the creation of a sense of industry ownership require that the adoption teams address priorities determined by industry:

1. The Mining Industry Occupational Safety and Health (MOSH) Task Force should therefore identify the priority risks that warrant the establishment of a MOSH Adoption Team. In undertaking this task they should seek and consider input from the Tripartite Advisory Body. This is considered in more detail in Section 13.2, which deals with the role and function of the MOSH Task Force and the Tripartite Advisory Body. The Head of the Learning Hub should facilitate this interaction.
2. Importantly, it has been agreed by industry that no more than four MOSH Adoption Teams should be in existence at any one time.

Role and Function of MOSH Adoption Teams

The primary role of a MOSH Adoption Team is to facilitate identification and widespread adoption of leading practices in their identified area of focus. As detailed in later sections, this requires appropriate planning and operational processes. In undertaking these processes, the functions of the adoption teams include the following:

3. *Build knowledge* - Review past work in the area in question (not only SIMRAC work) and hold discussions with suppliers and experts – become a group of experts, initially in SA but ultimately internationally.
4. *Interrogate the issue* - Visit mines and groups to identify and document the issue that is being addressed, with a view to fully understanding the nature and scope of the problem, including the major hazards and risks, and the barriers and aids to implementation of

possible solutions. This should include identification and investigation of potential leading practices

5. *Systematic planning* - Identify mines and groups that appear best suited to benefit from adoption of the technologies / practices identified to address the focus area in question.
6. *Team building* - Assist in the identification of persons on mines and in groups who would be ideal members of the adoption team and encourage their participation in the planning workshops with a view to becoming future adoption team members.
7. *Formulating values cases* – This may include developing cost–benefit data for the various potential solutions that have been identified. Cost-benefit analysis is only one component of a full, relevant value case.
8. *Leadership* – Develop material to be presented and considered in the planning workshops that are to be held to formulate the approach and plans that are to become the basis of future activity of the adoption team.
9. *Critical review* – Critically review and comment on documents that describe work undertaken by members of the Adoption Team.
10. *Spread adoption* - Oversee the setting up and running of a Community of Practice for Adoption, COPA, to assist other mines with adoption and to facilitate further development of the leading practice.
11. *Monitoring* - Assist in the development and implementation of an adoption tracking system – identify indicators best suited to tracking adoption of the teams work.
12. *Reporting* – Prepare and submit regular progress reports to the MOSH Task Force.

Composition of MOSH Adoption Teams

13. The usual composition of MOSH Adoption teams would be as follows:

- Manager
- Assistant Manager
- Industry Members (ideally between five and ten, but not more than 15)
- Co-opted Industry Members (When needed but not more than 6)
- MOSH Trainees (if available, at least one, but not more than 5)
- Learning Hub Adoption Specialist

MOSH Adoption Team Managers – profile, appointment and performance management

Seconding one of their employees to serve as an MOSH Adoption Team Manager should be regarded by companies as an excellent opportunity to recognise an individual of high potential and to invest in the professional growth of the person.

14. Ideally, the person should:

- Have a strong future within the company with good personal growth and development interests, or be advanced in their careers, having already made a significant contribution in the company;
- Have the confidence to deal with a highly visible role;
- Enjoy the confidence of the senior management team;

- Be known and respected within their company, but more widely within their sphere of operation.
- Have excellent interpersonal and communication skills;
- Be a dynamic and energetic individual who is highly motivated;
- Have a good knowledge of the industry and its challenges;
- Have at least ten years experience specifically related to the focus area of the adoption team; and
- Be a good learner and be open to new ideas and practices.

15. The MOSH Adoption Team Managers will need to be seconded for a period of two years. During their first year they will serve as an Assistant Manager, and then as the MOSH Adoption Team Manager when the previous Manager's period of secondment ends. The periods of secondment of the two managers will thus be staggered, ideally with one in the last of their two year period, and the other commencing their two-year period of secondment. As indicated in the side-box, it may sometimes be difficult to secure the envisaged two-year secondment but however it is arranged, the period of overlap with an experienced incumbent should always be at least six months.

Note about the two-year secondment period

Experience has shown that the practicality of securing the envisaged two year secondment periods may sometimes be difficult. It has also found that there may be merit in extending the period of secondment / employment of a particularly effective Adoption Team Manager. Extending the employment period of MOSH Adoption Team Managers has thus been agreed to in principle by industry, but this is something that should be kept to a minimum. While the short-term benefits are clear, in the long-term excessive movement in this direction has the potential to progressively weaken the sense of industry ownership felt for the Learning Hub and the Adoption System. This would be counter-productive. As pointed out in section 1.1, the maintenance of a strong sense of industry ownership was a key consideration, indeed a key success factor, in the design of the Adoption System.

16. The appointment of the adoption team managers provides the Head of the Learning Hub with a good opportunity to build on established relationships between the Learning Hub and the leadership of the mining companies. It is a process that is likely to include a dialogue centred on achievements to date and potential future contributions, and it is vital that this interaction yields a positive impact.
17. A particular point that the Head of the Learning Hub should focus on during the year, and in these interactions, is that of ensuring that the chief executives of the mining companies develop an enabling mindset and a sense of ownership of the Adoption System. The degree of success achieved on this point will be an important determinant of the long term viability of the Adoption System.
18. Guidance on the envisaged annual process for appointing and managing the performance of MOSH Adoption Team Managers is captured in the table that follows:

MOSH Adoption Team Managers: Appointment and performance management			
No	Activity	Responsible person	Timing
i.	Approach companies for nominations informing them which companies have nominated in the past	Head of Learning Hub	Oct
ii.	Make nominations	Member companies	Dec
iii.	Review nominations	Head of Learning Hub, Current Adoption Team Managers and Adoption Specialists	Feb
iv.	Liaise with mines to secure alternative nominations if necessary	Head of Learning Hub	Ad hoc
v.	Make appointments - formalise in writing with Team Manager's Employers	Head of Learning Hub	Apr
vi.	Develop performance management contract with clear key performance indicators	Head of Learning Hub	May
vii.	Take Office	Team Manager	Jul
viii.	Performance reviews, including update of key performance indicators	Head of Learning Hub with Supervisor at Mine	Bi-annually

Industry Members of adoption teams - profile, appointment and performance management

Industry members of the adoption teams have a most important role to play in bringing key expertise to the adoption process, but also in further fostering industry ownership of the adoption system.

19. Although the skills set of the Industry Members of the adoption team may be intentionally quite varied to suit the nature of the focus area in question, in broad terms members should fit the following profile:

- Be very knowledgeable in the area covered by the adoption team;
- Have credibility with their peers;
- Have sufficient standing to facilitate adoption of leading practices at their mine, and then to effectively promote adoption at potential adoption mines within their Group.
- Be able to allocate sufficient time (with management agreement) to meaningfully participate in the team's activities;
- Be a good learner and be open to new ideas and practices.

20. Continued membership of the MOSH Adoption Team should be subject to continued participation by the member in adoption team activities with the support of management at the mine at which the member is employed. Termination of membership should be at the discretion of the member's employers, or the Head of the Learning Hub in discussion with the member.

21. It may sometimes be necessary to co-opt members with special expertise to serve on the MOSH Adoption Team. This may be necessary when the technological nature of the

leading practice and its adoption challenge is not adequately covered. In such cases the co-option of specialist industry members could considerably facilitate the adoption process, particularly at the mines of the co-opted members. In such cases the selection should certainly be made with this in mind.

22. In the event that the nature of a selected leading practice falls substantially outside of the experience of an established Adoption Team, or at least some of its members, it may be necessary to change the membership of the team rather than to co-opt persons with special expertise. Alternatively, for a period, some members of the team could become corresponding members with the co-opted members effectively taking their place until the period of unusual expertise requirement has passed. The arrangement could thus be structured as temporary, or as something more permanent, depending on the circumstances in question. Whichever, it is clearly an issue that must be handled sensitively.
23. Guidance on the process and procedure for appointing and managing the performance of MOSH Adoption Team Members is set out in the following table:

Industry Members of Adoption Teams: Appointment and performance management			
No	Activity	Responsible Person	Timing
i)	Identify suitable candidates who are interested in joining the adoption team	Team Managers and or Adoption Specialists	Any
ii)	Approach companies (Task Force members) with request for participation of identified member, or equivalent	Team Manager and or Adoption Specialists	Any
iii)	Companies provide agreement or put forward alternative nominations	Member companies	As requested
iv)	Confirm willingness of potential member to serve on adoption team	Team Manager and or Adoption Specialist	
v)	Confirm appointment with each appointees superior, ensuring that the person will be recognised for their participation	Head of Hub	ASAP
vi)	Member commences participation in team activities	Member, per agreed programme	Per programme
vii)	Enlarge with co-opted specialist members as necessary, using i), iv) and v) above.	Current Adoption Team Managers and Adoption Specialists	Ad hoc
viii)	Evaluate availability and contribution and take action as appropriate	Adoption team	Bi-annually

MOSH Trainees - profile, appointment and performance management

As with the case of adoption team managers, seconding one of their employees to join the Learning Hub as a MOSH Trainee should be regarded by companies as an excellent opportunity to invest in one of their young professionals with good growth potential.

24. Ideally, the person should:
- Be someone with a strong future within the company, who the company would like to grow within the organization;
 - Be a graduate with an analytical orientation;
 - Have excellent interpersonal and communication skills;

- Be a dynamic and energetic individual who is highly motivated;
 - Be a good learner and be open to new ideas and practices.
25. Secondment of the Trainee to the Learning Hub to work with one of the MOSH Adoption Teams should be for a period of one year with no overlap being required between trainees.
26. Important benefits to be derived from the secondment are as follows:
- The trainee would become familiar with the concepts and process details of the Adoption System.
 - The teams would be able to use the additional professional capacity to fully cover the substantial work expected of the Adoption Teams.
 - Returning trainees would be well placed to serve as an adoption team manager on their mine in the event that it decides to adopt one of the MOSH Leading Practices, and
 - In due course, former trainees would be well placed to be put forward for secondment to the Learning Hub as a MOSH Adoption Team Manager.
27. Guidance on the procedure for the appointment and performance management of the MOSH trainees is provided in the following table:

MOSH Trainees: Appointment and performance management			
	Activity	Responsible Person	Timing
i)	Approach companies for nominations informing them which companies have nominated in the past	Head of Learning Hub	Oct
ii)	Make nominations	Member companies	Dec
iii)	Review nominations	Specialists and MOSH Adoption Team Managers	Feb
iv)	Make appointments – formalise in writing with Trainee's Employers	Head of Learning Hub	Apr
v)	Develop performance management contract with clear key performance indicators	Behaviour Specialist	May
vi)	Start work	Trainee	Jul
vii)	Performance review, including update of key performance indicators	Specialists	Quarterly

Concluding comment

The appointment and MOSH adoption teams along the lines outlined above is expected to result not only in competent and sustainable teams, but also in a strong sense of industry ownership. Successful implementation of the guidance provided in this section should thus secure a sound foundation for implementation of the adoption process outlined in this handbook.

Section 2.2

Effective operational arrangements for adoption teams - role of the secretariat

Key outcomes

- An appreciation of the substantial enabling contribution that the secretariat is expected to make.
- Broad recognition of the challenges that must be addressed by the team to achieve operational effectiveness.
- Recognition of the key enabling role of Task Force members serving as an Adoption Coordinator for their mining Group.
- An appreciation of the close working relationship needed between the Adoption Team Manager and the Adoption Specialist.
- Broad guidance on the key elements needed for the achievement of an effective adoption team *modus operandi*.

Background

Given that the Adoption Team is expected to serve as the primary delivery vehicle of the Adoption System, it follows that it needs to operate in a way that enables the team to be as effective as possible. Although the establishment of the Adoption Team will have been carefully managed to ensure that it is comprised of competent and experienced persons drawn from industry, the dispersed nature of the team, with most members having other work responsibilities, makes this requirement a major challenge. It is one of the primary reasons for putting in place a high-level Secretariat to support the team, and of the need for the team to ensure that its *modus operandi* is fully effective.

Purpose

The purpose of this section is to:

- Identify key operational aspects of the adoption teams, and
- Provide guidance to assist in ensuring the implementation of effective operational arrangements in these areas.

Establishing a shared adoption team vision

The first step toward establishing effective operational arrangements for the adoption team should be that of establishing a shared vision of the team's purpose and of the roles and responsibilities of its members and support structures. With a view to starting the process of building a fully effective adoption team, the Learning Hub Adoption Specialist should work with the Adoption Team Manager to conduct a workshop style meeting with team members to consider and agree how each of the points below are best operationalized by the Adoption Team. This should be recorded as part of the operational terms of reference for the Adoption Team:

1. *Jointly develop a statement of the vision, mission and values for the adoption team:* The vision, mission and values of the adoption system presented in section 1.2 should be taken as the starting point of the discussion, with members developing a customised version of the overall vision and mission statements, and a set of values that meet the agreed needs of the team. The development process should include consideration of the required *management orientation* agreed to by the mining company CEOs, as outlined in section 3.2. The final outcome should clearly be consistent with the values, mission and values of

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

the Adoption System. This outcome should be recorded and regularly used by the Team Manager to maintain the focus and commitment of the team on what they have agreed to.

2. *Clarify the roles and responsibilities of the two team managers:* The envisaged roles and responsibilities of adoption team managers dealt with in section 2.3 should be considered by the two team managers beforehand, in relation to their skills and interests, and an appropriate allocation of roles and responsibilities agreed upon. The agreed roles and responsibilities should be made clear to all team members, including the team's Adoption Specialist. It should be recorded as part of the terms of reference for the team.
3. *Clarify the roles and responsibilities of the industry members:* The envisaged roles and responsibilities set out in section 2.4 for industry members of the Adoption Team should be discussed in the meeting with a view to identifying any perceived difficulties. The team should then work out how they might be best addressed. The agreed roles and responsibilities should be recorded as part of the terms of reference for industry members.
4. *Clarify the role and responsibilities of the Adoption Specialist:* The envisaged roles and responsibilities of the Learning Hub Secretariat are outlined in section 13.3. The Adoption Specialist should work through these roles and responsibilities drawing attention to those aspects that are particularly relevant to the activities of the adoption team. In doing so the role and responsibility of the Adoption Specialist in facilitating access to expertise and resources available through the Secretariat should be spelt out. The way in which the Adoption Specialist plans to directly support the Adoption Team and facilitate its work should also be considered, agreed and recorded.

Achieving clarity on the above is important. It will serve as a foundation for an effective team.

Enabling administrative arrangements

There are also a number of administrative arrangements that can hinder effective team performance if they are not properly attended to:

5. *Clear appointment arrangements:* The Team Managers and the Industry Members should all be provided with letters of appointment to the Adoption Team that clarify:
 - The basis of their appointment / secondment in terms of tenure, recovery of costs incurred and any impact that the appointment may have on their present conditions of employment.
 - That they will report to the Head of the Learning Hub, and that their present company supervisor will be invited to participate in all personal performance review meetings.

The Learning Hub Secretariat, in particular the adoption team specialists, should facilitate the process of team members being timeously provided with such letters of appointment.

6. *Performance contracts and reviews:* As soon as possible after their appointment the Adoption Team Managers should enter into a performance contract with the Head of the Learning Hub, who is the person to whom they would report. The contents of the performance contract should have been discussed with the prospective team manager, and their current mine supervisor, at least in broad terms, prior to them agreeing to join the adoption team. A schedule of three-monthly performance review meetings should be agreed at the time of finalising the performance contract. The review meetings should not be missed.

7. *A good quality conveniently accessible meeting venue:* Notwithstanding their secondment to work full-time as an Adoption Team Manager, the team managers will usually continue to be based at their present places of employment. A similar comment clearly applies to the industry members of the teams. While this facilitates industry ownership of both the Adoption System and its teams, it poses an important challenge to the operational effectiveness of the teams. A well appointed meeting room with supporting secretarial services, including data projection, flip charts, and document scanning and photocopying facilities should be provided by the Learning Hub for team meetings. The teams should be encouraged to use this facility, as it would facilitate team cohesiveness and contact between the team managers and the Head of the Learning Hub. It would also facilitate more effective use of MOSH trainees who may be made available to the team. However, should similar quality facilities be available at mine that is *significantly* more central and accessible to the team, use of such a venue would also be acceptable. The team's Adoption Specialist together with the Head of the Hub should ensure that the operational effectiveness of the team is not compromised by the lack of a suitable meeting venue.
8. *Regular reporting and coordination arrangements:* Regular meetings of the Adoption Team Managers with specialist members of the Learning Hub Secretariat must occur to ensure that the Head of the Learning Hub and Hub members have an opportunity to discuss and be updated on progress, and to oversee and coordinate the allocation of Secretariat resources to support team activity. These meetings should be held monthly, with the Head of the Learning Hub meeting regularly with the Learning Hub Specialists to coordinate and manage internal secretariat activities in support of the teams. Effective meetings are important for many other reasons – they provide a forum for learning and alignment, as well as the glue that binds an organisation together.

Key operational elements

There are many issues that will need to be taken into account by the Adoption Team Managers and the Adoption Specialist in striving to secure the establishment of a fully effective adoption team. The bulk of this handbook deals with outlining and providing guidance on such issues. A list of the more important of them would include the following points, which include brief guiding comments:

9. *Knowledge building:* Rapidly building the team's knowledge about the Adoption System and its processes will be the first challenge to be addressed. The Adoption Specialist should facilitate this, using the handbook as a primary source of reference. However, attention should simultaneously be focussed on building knowledge about the risks being addressed and the possible means of best addressing those risks. A process of informatory notes should be implemented for recording new information. The Adoption Specialist should establish an archive on the web-based data storage and communication system to conveniently store and access such information.
10. *Systematic planning:* All team members need to have a clear picture of the team's plan of action and of what needs to be done, by whom, and by when. This calls for a process of systematic planning, which will be facilitated, at least initially, by undertaking the planning workshop outlined in this Handbook. However, systematic planning should become a bed-rock operational principle of the team, with a view to it providing the basis of timeous communication, coordination and action. The Monitoring and Evaluation Framework

outlined in Section 14 of the Handbook sets out a framework for planning and monitoring the key actions associated with the adoption process. The Adoption Specialist should facilitate such planning, monitoring and reporting, by preparing and maintaining the applicable scorecards that form part of the overall M&E Framework. The Adoption Specialist should also maintain any other planning charts considered necessary by the team, as well as a record of key actions agreed to by the team at team meetings. All of this information should be accessible to the team through the team section on the MOSH website.

11. *Meeting arrangements:* The adoption teams should meet on a needs driven basis and in some instances it may be appropriate for meetings to be conducted by teleconference, or other more convenient form of electronic meeting. However, in the early stages of building cohesiveness and effective performance of the adoption team, the teams should meet at least monthly, with the two Team Managers and the Adoption Specialist meeting at least weekly to discuss and coordinate execution of the team's agreed programme. Given that these weekly meetings could involve large travelling distances, an effective means of electronic meeting should be identified and made available for use by the adoption teams.
12. *Use of trainee members:* In the event that MOSH Trainees become available, as outlined in sections [2.1](#) and [2.6](#), it will be important that the adoption teams manage their involvement in team work to the best effect. Although the trainees allocated to work with the adoption team will fall under the broad supervision of someone within or contracted to the Learning Hub, the trainees should operationally report to the team's Adoption Specialist. Much of the data sourcing and analysis, and aspects of the planning, coordination and administration of the project should be allocated to these trainees under the supervision of either the Team Managers or the Adoption Specialist. In particular, they should be allocated to support team members involved in the development of expert models, the formulation of behavioural plans and the coordination of COPA activities.
13. *Effective use of the learning hub secretariat:* In supporting and facilitating the work of the Adoption Team, the Adoption Specialist must ensure that effective use is made of the support that is available through the Learning Hub Secretariat. Apart from personally contributing timeous high-quality input, as outlined and agreed to in considering point 4 above, the specialist should facilitate the team's access to the other support available through the secretariat. This applies in particular to the involvement of the Learning Hub's Behavioural Specialist, as well as to out-sourced expert input when necessary.
14. *Effective learning of adoption teams from each other:* Learning from the experience and success of other adoption teams is an effective process for continuous improvement. It is a process that should be fostered and facilitated by the Head of Hub by arranging for teams to share and present their noteworthy experiences and successes at monthly meetings, or at specially arranged meetings if necessary. Sharing experience in the development of expert models, mental models research, the development of behavioural plans, and the management of COPAs is expected to be particularly beneficial. Where appropriate, copies of successfully completed work, including examples of successful customisation of behavioural plans by adoption mines, should be made available to the other adoption teams.
15. *Effective use of industry team members:* The Adoption Team Managers must see this as one of their primary responsibilities. The route to make the best and most effective use of

the industry team members is to recognise the limitations of what they can be expected to do between meetings, and to focus on tapping their expertise and networking potential in undertaking the work of the team. In order to best tap this potential, industry members should be provided with brief documents before meetings to outline the nature of the input being sought. This will enable them to prepare themselves and to access expertise available to them at their mines and through their networks. Importantly, one of the most significant and effective contributions would be for the member to lead, or at least facilitate, adoption of the leading practice at their home mine. This, and its extension to facilitating adoption of the practice to other mines within the mining Group, should be discussed and planned in team meetings from an early stage of its activities. In this context, a particularly important role will thus be to help identify the potential adoption mines within their mining Group, and the key persons at these mines.

16. *Effective use of the MOSH Task Force:* The role and function of the MOSH Task Force is outlined in section [13.2](#). It is important to recognise that through the members of the Task Force, key mining group structures and skills can be accessed to assist in facilitating widespread adoption of leading practices. There are two areas where this is particularly important:

- The first is that of establishing and maintaining a pool of trained interviewers for conducting the high-quality direct enquiries required for the development of behavioural communication and leadership behaviour plans. Ideally the pool established by each Group should be large enough to meet the direct enquiry interview requirements of the Group.
- The second is that of assisting the MOSH adoption teams achieve systematic adoption of leading practices across each Group's mines. The first step towards this would be for Task Force members to assist group's adoption team member to identify potential adoption mines within the group for each leading practice, and the key persons at those mines. The assistance would then move on to coordinating systematic adoption of leading practices across the group's mines.

The above two functions are identified in section [13.2](#) as important aspects of each Task Force member's role as their mining Group's *Adoption Coordinator*. Clearly, the MOSH Adoption Team needs to ensure that these and other mining group structures and skills are effectively utilised at appropriate times in the adoption process. In order to realise this potential, and to fully gain from the high-level support of an informed Task Force, the Adoption Team and the Learning Hub Secretariat must ensure that the scope and potential of the leading practice, as well as progress on the adoption process, is effectively communicated to the Task Force at least once every two months. A detailed outline of the envisaged role and function of an Adoption Coordinator is provided in section [2.5](#).

17. *Effective use of the Adoption Team Sponsor:* The selection, role and function of Adoption Team Sponsors is considered in section [13.1](#). The operational effectiveness of the Adoption Team can be considerably enhanced by ensuring that the Sponsor, as with the Task Force, is kept well-informed about the scope and potential of the leading practice, as well as progress on the adoption process. Regular, but relatively infrequent meetings should be held with the Sponsor for this purpose, with the information provided being brief, to the point and suitable for the Sponsor to share with high-level colleagues. Ensuring that the Sponsor is kept abreast of the team's activities in this way will provide the foundation

necessary to enlist the Sponsor's assistance in the addressing unusually persistent or sensitive issues that might arise.

18. *Preparation of technical reports, publications and presentations:* The preparation of good quality reports will be an important determinant of the success of the adoption teams. The two team managers and the adoption specialist need to discuss and agree the process to be followed in the preparation of these documents. The framework of the reports should be jointly planned, taking into account the guidance provided in this handbook. Each of the three parties should then contribute the material that they have agreed to write with the Adoption Specialist then taking on the responsibility of synthesising and preparing a quality draft of the report for review and finalisation. A similar comment applies to the preparation of technical publications and presentations.
19. *Communication arrangements:* The MOSH web-site based communication system should be used as a basis for sharing team documents. The Adoption Specialist should ensure that all team members have ready access to the system and that they are able to use the system. This should be one of the first steps taken after appointment of the team members. While informal communication between team members may be per telephone and e-mail, the web-based system should be used for the transmission of all documents that may need to be referred to at some future date.
20. *Quality assurance:* All adoption team members must focus on ensuring the quality of both their work and that of the team. In addition, the Adoption Specialist must play a key role in assuring the completeness and integrity of the adoption process followed, and the quality of the outputs produced. Where necessary, this could include the use of outsourced skills to review and comment on plans to be executed and on documents produced. Effective quality assurance arrangements are essential if the team is to deliver on the MOSH Adoption System's value of excellence. Accordingly, the Monitoring and Evaluation Framework outlined in Section 14 includes a formal process of peer review of the most important of the documents produced by the team.
21. *Reporting:* The Monitoring and Evaluation Framework outlined in Section 14 will serve as an important means of reporting progress against planned activity, and for providing an indication of the impact of the work undertaken. However, in addition to this, brief reports on difficulties encountered and lessons learned should be produced at regular intervals not only as a part of documenting work done, but also with a view to keeping key stakeholders informed. The reports should be suitable for submission to the Task Force, and other high-level structures to keep key stakeholders informed of developments. Failure to produce meaningful reports of this nature will almost always be an indicator of inadequate team performance.

Concluding comment

While appropriate handling of the above issues is likely to be crucial to achieving an effective Adoption Team, there are many more issues that will need to be addressed. Most of these are identified in this handbook, along with guidance on how they should be addressed. The handbook should be used to further elaborate on how best to address the issues identified above, and to identify and deal with other issues that impact on the operational effectiveness of the team.

Section 2.3

Role and function of the adoption team managers

Key outcomes

- An appreciation of the key roles and functions that adoption team managers need to focus upon
- Recognition of the scope and challenge of the position and the value of appropriate past experience
- An appreciation of the growth opportunity that the position offers to potential secondees from mines
- An appreciation by senior executives of the level and type of person that needs be seconded to fill envisaged role
- An checklist of areas that should be covered in the performance agreement with the adoption team managers

Background

It is widely recognised that the adoption of a new technology or practice needs to be championed by a person who is energetic and who has credibility with his peers. This is a role that the adoption team managers need to fill. It was originally envisaged that the role of championship may be carried by one of the two managers with the other focusing on the project management aspects of the process, but the systematic succession arrangements outlined in section 2.1 make it clear that both adoption team managers will need to fulfill the role of leading practice champion as well as project manager during their term of office. This must be taken into account during the process of selecting the managers establishing the team modus operandi. The challenge will be to ensure that the roles and responsibilities are arranged in a way to ensure that they are complementary and reinforcing and not competing and counter-productive.

Purpose

The purpose of this section is to:

- Outline the expected role and function of the two adoption team managers, and
- Provide guidance on meeting these expectations.

Key considerations

The primary roles and functions of the adoption team managers fall under the various headings considered below. In each case the heading is indicative of the role that needs to be played, with the points that follow providing both a functional elaboration and brief guidance on each of the identified key roles. More detailed guidance on the role and function of adoption team managers is provided throughout the handbook.

Leadership

1. Provide clear and convincing leadership by developing a deep understanding of the adoption process and of the goals of the adoption team. This understanding should provide the basis for sound input into the development of the jointly developed mission and statement for the adoption team described in section 2.2. The establishment of a vision that is aligned with the goals of the Adoption System and enthusiastically shared by the team will be one of the most important leadership functions that need to be fulfilled.
2. Ensure that the jointly developed vision is not lost or dissipated as the adoption process proceeds.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

3. Lead by example in all of the roles and functions outlined in this section. In this regard, and with a view to demonstrating clear and decisive leadership, it will be essential for the two managers to clearly decide upon who is to do what, and then to consistently implement what has been decided.

Championship

4. Take on the role of being an effective Champion of the leading practices that are identified by the Adoption Team for widespread adoption. In particular this includes:
 - Persisting until adoption challenges are effectively addressed,
 - Acting as a spokesperson on performance aspects of the identified leading practices,
 - Participating in relevant industry forums, and
 - Providing enthusiastic, clear and convincing communication about the adoption team and its work.

Being an effective champion is a special aspect of the leadership role that adoption team managers must play. The two managers must together perform this role through their energetic and enthusiastic interactions in addressing adoption challenges, and in facilitating and promoting adoption of the leading practices identified by their team.

Planning

5. Review past work in the area in question (not only SIMRAC work) and hold discussions with suppliers and experts – become an expert, initially in South Africa but ultimately internationally.
6. Visit mines and groups to identify and document the problem that is being addressed, with a view to fully understanding the nature and scope of the problem, including the major barriers to implementation of possible solutions.
7. Identify different technologies, practices and approaches as potential solutions (leading practices) to address the risks being considered.
8. Develop preliminary cost-benefit data for the various potential solutions that have been identified.
9. Develop material to be presented and considered in the planning workshops that are to be held to formulate the approach and plans that are to become the basis of future activity of the adoption team.
10. Ensure that sufficient time is planned for the effective execution of the various actions, and that the plans are at all times well aligned with the ultimate objectives of the adoption team.

Project management

11. Ensure that the principles of good project management are consistently applied, with appropriate planning schedules being put in place, progress being regularly reviewed, corrective action taken when necessary, schedules updated, progress reports prepared and sent to appropriate parties, documentation managed and updated, and so on.

12. Work closely with the team's Learning Hub Adoption Specialist to ensure effective utilisation of the knowledge and skills of the other Learning Hub Specialists, Industry members of the Adoption Team and experts as necessary to secure successful execution of the adoption process.
13. Devote particular attention to ensuring that the details of the adoption process outlined in this handbook are executed without resorting to counter-productive short-cuts.

Communication

14. Communicate regularly and effectively with the industry members of the adoption team. They need to be kept informed of developments and they need to be clearly advised of the contribution that is expected from them both at meetings and in executing the adoption process.
15. Oversee and prepare effective communication briefs to those who need to be kept informed of progress and significant developments. This is an important preliminary process associated with setting up a community of practice for adoption, and for keeping other key players informed. It must not become a bland routine action. In respect of potential COPA members it needs to be effective in getting their attention and then evoking their interest and involvement in the adoption process. Brief e-mail messages are envisaged but the best approach needs to be decided through interaction with the intended recipients.
16. Prepare and make presentations to key influencing bodies and at selected conferences and meetings. (AMM/SACMA quarterly meetings, AMM/SACMA/AMRE etc. council meetings, and so on.) This is an important aspect of championing the leading practice under consideration.

Report writing

17. Ensure that the work of the Adoption Team is adequately documented and that the necessary reports are prepared to record and communicate the outcomes achieved at key stages of the adoption process.
18. Prepare and present technical papers and reports to promote the leading practice and the adoption process at conferences and meetings of key professional societies.

Communities of practice for adoption

19. Set up and initially run an effective community of practice for adoption to facilitate the widespread adoption of the leading practice that has been demonstrated.
20. Provide detailed support to the key persons involved in managing the adoption process at the first group of mines that elect to adopt the leading practice.
21. Manage the transition of the COPA into a body able to operate effectively, but with minimal day to day dependence on the adoption team.

Networking

22. Identify mines and groups that appear best suited to benefit from adoption of the leading practice that has been identified.

23. Identify those people at mines who will be key players in the adoption of the team's leading practices and in the identification of potential new leading practices, and build working relationships with them.
24. Build a network of expert persons who are in various ways well positioned to assist the adoption team in its work
25. Build up a contact list of people who need to be kept informed of developments and progress and who have the potential to assist the adoption process.

Team building

26. Identify persons on mines and in groups who would be ideal members of the adoption team, arrange for their participation in the planning workshops and facilitate their subsequent nomination to serve as the Industry members of the MOSH Adoption Team.
27. Ensure the effective use and recognition of the adoption team members' expertise in accomplishing the team's objectives.
28. Assist in the annual process of identifying and selecting the person who is to join the Adoption Team as one of its managers, as part of the succession process outlined in section 2.1.
29. Work closely with the newly appointed Assistant Adoption Team Manager to ensure continued quality performance of the Adoption Team.

Quality assurance

30. Work closely with the Learning Hub Adoption Specialist to ensure that the work of the Adoption Team is consistently of a high standard.
31. Ensure that all key documents prepared by the adoption team are subjected to a process of peer review and revision as necessary.

Concluding comment

The roles and functions of the Adoption Team Managers outlined above provide a good but not a complete indication of what is expected of these persons. These and many other activities, along with appropriate guidance, are however outlined in more detail in the various sections of this handbook. Together, they more fully further elaborate the roles and functions of the adoption team managers. A greater appreciation of the roles and functions is thus expected to develop as adoption managers implement the procedures outlined in the handbook. Importantly, it is envisaged that each manager will also bring something unique and special to the position and in this way contribute to continuous enrichment and improvement of the adoption process.

Section 2.4

Role and function of industry members of adoption teams

Key outcomes

- An appreciation of the key roles and functions that industry members of the adoption teams need to focus upon
- Recognition of the substantial contribution that industry members can make towards achieving widespread adoption
- Recognition by mine managers of the benefit to their mine of making a competent person available to participate in an adoption team
- Recognition of the need to ensure that only competent and well regarded persons in industry are approached to join the team as industry members
- An appreciation by adoption team managers of the contribution they should expect, and which they must seek from the industry members of their team

Background

Although the Adoption Team Managers and the Learning Hub Adoption Specialist are expected to play the most prominent roles within the adoption teams, it is the industry members of the adoption teams that have the greatest scope for ensuring the industry ownership, credibility and effectiveness of the team. Although it is the role of the Team Manager to facilitate that the industry members are able to fulfill this role, it is the industry members themselves who must bear personal responsibility for ensuring that they fully play their role in contributing to the success of the team. It is thus important that they have a good understanding of the roles and functions that they are expected to play and fulfill.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the expected role and function of the industry members of the adoption teams, and
- Provide guidance on meeting these expectations.

Key roles and functions

The key roles and functions of the industry members of the adoption teams are as listed and elaborated upon below:

1. **Active and consistent participation in all adoption team activities:** Before agreeing to become a member of a MOSH Adoption Team, members should ensure that their operational management understands and supports their full and consistent participation in all adoption team activities. On the basis of such “in principle” agreement, members should ensure that they set aside sufficient time to enable their consistent and full participation in all adoption team activities.
2. **Ensure that the risk assessment takes account of their and their mine’s experience:** Members have a key role to play in ensuring that the Adoption Team’s assessment of risk fully takes account of the range of conditions across the industry. They need to consult widely on their mine and with their colleagues to gain a good appreciation of the range of significant risks that the Adoption Team needs to take into account in planning its programme. They then need to ensure that the acquired information along with their own

experience and knowledge is effectively presented so that it can be taken into account by the Adoption Team in developing the required causal chain expert model and summary risk table described in section 3.5.

3. **Assist in the identification of potential leading practices:** In much the same way as that described for the previous point, members should consult widely with their peers and colleagues at their mine to identify practices that have proved to be particularly effective in addressing one or other aspect of the risks that have been identified. They should acquire sufficient detail about these practices to enable them to be meaningfully considered by the Adoption Team during their planning meeting.
4. **Assist in the identification of potential adoption mines:** During the planning process the Adoption Team needs to assess the potential application of the various practices that have been short-listed for detailed consideration. The extent of the potential application is one of the key determinants in the selection process, and the combined knowledge and input of the Adoption Team provides the basis for a credible assessment being made. Industry members should therefore take steps to become more aware and knowledgeable about the occupational health and safety needs and operational details of the mines within their mining group.
5. **Assist in the identification of key players at adoption mines:** One of the most important early actions that has the potential to determine the success of the adoption process is the identification of the people at potential adoption mines who are expected to play a key role in the process of deciding and facilitating adoption of the leading practice in question. The industry members of the Adoption Team need to use their knowledge of the industry, with the assistance of colleagues and others as necessary to identify such persons, particularly at mines within their group. It is these persons who need to be contacted and kept informed of developments with a view to then becoming leading members of the Community of Practice for Adoption when it is in due course established.
6. **Assist in the identification of the first adopter (or demonstration) mine:** There are a number of criteria that need to be considered in the compilation of a short-list of mines that would be suitable as a *first adopter mine* or as *demonstration mine* to demonstrate the leading practice before making it available for widespread adoption, should that precautionary step be considered necessary. The selection of mines as either a *first adopter* or *demonstration mine* requires detailed knowledge of the operations and key persons at the mine. While much of this can be obtained through a systematic process of enquiry and investigation, the industry members can considerably shorten the process by using their knowledge to point the team managers in productive directions.
7. **Facilitate the direct enquiry process for behavioural communication:** There are two important roles that the industry members need to play in facilitating the direct enquiry process, which provides the basis for developing effective behavioural communication plans. The first is that of assisting in the identification of appropriate persons to be interviewed and the second is that of assisting in the execution of the arrangements for them to be interviewed. In some cases, where members have been trained and have the required skill, assistance could extend to conducting some of the interviews, but this is not recommended.

8. ***Champion adoption of the selected leading practice in industry:*** Each member of the Industry Adoption Team should regard themselves as a champion of each leading practice that their team has selected for widespread adoption by industry. Members should use the opportunities that they have on their own mine and in meetings with their peers and other colleagues, to credibly describe and promote the merits of the leading practice in question. They should also pay special attention to any critical comment that they hear that points to the need for corrective action by the team. This must be communicated to the Adoption Team Manager so that it can be raised, discussed and addressed by the team at the earliest possible opportunity.
9. ***Facilitate adoption of the leading practice at their mine:*** The persons who are best placed to initiate the process of facilitating adoption of the leading practice at operating mines are in fact the industry members of the adoption teams. This is an important point that should be kept in mind at the time of identifying potential industry members for the adoption teams. Each industry member of the Adoption Team should ensure that their mine gives serious consideration to adoption of the leading practice once it has been documented and presented for widespread adoption across industry. They should regard this and the provision of assistance in securing adoption of the practice at their mine as one of their primary responsibilities. Through this activity alone they have the potential to make a major contribution to facilitating the widespread adoption of the selected leading practice. In addition, they should liaise with their Mining Group's Adoption Coordinator to provide guidance and assistance in facilitating adoption of the leading practice at mines within their Mining Group.
10. ***Conscientious contribution of experience and expertise:*** In addition to the above roles and functions there will be many opportunities for industry members of an adoption team to contribute their experience and expertise to the benefit of the team. Each member should regard it as a personal obligation to conscientiously contribute their experience and expertise to the benefit of the team.

Concluding comment

It should be evident from the above that the potential contribution of industry members to the success of their adoption teams is very substantial. It is incumbent upon the MOSH Adoption Team Manager to provide the environment and opportunity needed for members to make their substantial contributions, but it is equally up to the industry members to do the necessary preparatory work and to take the opportunity provided to make the valued contributions outlined above.

Section 2.5

Role and function of Group Adoption Coordinators

Key outcomes

- An appreciation of the key roles and functions of a Group Adoption Coordinator
- Recognition of the crucial role a Group Adoption Coordinator should play in achieving adoption across the Group's mines
- Broad guidance on fulfilling the role and function of a Group Adoption Coordinator

Background

The crucial importance of the MOSH Task Force was very clearly recognized in developing the Adoption System, and in the earlier versions of the handbook. Since then it has become clear that, individually, the Task Group members have an equally important role to play, but within their mining Group. This is now explicitly recognized in the terms of reference of the Task Force, which sets out the roles and functions expected of individual members of the Task Force. Those roles and functions are elaborated upon, and to some extent expanded upon in this section. The section also provides suggestions and guidance on how these roles and functions might best be fulfilled.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the expected role and function of a Group Adoption Coordinator, and
- Provide guidance on meeting these expectations.

Key roles and functions

The key roles and functions of a Group Adoption Coordinator are as listed and elaborated upon below:

1. **Ensure a deep personal understanding of the MOSH processes:** The essence of the adoption system is very simple and is thus readily understood. However, to be really effective as Group Adoption Coordinator, a much deeper understanding *and appreciation* of the detailed workings of the adoption system is necessary. The detail of the various elements and processes of the system really needs to be *fully appreciated* for them to be given the necessary priority and attention, particularly at the time when an adoption team calls for assistance in a particular area. The key elements and processes are outlined in a brief brochure that sets out the essence of the adoption system and to the extent necessary, this handbook should be consulted to develop a full understanding of these elements and processes. A copy of the brochure is provided in Reference Doc #64. The understanding developed through reading these documents should however be built upon through appropriate presentations from the adoption teams and Learning Hub specialists at MOSH Task Force meetings. The Head of Hub should ensure that such presentations take place.
2. **Facilitate internalization of MOSH principles into company policies and procedures:** In many respects the MOSH Adoption System may be regarded as a particular management of change system. Adoption of a leading practice can be greatly facilitated if

the company's management of change approach, as well as its policies, procedures and OHS strategies are to a large extent already aligned with the key principles and procedures of the Adoption System. Mining companies have thus agreed that the MOSH principles, and Pillar 4 of the Culture Transformation Framework, should be embedded into company OHS Strategies, policies and procedures. The Group Adoption Coordinator has been identified as the person required to take ownership of bringing this about within the Group's mines. In the context of this requirement, the importance of developing a deep understanding of the MOSH principles and process will be clear. In addressing this substantial challenge, should resistance be encountered within the Group, the Adoption Coordinator should bear in mind the high level at which the Culture Transformation framework has been agreed, and seek support and assistance from the company CEO should that be necessary.

3. Foster a multidisciplinary systems approach to adoption:

A fundamentally important aspect of the adoption process is that it addresses the behavioural aspects associated with sustainable adoption. This requires the involvement of persons having the necessary skills and orientation, from conducting direct enquiry interviews through to analysing the responses and customising the generic behavioural plans. It also requires the development and delivery of carefully crafted communication and training material, and then operationalizing all of this to achieve successful adoption. These examples highlight the need for a multidisciplinary systems approach to achieve successful adoption of a leading practice. In coordinating adoption of a leading practice across his Group's mines, an Adoption Coordinator should thus foster, and if necessary facilitate, the establishment of mine adoption teams that have the appropriate set of multidisciplinary skills.

4. Champion involvement of employees at all levels: A good understanding of the nature and purpose of a Leadership Behaviour Plan will bring out the importance of involving employees at all levels. Even a leading practice that is operationally implemented at a low skills level in the organisation will require the involvement of leadership behaviours all the way up the leadership hierarchy. Through the direct enquiry process and the associated behavioural communication and leadership behaviour plans, all levels of the organisation need to become involved in appropriate ways. The Adoption Coordinator therefore needs to champion the involvement of employees at all levels, by emphasising the importance of applying all elements of the adoption process outlined in the relevant leading practice adoption guide.

5. Facilitate identification of potential secondees to serve as Adoption Team Managers:

The importance of, and roles and function of the MOSH Adoption Team Managers, has been outlined in section 2.3. In interacting with managers across their mining Group, Adoption Coordinators should prompt managers to identify persons within their Group considered suitable for secondment to the Learning Hub to serve as an Adoption Team Manager. A list of such persons should be maintained to facilitate a ready and well

**Culture Transformation Framework
Pillar 4 – Leading Practices (Minimum standards)**

There will be a common approach to identifying and facilitating the adoption of leading OHS practices and research outcomes, which includes:

- a) Support sector level initiatives on the implementation of research outcomes and leading practices.
- b) Investigate leading practices / new research objectives giving appropriate consideration of benefits and ensuring that reasonably practical measures are taken to address the risks.
- c) Leadership support at ALL levels have a clear understanding of what they have to do to enable and lead sustainable adoption and this is appropriately included in their performance contracts.
- d) There is early and effective involvement of those affected by the adoption including their knowledge, beliefs and values.
- e) Adequate training, technical support and explicit financial resources for adoption.
- f) Monitoring of progress with the adoption and sustained monitoring of its impact through self-assessment and independent verification.

considered response to a request from the Learning Hub the name of a potential seconded to be put forward. In the absence of such a list, the Adoption Coordinator would at that time need to liaise with managers across the Group's mines to identify potential secondees, but experience warns that this "on demand" approach may take time and is often unsuccessful.

6. ***Coordinate identification of suitable adoption team members:*** From time to time there may be a need to establish a new adoption team, or to change some of the members of an existing team. In such cases the Adoption Coordinator may be requested to identify an appropriate person to represent the Group. On receipt of such a request the Coordinator should liaise across the Group to identify the person best suited to represent the Group in fulfilling the roles and functions of an Adoption Team Member, as outlined in section 2.4.
7. ***Assist in the identification of potential adoption mines:*** It is very important that the potential adoption mines for a particular leading practice are identified as soon as possible after details about the selected practice have been made available after an Adoption Team's Planning Workshop. The Group Adoption Coordinator has a very important role to play in assisting the Group's adoption team member to ensure that this happens. All mines within the Group that could benefit from adoption of a selected leading practice need to be identified as potential adoption mines. Group Adoption Coordinators should thus ensure that they are adequately in touch with the health and safety needs and operational details of mines within the Group.
8. ***Assist in the identification of key players at adoption mines:*** An up to date list of all the key persons for the adoption of practices in each of the risk areas being addressed by the adoption teams should be kept by the Group's Adoption Coordinator. This list should include at least the mine manager and the relevant specialist in each of the risk areas being addressed by the Learning Hub. The list should be made available to the four Adoption Teams through the Group's representative on each of the teams. This will enable a comprehensive database to be established and maintained by the Learning Hub. This approach is likely to be more effective than only responding to requests from individual adoption teams for such information on an ad hoc basis, and is thus preferred. Notwithstanding implementation of the preferred systematic approach, due to the specific technological nature of some leading practices, from time to time the need for ad hoc assistance is still expected to be necessary.
9. ***Coordinate adoption activity across the Group's mines:*** There are two important coordination requirements that need to be addressed. The first is to ensure that all identified potential adoption mines within the Group assess and decide upon adoption of the leading practice. A Group Head Office decision is neither envisaged nor advocated. It is best for individual mines to independently consider and decide whether or not to adopt. Consideration should then be given to selecting the most appropriate mine to lead the way for the Group, and to establish an in-house group involving the key persons from other mines to facilitate learning from the experience gained. In discussion with the MOSH Adoption Team Manager, such a Group could become a sub-group of the COPA. Adoption by the other mines within the Group could then be optimally scheduled from the Group's point of view. The second coordination requirement is that of dovetailing the above considerations with analogous considerations for another leading practice that might be available for adoption at the same time.

10. **Ensure availability of trained interviewers for direct enquiry interviews:** Experience has shown that the use of trained and competent interviewers is crucially important to the process of acquiring useful input from the persons interviewed. The Group Adoption Coordinator should thus liaise with mines to ensure that they identify and train at least two persons to conduct direct enquiry interviews. Such persons are likely to be found in the mine's training department, but not exclusively so. Provided that each mine has two competent interviewers, the mine should be able to handle its direct enquiry interview needs. However, this may not always be the case, and a procedure for accessing assistance from nearby mines within the Group, and perhaps even from mines within other Groups, should be considered.
11. **Oversee and monitor participation of Group persons in MOSH structures:** The Coordinator should regularly obtain feedback from Group persons participating in MOSH structures. This might best be done by holding a monthly meeting not only to obtain feedback, but also to review participation in meetings scheduled for the next month. This would also provide a basis for identifying information that needs to be disseminated across the Group, using appropriate channels available within the Group for best doing this. An important aspect of the above would be for the Coordinator to identify and rectify any areas in which participation is weak or otherwise unacceptable.
12. **Ensure effective Group input / participation in Adoption Team planning workshops:** It is essential that experience, knowledge, insight and expertise available within the Group is effectively made available at the Adoption Team planning workshops that are held from time to time to identify and select a leading practice worthy of widespread adoption. It is unlikely that the Group's member of the adoption team will have all of this at his / her fingertips, and special steps may thus need to be taken. This may involve in-house meetings of appropriate persons to identify input that needs to be made, and to effectively brief the Group's adoption team member, or perhaps to identify a particular Group expert who should attend all or part of the planning workshop. Ultimately, the Coordinator needs to arrange for the best and most effective input to be made on behalf of the Group.
13. **Ensure company awareness of MOSH leading practices and MOSH related matters:** By monitoring participation of Group persons in MOSH structures and through personal attendance of Task Force Meetings and other MOSH events, the Group Adoption Coordinator should be well positioned to keep the Group and its mines appropriately aware of MOSH leading practices and other related matters. The most appropriate communication channels within the Group should be identified for this purpose. In particular, the possibility of a brief report or presentation being made at the monthly meeting of mine managers within the Group should be investigated.
14. **Maintain a record of adoption status of all leading practices at Group mines:** It should be possible at all times to advise top management within the Group of the adoption status of all leading practices within the Group. Such information is also needed for the completion of surveys under the Mining Charter. Procedures should thus be set up to routinely acquire relevant data from all mines within the Group, for inclusion in an in-house Group database and scorecard that appropriately indicates the adoption status of all leading practices on all mines within the Group. The adoption scorecards presented in section [14.2](#) provide a good indication of how adoption status might be monitored. In terms of these scorecards, it is

expected that in due course each Group will be able to use the MOSH website as a means of monitoring the adoption status of all leading practices at its mines. An important aspect of adoption status that should not be overlooked is the benefit derived to date from adopting a particular practice. The arrangements set up within the Group should thus include the reporting of data that establishes the benefits derived from the adoption of a particular practice. The adoption process for each leading practice requires that mines set up appropriate monitoring arrangements to acquire such data. The arrangements outlined above will greatly facilitate reporting on the Group's progress at MOSH Task Force meetings.

Concluding comment

It will be evident from the above that MOSH Task Force members, in their role as their Group's Adoption Coordinator have a very important enabling function to fulfil within their Group. The success that their Group has in adopting leading practices, and the extent of the benefit the Group therefore derives from the adoption system, is likely to depend strongly on how effective they are in this role. The Group can thus expect to be well rewarded for effort devoted to effective performance of the coordination functions outlined in this section.

Section 2.6

Role and function of MOSH Trainees

Key outcomes

- An appreciation of the benefits to be derived from the introduction and use of MOSH Trainees
- An appreciation of the key roles and functions of MOSH Trainees during their period of secondment
- Recognition of the important role that the Behaviour Specialist needs to play in overseeing the trainee programme
- Broad guidance on the identified trainee activities and overall administration of the MOSH Trainee programme

Background

The concept of having a steady flow of secondees from mines spending a year with the Learning Hub as a MOSH Trainee offers to provide real benefit to both the Learning Hub and the participating mines. Mines would gain through the skills and experience that the returning secondee would bring while the Learning Hub would gain from the significant assistance that secondees would provide to the adoption teams and specialist Secretariat. It was originally envisaged that it might be possible for the Learning Hub to accommodate up to 20 trainees at any particular time. However, since then the mining industry has been faced with significant cost pressures, and thus reduced staff levels, and this has caused implementation of the MOSH Trainee concept to be put on hold until circumstances improve. The envisaged roles and functions of MOSH Trainees are thus set out in this section to facilitate ready implementation of the concept when circumstances permit.

Purpose

The purpose of this section is to:

- Outline the envisaged role and function of MOSH Trainees,
- Provide guidance on meeting these expectations, and
- Outline arrangements to appropriately administer the trainee programme.

Key roles and functions

The primary role and function of MOSH Trainees is to serve not only as a resource to the Adoption Teams and Learning Hub Specialists, but perhaps more importantly, as a vehicle for transferring knowledge, understanding and special skills back into their employer's organisation. The key roles and functions of MOSH Trainees are as listed and elaborated upon below:

- 1. Develop a good understanding of the Adoption System:** In order to fulfil the roles and functions that follow, the first enabling function of a MOSH Trainee is that of developing a good understanding of the Adoption System. With this in mind all new trainees should be provided with a copy of this handbook prior to systematically discussing its content in a series of induction sessions. These sessions should be conducted by the appropriate Adoption Specialist, or one of the other Learning Hub Specialists. The sessions should be completed within the first month of the trainee's year-long period of secondment. The induction should be structured to provide the trainee with sufficient understanding and context to facilitate appropriately focused involvement in the activities identified below. It is these activities that will lead to the development of a much deeper understanding and

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

appreciation of the details of the Adoption System. On completion of the secondment, it is this that will be transferred into the seconding organisation.

2. **Source and review technical documents and data:** An important aspect of a learning organisation is that of keeping abreast of new developments and emerging data. Adoption teams and Learning Hub specialists are not always able to do as much of this as they would like to. This is particularly important during the planning and other processes leading up to the selection of a new leading practice. Trainees can make a significant contribution to the work of the teams by conducting online searches and other investigations at mines to source needed documents and data. They should work closely with the adoption team specialist in undertaking such work.
3. **Analysis of occupational health and safety data:** In analysing occupational health and safety data the focus of the adoption teams will usually be on identifying the root cause of accidents. This is the area of greatest interest to adoption teams, as it is in these areas that an identified leading practice has the greatest potential to deliver benefit. It is often difficult to access the data needed for such investigations, and to find the time needed to undertake the work. The availability of trainees can greatly assist in overcoming these difficulties, and adoption teams should ensure that assigned trainees are appropriately involved in such work when the need arises.
4. **Assist with development of expert models of risk:** The development of an expert model of the risk situation being addressed by an adoption team is one of the team's key tasks. It needs to remain a priority until perfect understanding of the risk has been achieved. Trainees should therefore be tasked with becoming familiar with the model produced by the team to date, and then actively involved in the team's process to further develop the model. Scope exists for the trainee to be tasked with well-defined investigations to develop a particular element of the model for consideration by the team, with a view to it being integrated into the model. The understanding developed during this process is likely to be rewarding to all concerned.
5. **Assist with identification of potential leading practices:** Ultimately, all of the up-front investigative work of the adoption teams is directed at the identification of leading practices that have the potential to significantly improve occupational health and safety performance at mines. Trainees must bear this in mind while working with the adoption teams on this investigative work and they should make full use of their experience and connections in industry to help identify potential leading practices. Promising leads identified in this investigative work will need to be followed up and trainees should be used to assist in undertaking and documenting such work.
6. **Assist adoption teams in investigations at source and adoption mines:** Once a leading practice has been identified the details of the leading practice need to be investigated and documented at the source mine. This involves systematic planning and on-mine investigation, and trainees should actively assist in undertaking and documenting this work. Investigations at the mine should always involve at least two persons and the participation of trainees can thus significantly expedite the investigation process. Participation in these investigations will also deepen the trainees' appreciation of the adoption system.

7. **Assist with the preparation of reports:** The preparation of good quality reports that accurately document the work of the adoption teams is an important aspect of their work. The process of preparing the report serves to clarify the teams thinking and the details of the findings, and it enables others to learn from their work. Unfortunately, most adoption teams tend to fall short in this area. Trainees can help the teams considerably by collating input material and preparing drafts of material for review by the team. They should also be used to assist in the review process that leads to a quality outcome. Trainees should work under the supervision of the team's Adoption Specialist in undertaking this work.
8. **Participate in planning and implementing direct enquiry interviews:** Acquiring a deep understanding of the behavioural processes of the adoption system is important for all trainees. Soon after their induction, all trainees should be trained to proficiently conduct a direct enquiry interview. This training should be provided by either a team Adoption Specialist, or the Learning Hub's Behaviour Specialist. Where possible, trainees should be actively involved in the process of planning and managing the direct enquiry process required for development of the generic behavioural plans for the leading practice in question. Trainees can assist in setting up arrangements at the various mines and where appropriate, they should be scheduled to interview some of the less critical interviewees among the decider group.
9. **Assist with analysis of direct enquiry data:** Given that the adoption team should have developed an appropriate coding guide, with appropriate supervision the trainee should be able to undertake the task of coding the direct enquiry responses. This will further deepen the trainees understanding and appreciation of the detail of the behavioural process embedded in the Adoption System, and of the importance of using competent interviewers to conduct the interviews. The Adoption Specialist must oversee the assistance provided to ensure its quality.
10. **Participate in preparation of mental models reports and generic behavioural plans:** This crucially important work will need to be undertaken by the adoption team with the assistance of the Behaviour Specialist as necessary. However, the process should involve much discussion and review, and the trainee should be fully involved in these sessions. This will provide the opportunity not only for input, but also to further deepen the trainee's understanding of how and why the behavioural processes are crucial to the adoption process.
11. **Assist with coordination and management of COPA activities:** Setting up and running an effective COPA provides many opportunities for trainees. This includes assistance with arranging and running the workshop at which the leading practice is presented, and formation of the COPA initiated. Preparing for and participating in COPA meetings is then an on-going process. An important aspect of the assistance to be provided is likely to be that of gathering progress data from adopters and preparing progress reports. In the event that coordination of the COPA is in due course passed to one of the COPA members, the trainee would serve the important function of providing continuity and with the assistance of the Adoption Team to the extent necessary, of assisting the new COPA Coordinator.
12. **Assist with preparation of presentations:** Adoption Team Managers and the various Learning Hub Adoption Specialists are frequently called upon to make presentations about the Adoption System, and about progress being achieved on the various leading practices.

Working closely with the Manager or Specialist, trainees can assist in the preparation of these presentations. Once again such assistance will help enhance the trainees understanding of the Adoption System and of the issues of importance to stakeholders.

- 13. *Participate in selected meetings and conferences:*** There are many meetings that trainees can and should usefully attend. Clearly this includes most if not all meetings of the adoption team to which they have been assigned, as well as some of the meetings with stakeholders at which the work of their adoption team is to be presented. As their familiarity with the Adoption System and the work they have been assigned grows, this participation should be expanded to include presentation of aspects of their work.
- 14. *Miscellaneous ad hoc investigations and assignments:*** In addition to the very specific activities listed above, trainees should expect to be assigned on an ad hoc basis to various activities. Sometimes this may involve simply following up on unresolved or outstanding issues, while on other occasions it may involve planning and undertaking ad hoc investigations, such as documenting experience at mines in implementing the adoption process. Depending on circumstances, these assignments may be few or perhaps many and quite varied. By undertaking such assignments, trainees can substantially increase the effectiveness of an adoption team or the Learning Hub Secretariat.

Administrative arrangements

It will be most important for the assignment of trainees to work within the adoption teams or the secretariat to be appropriately managed and for their progress as trainees to be carefully monitored and evaluated. The following is envisaged:

- 15. *Allocate oversight responsibility for Trainees to Behaviour Specialist:*** The Learning Hub Behaviour Specialist is considered best placed to take on the responsibility of identifying and overseeing the training plan followed by individual trainees. In order to optimise training considerations and the provision of real assistance to the Learning Hub, the planning will need to be carried out in close consultation with the adoption teams and the various Learning Hub specialists. A tentative training programme should be identified for each trainee. This should involve the trainee being allocated to work under the supervision of various Adoption Team Managers and or Learning Hub specialists. In general the allocations should be at least three months, but depending on the work situation it could be for the full 12 month period. Importantly, in each case the identified training programme must be discussed and agreed with the trainee, and placed on record. The agreed programme should identify the various supervisors and include key performance indicators and performance expectations. A copy of the agreed training programme should be sent to the trainee's employer.
- 16. *Conduct quarterly trainee performance review meetings:*** Performance of the trainees against the identified performance expectations should be reviewed by the trainee's supervisor on a quarterly basis. This should be done from the point of view of training provided as well as trainee performance. The Behaviour Specialist should indicate a completion date for the trainee supervisors to complete their review process, with a meeting of all trainee supervisors scheduled shortly thereafter to discuss and address any identified issues and problems.

17. *Require a training review report from trainees on completion of their secondment:*

Each trainee should be required to prepare a brief report outlining what they have learnt about the adoption system during their secondment, and detailing ways in which their training experience could have been improved. The report should be submitted to the Behaviour Specialist at least two weeks before completion of the period of secondment. With a view to encouraging a frank and complete feedback, the trainee should be advised that, if desired, the report will be kept confidential, but with the key points being acted upon in an appropriate manner. It will be important to fully respect such a request should it be made.

Concluding comment

The points presented above provide a clear indication of the valuable role that MOSH Trainees can play in assisting both the Learning Hub and their employer organisations in the event that introduction of the system becomes financially and practically viable. Noting that this will assist industry in its move towards zero harm, it is hoped that the introduction of MOSH Trainees will become possible without too much delay.

SECTION 3

Preparatory work for the team planning workshop

- 3.1 Overview of the adoption planning and facilitation process
- 3.2 The key role of management orientation
- 3.3 Review tabulation of insights from past work
- 3.4 Review and assess safety and health statistics - tabulation of key data
- 3.5 Risk analysis and preparation of summary risk tables
- 3.6 Review, assess and tabulate useable R&D outcomes not yet implemented
- 3.7 Identify potential leading practices currently in use on mines
- 3.8 Consolidated list of potential practices to address identified risks
- 3.9 Identify trends and policies relevant to identified risks and potential solutions
- 3.10 Programme and facilitation arrangements for a planning workshop
- 3.11 Identify and invite experts to participate in selected workshop sessions

Section 3.1

Overview of the adoption planning and facilitation process

Key outcomes

- Clarity about the processes and time scales involved in implementing the adoption system
- A conceptual understanding of the essence of the adoption system
- An appreciation of how behavioural communication and leadership behaviour form an integral part of the adoption system
- Familiarity with the two one-page documents that facilitate access to and summarise the complete adoption process

Background

The process used to identify and then facilitate the adoption of leading practice is based on a systematic approach involving a number of logical steps. An important challenge will be to ensure that the adoption of beneficial leading practices is not compromised by short cuts being taken by persons who do not know or understand the interrelated nature of the various sequential elements. In an industry pressed for skills and management time, and in operations under financial pressure, this will be a particularly important consideration. Although the nature of the process and the reasons for adopting it were outlined in broad terms in the introductory section of the handbook, at an operational level it is important to provide the teams with a clear overview of the key steps in the process, and of how they fit together.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide a one-page schedule that indicates the various steps of the complete adoption process, as well as their sequence and approximate timing.
- Illustrate how the various steps of the complete system relate to the simplified representations of the adoption system considered in section 1.1
- Highlight the various behavioural elements embedded in the adoption process, which together constitute a coherent and crucially important sub-process.
- Provide guidance on use of the information presented during the planning workshop considered later.

One-page outline of the complete adoption planning and facilitation process

A one-page schedule that identifies the various steps of the complete adoption planning and facilitation process is presented at the end of this section. To a large extent this schedule provides the organizational basis for this handbook. Key points in relation to the schedule are as follows:

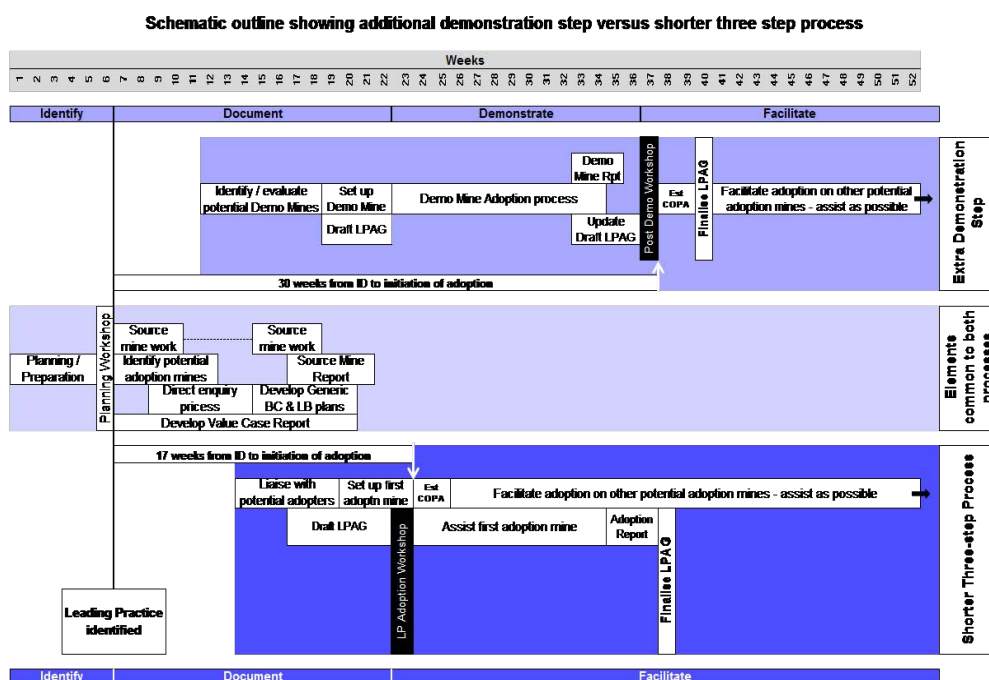
1. **Execution of the three phases of the adoption process identified in section 1.1 must involve a consideration of appropriate detail:**

The three conceptually simple phases identified in section 1.1 are:

- **Identify** the leading practice with the greatest potential to address the major risks,
- **Document** the leading practice at the source mine where it already exists, and
- **Facilitate** widespread adoption of the leading practice through a Community of Practice for Adoption.

These three basic phases are shown on the left side of the schedule in a way which allows the nature of the detail involved in each of the phases to be readily appreciated. Importantly, while the three-phase characterization of the process simplifies conceptual understanding, it *must not* be allowed to compromise systematic implementation of the detailed process.

2. **Inclusion of fourth demonstration phase in special circumstances:** In some special cases it may be necessary to include a phase to demonstrate the leading practice and the adoption process, before moving to the phase of facilitating widespread adoption. In those cases much of the adoption process remains the same, but the sequence of executing the phases and some of the steps within the phases are different. The difference in the sequence of executing the phases is illustrated in the figure presented below, with changes to the details within the phases being brought out in each of the relevant sections of the handbook by means of side boxes at appropriate points in each of the affected sections.



An important consequence of including a demonstration phase is that it delays the point at which the leading practice is presented to potential adoption mines for widespread adoption. Justification of a delay of this magnitude is thus important and criteria for including a demonstration phase are thus given appropriate consideration in section 4.9.

3. **Although the process is intuitively simple in concept, it is the detail embedded in the process that is important:** It is these details that offer the prospect of success in addressing the challenge of achieving sustainable widespread adoption of leading occupational health and safety practice across industry, and hence a significant improvement in occupational health and safety performance. It is thus important to ensure that short cuts are not taken. To do so would reduce the process to one that approximates much of what has been unsuccessfully tried before.

4. **In practice, implementation of the adoption process involves consideration of 49 process steps:**

Execution of the adoption process requires appropriate consideration and implementation of the 49 process steps shown in the one-page schematic at the end of the section. In providing an indication of the timing of these steps, and therefore of the full adoption process, the schematic illustrates that many of the steps are expected to be undertaken in parallel. Indeed, and in practice as new information and insights emerge, it might be necessary to return to steps already undertaken.

The schematic also identifies the sections of the handbook that describe the various steps in detail. It also identifies the worksheets and other documents relevant to execution of the work. Its usefulness makes it one of the key documents in this handbook.

5. **In a planning context, the adoption process is divided into three major parts:**

The three major parts of the planning process are as follows:

Planning that is undertaken by the leadership of the adoption teams prior to the team planning workshop

Planning done by the full adoption team at the special planning workshop designed for this purpose

Planning and implementation actions that are undertaken or facilitated by the adoption team after the planning workshop.

The 49-step schematic illustrates the very substantial effort that is expected to be devoted to proper planning of the adoption process.

Proper planning must not be compromised in response to the pressure for progress; short-term gains will soon be lost as the consequences of inadequate planning begin to take effect. Even worse, the selection of a weak leading practice, or the implementation of a poorly planned adoption process could represent a lost opportunity to save lives.

6. **A clear understanding of the adoption process, and of the key deliverables for success, is required for good adoption team performance:**

A shortcoming of the schedule provided at the end of the section is that it does not provide a graphical image of the process, and thus a visual basis for a lasting recollection of the key details. This shortcoming is addressed through the schematic flow chart introduced in section 1.1, which is presented again in this section as a one-page companion document immediately after the schedule.

Importantly, the schematic:

- identifies the key deliverables required from the adoption team,
- includes the approximate timing of the process as set out in the 45 process steps, and
- lends itself to graphically illustrating progress on the adoption process.

Its usefulness makes it another of the key documents in the handbook.

7. A coherent process of behavioural communication and leadership behaviour is embedded in the 45 steps of the planning and implementation process:

It is these aspects of the adoption process that are considered to make a particularly important contribution to the adoption process, and which differentiate the adoption system from previous work in this area. Although these concepts are fully explained later, the two side-boxes at the conclusion of this section provide an early practical appreciation of the two concepts. The logic and the key elements of the behavioural planning considerations are presented in the diagram immediately below.

Behavioural elements embedded in the leading practice adoption process	
Element	Relevant step and section
Develop causal chain risk assessment Serves as an expert datum in developing a behavioural communication plan	Step 4 Section 3.5
Identify deciders, adopters and stakeholders Specific to the selected leading practice	Steps 4, 22 & 25 Sections 3.5, 5.2 & 5.4
Conduct direct enquiries with deciders, adopters and stakeholders Using a selected sample across the identified adoption mines	Step 28 Sections 5.7
Develop broad based mental model Using data from the direct enquiry process across all adoption mines	Step 29 Sections 5.8
Develop a broad based behavioural communication plan The plan would be broadly applicable to all adoption mines	Step 30 Section 5.9
Identify desired leadership behaviours Based on detailed description of the selected leading practice	Steps 27 & 31 Section 5.6
Identify behavioural elements at the source mine Part of investigation to document the leading practice at the source mine	Step 32 Section 5.11
Finalise broad based behavioural plans for the leading practice Introduce identified elements into the broad based behavioural plans	Step 33 Section 5.12
Customise behavioural plans for the lead adopter mine Based on results from a direct enquiry process at the lead adopter mine	Step 42 Section 6.5
Refine broad based behavioural plans for widespread adoption For inclusion in the leading practice adoption guide	Step 44 Section 6.7
Adoption mines customise behavioural plans for implementation Based on results from a direct enquiry process at the adoption mine	As per the adoption guide (Step 45)

8. The adoption teams need to gain an appreciation of the embedded behavioural process:

The adoption teams should discuss and gain a shared understanding and appreciation of the sequential logic and coherency of the behavioural elements presented in the table above. This should be done at the planning workshop and through other appropriate occasions.

Each member of the team, and particularly the MOSH Adoption Team Managers should also consider how each of the behavioural elements listed in the above table is accommodated within the 45 step adoption process.

Concluding comment

The planning and facilitation process outlined in this section lies at the heart of the Learning Hub activity focussed on bringing about significant and continuous improvement in the occupational health and safety performance of the South African mining industry. It is conceptually important to recognise that until technology, knowledge or other beneficial concepts can be expressed in the form of an operational practice, there is little prospect of gaining major benefit from them, notwithstanding their apparent potential. It is in recognition of this reality that the primary focus of the Learning Hub is on actively facilitating the widespread adoption of identified leading practice.

Behavioural communication

Behavioural communication may appear similar to other forms of communication but the difference lies in the way it originates and the effect that it has. The key point is that it is based on research that identifies the gaps in knowledge and understanding that people actually have, including any misperceptions. It then provides information that addresses these issues in a way that enables people to make better decisions, and thus to behave differently to what might otherwise have been the case.

For example a motorway traffic report that warns of an accident ahead will be responded to very differently from one that explains that the consequential delay will be many hours. Both report an accident but the one includes information that addresses our experience based expectation (mental model) that such delays are likely to be short and that it is best to just carry on.

In this case special research was not needed to identify our mental model about motorway delays, or to design the content of the communication that was needed to correct our misperception. In this sense the example oversimplifies the concept, but it does illustrate the basic idea of behavioural communication. In this case the communication corrected our misperception, enabled us to make a better decision, and to behave differently by taking another route.

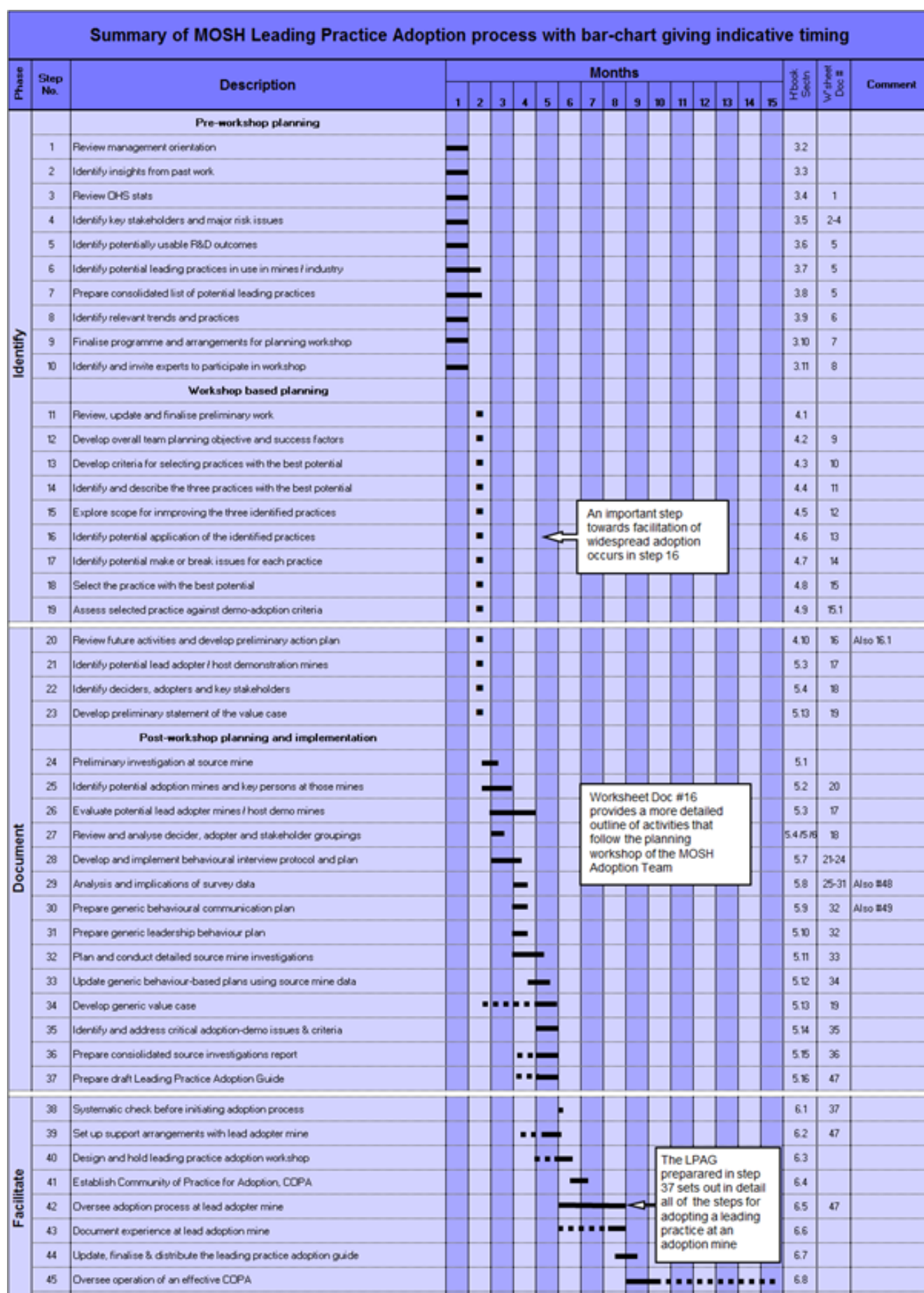
Leadership behaviour

Leadership behaviour recognises that people in leadership positions cannot not-communicate. Everything that they say or do, including what they don't say, or do not do, is a form of communication. It is important to recognise that *people are always watching*. Leaders' behaviour thus has a profound influence on the behaviour of those they lead.

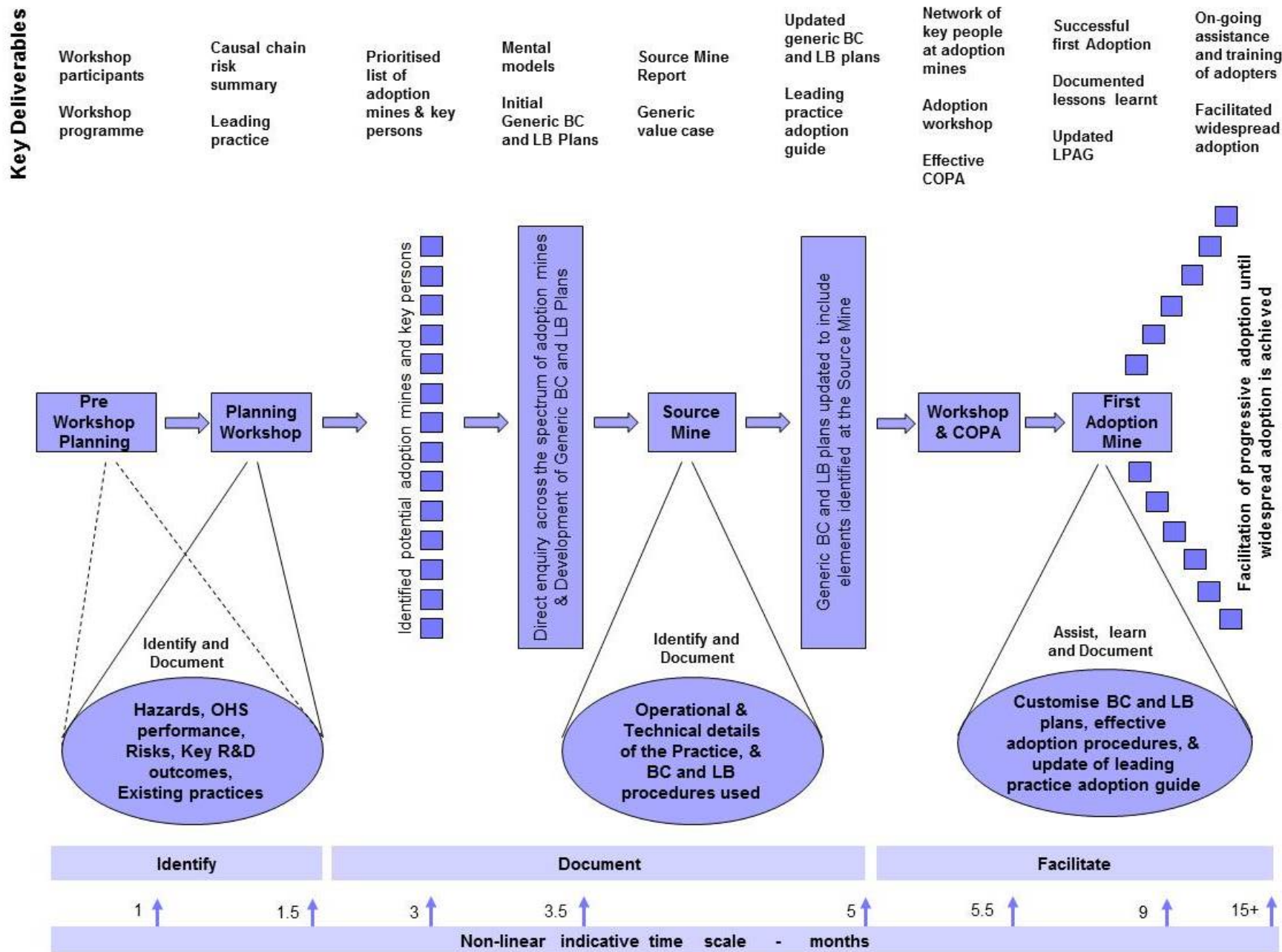
In the first instance leaders need to identify the actions (behaviours) needed for a successful outcome. They then need to identify and put in place those things that will enable these actions to be successfully performed (antecedents). In observing performance of these actions by their subordinates, they need to say or do things (consequences) that discourage any undesirable action while reinforcing desired action.

The implications of the above are straight forward. First, leaders must ensure that the detail of the job (required behaviour) is clearly described. Second, they must provide the subordinate with the necessary training, equipment, work environment and support structures to do the job. Thirdly, they must recognise and reward good performance, but also ensure constructive consequences for poor performance, such as coaching or constructive and respectful reprimand, as opposed to hurtful action, which is counter-productive in the long-term.

This leadership behaviour needs to be replicated all the way up the management hierarchy.



Schematic summary of the key elements of the MOSH adoption process



Section 3.2

The key role of management orientation

Key outcomes

- A clear view of the management orientation that has been agreed to by the CEOs of the major mining companies
- A realisation that the lack of a shared management orientation could seriously inhibit adoption of leading practice at mines
- An appreciation by CEO's and adoption team managers of the real need to facilitate the emergence of the agreed management orientation at adoption mines
- Recognition by adoption team managers of points that they must take into account in leading and managing their adoption teams

Background

The expert model of innovation, which underpins the design of the entire adoption system, identifies management orientation as a key enabling factor. This was brought out in the section [1.1](#) and in the original work undertaken in developing the adoption system, which is presented in section [15.1](#). In particular that work brought out the need for high-level executive management to agree upon a set of shared values, beliefs and leadership behaviour in respect of occupational health and safety. It was highlighted that an unfavourable or inconsistent management orientation represented a significant barrier to successful adoption. This insight is addressed in appropriate ways in this and later sections of the handbook.

Importantly, following recognition of this insight, serious consideration has been given to this matter, first by the secretariat, and then by the Industry's Chief Executive Officers at a two-day round-table meeting held in August 2008. More than 30 organisations were represented at that meeting, which led to the development of an action plan to improve occupational health and safety performance in the mining industry. A key aspect of that plan involves the establishment of the Learning Hub that is central to implementation of the Adoption System outlined in this Handbook.

The above plan was expressed in the form of a "roadmap to zero harm". Fundamental to the roadmap was agreement among the CEOs on the beliefs, values and behaviours considered to be necessary for success. These elements form the basis of the industry culture of health and safety that the CEOs collectively wish to create. They thus constitute an important input into the understanding needed by the adoption teams for successful implementation of the adoption process. The key elements were reinforced in the follow-up CEO round-table meeting held in 2011.

Purpose

The primary purpose of this section is to:

- Record the original brief statement of the desired management orientation.
- Set out the beliefs, values and leadership behaviours that have been agreed to by mining industry leadership.
- Create an understanding and sharing of the

Adoption Process		OHSAS
Vision and management orientation		Policy
Establish structures and responsibilities		Plan
Identify hazards and assess risks		
Identify potential leading practices		
Develop widespread adoption plan		
Identify prevailing mental models		Implement & Check
Document the identified practice		
Develop behaviour-based plans		
Demonstrate practice (if necessary)		
Communicate details of practice		
Establish community of practice		
Facilitate widespread adoption		Review
Monitor and review adoption		



CEOs in roundtable discussions

fundamentally important position adopted by the industry's leadership, and,

· Build on the stated values and mission that underpin the activities of the adoption teams.

Original brief statement of the desired management orientation

1. The original statement of the desired management orientation is preserved below as source material for use in communication and dialogue with leaders involved in operational level decisions concerning the adoption of leading practice at mines. Aspects should be used as necessary to support, explain and motivate the elements of desired occupational health and safety culture agreed to at CEO level, which then follows.

Original statement of desired management orientation

1. Zero harm is a never-ending journey towards our ultimate target of zero fatalities, injuries and diseases. Achievement of the milestones agreed to by business, labour and government is an important measure of our commitment to this journey. For the purpose of designing mining systems and equipment, we use world-class mining risk as a benchmark of tolerable risk.
2. We care as much for our employees as for our own loved ones. As such, good health and safety is a moral value that also brings good business value.
3. We manage health and safety as part of a complex system, which goes beyond standards such as OHSAS 18001. We recognize that people tend to do their best when confronted with dilemmas and trade-offs within the system. Human error is therefore considered as a symptom of problems within complex systems – not the problem itself. We address people's decision-making, judgement and behaviour based on an in-depth understanding of their assessment of risk within their circumstances and how particular features of an individual's environment influence an individual's assessment and action.
4. A culture of trust, sharing and continual learning, rather than a culture of blame, is a key element of a broader health and safety culture.
5. Leaders have a special role in improving health and safety performance. Critical personal leadership behaviours include:
 - a) Demonstrating unrelenting passion to zero harm.
 - b) Setting a strong example – at work and outside work – of the attitudes and behaviours desired of others.
 - c) Positively re-enforcing safe and healthy acts and conditions and taking immediate action on any unsafe act or condition and expecting the same from all the people reporting to them. Since punishment or discipline can end up encouraging people to avoid reporting errors or conditions that may produce errors, clear and accepted rules should underpin such action.
 - d) Demonstrating the appropriate priority for investment in health and safety relative to other elements of the business.
 - e) Showing a willingness to change one's own attitudes, values and behaviours.
6. Communication of all kinds particularly actions, inactions or decisions, which are the most powerful tool that leaders have for changing people's behaviour and hence influencing the culture of an organisation.
7. Health and safety is not a competitive area and leading practices, including technologies are shared freely and without hesitation. Clear guidelines must indicate how to deal with those practices that are considered to be a critical component of a company's business value.

Key elements of a culture of occupational health and safety

2. The key aspects of the desired occupational health and safety culture identified and adopted at the CEO roundtable held in August 2008 are given in the box presented below:

Key elements of desired occupational health and safety culture	
	Beliefs
1	All safety and occupational health incidents are preventable
2	Good occupational health and safety is a compelling moral issue that demands our attention and action. It is also good business and will pay meaningful dividends in the long-term to all constituencies
3	Leaders shape culture and individual behaviour. This starts with the CEO and company leadership and works its way through the entire organization and the industry
	Values
4	Zero harm in the workplace
5	Care, dignity and respect for all – emphasise diversity, elimination of discrimination and recognise societal impact of occupational health and safety
6	A learning and participative culture rather than blame
7	Fair sanction to ensure compliance, but strict treatment on repeat transgressions
8	Honesty, integrity and transparency, which will also lead to more trust
9	Occupational health and safety as a core value of every company and this should take precedence over production
	Leadership behaviour
10	Have a clear vision for safety and health improvement and articulate it every day with passion, respect and transparency
11	Comply with occupational safety and health rules at and outside of work - walk the talk
12	Require participation of all employees
13	Value the advice of occupational health and safety professionals
14	Integrate occupational safety and health in all business decisions
15	Provide positive feedback when progress is seen
16	Hold our organisations accountable for improving occupational health and safety performance
17	Undergo a regular assessment as a health and safety leader
18	Fully commit to improving the health and safety culture
19	Show eagerness to learn
20	Ensure that individuals successfully fulfil their health and safety responsibilities
	Worker behaviour
21	Comply with occupational health and safety rules at and outside of work
22	Effectively communicate between all levels of employees
23	Ensure that health and safety is a priority topic in meetings
24	Ensure that every individual successfully fulfils his or her health and safety responsibilities

3. Examples of the important practical effect that implementation of these key elements could have is illustrated by the points below, which are examples of specific actions and policies that CEOs could individually or collectively put in place:

- Performance recognition and reward arrangements will explicitly include recognition of, and reward for, individual behaviour that facilitates adoption of leading practice. This will be separate from, and in addition to, recognition and reward for the achievement of improved occupational health and safety performance.
- Individuals responsible for behaviour that obstructs adoption, or for operations with a poor, and particularly worsening occupational health and safety performance, will be identified and appropriate action taken.
- Companies will provide their staff participating in industry level activities to facilitate adoption with adequate time to fully participate in such activities.
- Staff members released to participate in industry level activities to facilitate adoption will not be unfairly discriminated against in respect of their career development.

These points should be appropriately taken into account by the Learning Hub in designing the communication strategy described in section 12.1 to support adoption team activity.

Key considerations

Additional points for consideration in respect of the elements presented in the above table are as follows:

4. The adoption teams need to systematically review, discuss and internalise the key elements presented in the above table, with a view to them being continuously used by the teams to guide and maintain their focus.
5. In particular, the adoption teams should take these elements into account in the process of:
 - Identifying and selecting the leading practices that are to form the basis of the work of the adoption team, and
 - Developing the team's behavioural communication and leadership behaviour plans in respect of their selected leading practices.
6. In implementing their programme to facilitate widespread adoption of selected practices, the adoption teams should take steps to ensure that the leadership at mine level know of and share the management orientation agreed to by the CEOs. Communication of this orientation should thus also be included within the strategic communication plans covered in section 12.1.
7. Points that emerged during the course of developing the adoption system, and which should also be taken into account by the adoption teams in their communication and dialogue with management at potential adoption mines are as follows:
 - Achievement of zero harm is a never-ending journey towards the ultimate goal of zero fatalities, injuries and diseases. Achievement of the tripartite agreed milestones is an important measure of commitment to this journey.

- Occupational health and safety is managed as part of a complex system in which people tend to do their best when confronted with dilemmas and trade-offs within the system. Human error should thus be seen as symptomatic of problems within the system and not of the individual.
 - Occupational health and safety should not be a competitive area. Leading practice, including technology, should thus be shared freely and without hesitation.
8. Communication of all kinds is the most powerful tool that leaders have for changing people's behaviour and thus influencing the culture of an organisation. In this respect the actions, inactions, and decisions of leaders are particularly important, although sometimes unintentional forms of communication. Accordingly,

The potential for using leadership behaviour strategically as a means to achieve key organisational objectives should be brought out in communicating with those responsible for deciding and leading the adoption of leading practices at mines.

9. The elements in the table above and the original statement of desired management orientation, together with the points presented immediately above should be regarded as an important source of information and guidance in communications about the Adoption System and its particular adoption initiatives. This comment applies in particular to the broad strategic communication plan of the Learning Hub, as well as to the leading practice specific communication plans of the adoption teams.

Concluding comment

Management orientation towards the achievement of improved occupational health and safety performance in the mining industry is a fundamentally important factor that can either enable or inhibit the process of adopting leading practice at mines. It is essential that the adoption teams recognise this reality, and that they take steps to ensure that this aspect is adequately addressed in the communications devised to facilitate adoption of any leading practice under consideration.

Section 3.3

Review of insights from past work

Key outcomes

- A shared understanding by the adoption team of past experience that is instructive and relevant to their adoption initiative
- An appreciation of the enabling role that mine management should play to foster adoption of leading practice at their mine
- An awareness of the need to deeply interrogate and discuss the listed insights to gain full value from past experience
- Knowledge that has the potential to prevent the adoption teams from repeating the mistakes of the past

Background

The process of adopting new technology or practice has proved to be a difficult challenge faced by many industries. This was highlighted in the introductory section of this handbook, which pointed out that there is no single mechanism to convert existing knowledge into widely adopted operational practice. Much work has however been done in addressing this challenge and considerable experience has thus been accumulated. A detailed review of this experience has yielded a number of insights that need to be taken into account to reduce the risk of repeating the mistakes of the past. The insights are also intended to provoke enquiry and discussion about the key issues that will be important in facilitating widespread adoption of leading practice.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The two primary purposes of this section are to:

- Present insights from past work on technology transfer that should be considered and taken into account by the adoption teams in planning their work, and
- Provoke an enquiry and discussion about the key issues that are central to achieving widespread adoption.

Guidance notes

Given below are a number of points to assist in considering the insights presented in the table that follows:

1. **There is an important difference between understanding and appreciating the content of the insights:** This may sound trivial but it is an issue of great importance. While a single reading of the points in the table below may be sufficient to create a good understanding of their content, repeated failure due to the same reason may be necessary before the importance of the point is truly appreciated. This frustrating and costly learning curve is what presentation and discussion of the insights is trying to prevent.
2. **Serious enquiry and discussion will be needed to gain most value from the insights:** It will be important to ensure that the adoption teams give serious consideration to the insights prior to commencing their planning process. In the context of the planning process outlined in section 3.1, adoption team members should be asked to identify the issues that they consider to be most important and to suggest any measures that the team should take to benefit from the checklist during their implementation of the adoption process. Members should also be asked to identify any of the insights they consider to be in need of further

investigation. Arrangements should be made for such investigation to be undertaken and discussed by the team in due course.

3. **Unless otherwise explicitly and convincingly motivated, observance of the insights should be regarded as a firm operational requirement:** There are many operational situations and pressures that will militate against observance of the operational implications of the insights. The temptation to ignore these implications should be guarded against as the price to be paid for achieving a short-term gain may be large and sometimes disastrous.

Tabulation of key insights

No	Insights derived from past experience	U
1	Technology Adoption has two distinct phases. The first phase involves providing sufficient understanding of the technology and its performance to enable potential recipients to decide whether or not to adopt the new technology / practice. The second phase is to transfer the knowledge and skills necessary for adoption of the technology / practice.	☐
2	The potential recipient of a technology / leading practice needs to have a real business incentive to embark upon the acquisition and adoption of the new technology / leading practice.	☐
3	Recipients of the new technology need to be assisted, and to have access to expert assistance at an early stage of the transfer and adoption process.	☐
4	The recipient organisation needs to have a person at an appropriate level to facilitate and champion the technology transfer and adoption process.	☐
5	The technology champion needs to be adequately supported by both his/her superiors and the technical experts of the technology / leading practice provider.	☐
6	Champions need to be innovative and have credibility and integrity, placing successful adoption above personal ambition.	☐
7	Each adoption plan needs to ensure that all of the issues known to be crucial for successful adoption are considered, as well as any other issues identified as potentially important.	☐
8	People at all levels must see the benefits to themselves of adopting the technology / practice.	☐
9	Peer communication of applications and benefits of new technology / practice should be facilitated as it enables and generally assists the process of technology and leading practice transfer and adoption.	☐
10	The first recipient organisations to adopt a new technology / leading practice should be those that have the greatest need and potential to benefit from successful adoption.	☐
11	Institutional support may be necessary to manage and facilitate the technology / leading practice adoption process.	☐
12	Special reward and recognition arrangements for individuals may be needed to overcome negative competitive dynamics, including the <i>not invented here</i> (or <i>by me</i>) syndrome. Such arrangements could include provisions in personal performance contracts that are linked to successful adoption of new technologies and practices that benefit the organisation.	☐
13	The organisational climate should be tested to establish its conduciveness to the adoption of new technologies / leading practice. <i>(The direct enquiry processes of sections 5.7 and 6.5 largely address this point)</i>	☐
14	A mind-set that is favourable towards the identification of user needs, and the adoption of the new technology / practice, as a basis for addressing those needs and facilitating the adoption process should be stimulated. <i>(This should be covered in the behavioural communication plan described in section 5.9.)</i>	☐
15	Technology brokers should be considered as a means for identifying technologies or practices developed and applied for other industries that have the potential for beneficial application in the mining industry.	☐
16	The introduction of new technology should be done on a mine experiencing success and growth. In times of hardship mines are risk-averse and stick to known technologies and familiar practices.	☐
17	A primary cause of technology transfer and adoption failure is a lack of change management. Change management skills in industry are poor. <i>(The 49-step adoption process is a complete change management process.)</i>	☐
18	Secondment of people between mines provides a good basis for technology transfer. People seconded to help adopt technology / practice at other mines come back stimulated, and with new ideas for their own operations.	☐
19	For industry level success in facilitating technology transfer, leadership is crucial: Executives need to collectively take a leadership position – they need to properly resource the process – they need to make key staff available to serve as champions – and together they need to collectively agree to set up creative tension in their respective companies (sanction/reward system for poor/good technology / leading practice adoption and performance). <i>(See section 3.2.)</i>	☐
20	With some technologies it is better to provide a service to mines rather than sell them the equipment / technology, so that problems of operation and maintenance can be invisible to the mine and dealt with efficiently by others especially skilled to do the job.	☐

21	Groups have the perception that better results come from their own efforts. This perception acts as a barrier and is consistent with the not invented here syndrome. <i>(This needs to be addressed through behavioural communications.)</i>	☐
22	Managers have too much on their plate and the communication and understanding of any new system therefore needs, at mine level, to be simple, logical and straightforward.	☐
23	A key first step in facilitating mine-wide adoption is to get the support of mine management and to provide them with any necessary training (e.g. the manager – section engineer – engineering manager – maintenance foreman).	☐
24	A key success factor for communities of practice is to ensure that no one person or group dominates.	☐
25	For a research based outcome not yet in place at an operating mine, but which has been selected as a leading practice, it is essential to get project buy-in, including the required funding, at the mine which is to serve as the source mine for the practice. If this is not possible then the project should be discarded	☐
26	Too much technology change is due to fashion and not hard numbers based on performance and costing. People are too busy to generate the needed information and plans for effective technology change. A strong value and business case is needed to address this issue.	☐
27	Groups and mines are not sufficiently mature for meaningful cooperative action – cooperation tends to be in less promising areas with worthwhile things being kept in-house. This dynamic applies even between mines within a single group.	☐
28	When line people are battling then chances of successful technology transfer drops to zero. Under-performing shafts struggle – they stick to tried and tested technologies. Shafts performing well tend to be the quick and easy new adopters.	☐
29	Mine Adoption Teams need to be run by a person with commitment and adequate time, and not as an add-on to someone's already demanding job.	☐
30	Levying demands and imposing strong expectations can quickly convert a Community of Practice into a project team focused on specific tasks and deliverables. The important function and benefit of producing and sharing new knowledge as the adoption experience grows will then diminish and even disappear. Communities of Practice should not be confused with project teams or task forces.	☐
31	In technology transfer attention should be focused on the early adopters, as they are key in achieving a critical mass of leading practice users.	☐

Concluding comment

Passing on hard-earned experience is never easy but the value of learning from the experience of others is not doubted. The adoption teams need to take the opportunity of deriving maximum benefit from their consideration of the insights provided in the above table.

Section 3.4

Review and assess safety and health statistics – tabulation of key data

Key outcomes

- Clarity about the nature and extent of the analysis that adoption team managers need to undertake prior to the adoption team's planning workshop
- Awareness by adoption team managers of the sources of data available to assist in the process of identifying areas of major risk
- Guidance to the secretariat about the nature and extent of the archival data base that needs to be created and maintained
- Recognition of the role that the Monitoring Specialist needs to play in facilitating the process of analysing safety statistics
- An appreciation of the need to involve industry team members in the analysis process prior to the workshop

(Doc #1)

Background

It is essential that the adoption teams focus their limited capacity on those areas of greatest harm to the workforce in mines. These are the areas that in principle have the greatest potential for improvement through the identification and adoption of leading practice. A detailed review and analysis of occupational health and safety data has an important role to play in identifying the particular areas on which the adoption teams should focus their attention. It thus forms an important and integral part of the risk assessment process. It provides quantitative input into the process of identifying practices that warrant detailed consideration as a basis for bringing about the significant improvements in health and safety that are being sought.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate adoption process	
Document and communicate outcomes	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The primary purpose of this section is to provide guidance on:

- Access to potentially useful sources of occupational health and safety data, and
- The analysis and presentation of data to assist in the identification of areas in need of priority attention.

Key points

1. **A meaningful analysis requires access to adequately detailed sources of data:** In order for the analysis to yield helpful and insightful guidance to the adoption teams the data needs to be:
 - Up-to-date and span at least the past ten years, and
 - Available for specific occupational health and safety incidents and accidents at both mine and sector level.

This level of detail is needed to identify not only the areas in greatest need of improvement, but also mines in which there has been the greatest improvement, or which have the best performance in absolute terms. Poor performance points to areas of focus for the adoption teams, and superior performance to mines that are potential sources of leading practice for adoption by others.
2. **The Learning Hub Secretariat should maintain a comprehensive MOSH data base to facilitate the required analysis:** The occupational health and safety performance analysis needs of the adoption teams should be facilitated by ensuring the availability of

an adequately detailed and up-to-date data base on the MOSH website. The data base should satisfy the requirements outlined in point 1. In addition, it should include an up-to-date summary of industry performance in relation to the agreed tripartite milestones.

3. **Analysis of data for South African mines should be supplemented by analysis of data from other sources:** While the data for South African mines is needed to identify the key areas in need of improvement, data from other mines and industries may help to identify potentially beneficial practices developed and used in mines in other countries, or in other industries. It is thus important to consider the inclusion of such data in the analysis.
4. **A well-executed analysis of occupational health and safety data contributes credibility as well as direction:** The importance of this point may be easily underestimated. The value of ensuring that the process of enquiry and reasoning leading up to the selection of a leading practice for widespread adoption is sound may only emerge later. It is at the time of developing the value case for the leading practice, and of interacting with other potential adoption mines that the adoption team may experience benefit from the credibility derived from the presentation of a sound selection process. A sound and detailed analysis of health and safety data is thus a firm requirement and a key success factor.
5. **The MOSH data base should be examined first:** In most cases the data available in the envisaged MOSH data base should enable the areas of major safety risk to be identified, as well as the mines that are candidates for being the source of leading practice for adoption by others. However, depending of the outcomes achieved, or the need for detailed occupational health data, there may be a need for further in-depth analysis involving other data. Accordingly, other sources of available and potentially useful data need to be listed in a table such as that below for that purpose. The preparation and maintenance of such a table should be an important priority of the Monitoring Specialist of the Learning Hub.

No.	Data Base and Source	Description of data available	Access details	Comment
1	MOSH data base – Learning Hub Secretariat	Etc		
2	SAMRASS – Department of Minerals and Energy			
3	ICMM Benchmarking - Wits Centre for Sustainability in Mining			
4	Annual Report on OHS performance – Minerals Council of Australia			
5	MSHA data retrieval system - MSHA?			
6	Etc			
7				
8				

6. **The analysis should be carried out initially by the adoption team managers:** The preliminary analysis needs to be done by the appointed adoption team managers prior to the planning workshop and the establishment of the full adoption team. This is an essential

element of the manager's preparatory work. The relevant adoption specialist has a special role to play in assisting and facilitating this analysis.

7. **The input of the Learning Hub Monitoring Specialist should be enlisted in analysing the data:** The requirements and data analysis plans of the adoption team managers should be discussed and finalised with the input of the Monitoring Specialist. This should include identification of the occupational health and safety parameters of primary interest to the adoption team. Any aspects in need of specialised input, either by the Monitoring Specialist or through outsourced specialists should be identified. The Monitoring Specialist should personally provide, or outsource any specialist input considered necessary.
8. **Special investigations should be undertaken when necessary:** In some area the available data may not be adequate to fully expose the underlying causes of the reported health and safety data. In these cases it may be necessary to conduct special investigations to acquire the necessary data. This may involve collaboration with key individuals at selected mines and sometimes the engagement of outsourced specialists to source and analyse the required data.
9. **The key outcomes of the analysis should be captured in summary form on the standard worksheet:** The essence of the analysis should be captured on the standard worksheet presented below. Graphs of selected key parameters should be prepared to facilitate presentation of the data during the planning workshop and on other occasions when the need arises. A summary of the results of special investigations may need to be presented in a custom designed worksheet. All relevant aspects of the detailed analysis should be recorded and stored within the data base set up on the MOSH web-site for the Adoption Team.

Doc #1-Worksheet : Key occupational health and safety data for the past 10 years												
No	Key OHS parameters of relevance.	Data for the past ten years										Implications
		-9	-8	-7	-6	-5	-4	-3	-2	-1	-0	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
Etc.												
Key Conclusions: Etc												

10. **Sharing of the analysis outcomes with adoption team members:** The summary table presented below should be made available to the full adoption team at the earliest stage possible. In doing so any constraints or assumptions introduced into the analysis should be clearly stated. The adoption team members should be asked to:

- Identify any other OHS parameters considered relevant and significant
- Review and comment on the identified implications and key conclusions
- Add any other data considered to be relevant and helpful to the process
- Submit their input prior to the planning workshop

Ensuring meaningful engagement with industry members of the adoption team on the analysis prior to the planning workshop is a key responsibility of the Adoption Team Manager.

11. **Prepare a consolidated summary of the key data for consideration in the planning workshop:** The input received from the adoption team members should be consolidated into the summary table for consideration in the planning workshop. Appropriate graphs or other aids should be prepared to facilitate presentation of the data during the workshop and on other occasions during execution of the adoption process.

Concluding comment

The adoption team managers should ensure that a sound analysis of health and safety data, involving meaningful engagement of adoption team members, is conducted prior to the planning workshop. In addition to being of real assistance to the planning process, a well-executed analysis with clear risk and priority implications will add to the credibility of the team managers as they set about building an effective adoption team during the course of the planning workshop.

Section 3.5

Develop a causal chain expert understanding of the risk

Key outcomes

- An understanding of how to prepare a causal chain table as an expert description of the risks being addressed
- An understanding of how to prepare and use influence diagrams as an expert description of the risks being addressed
- An awareness of the need to enlist all key stakeholders and experts into the process of developing an expert risk model
- A sound basis for identifying the risks that are the most important and that have the greatest potential to be addressed
- An awareness of the need to create an expert description of the risks as a basis for developing behavioural communication plans
- Awareness of the long-term importance and value of expert models to the adoption teams

(Docs #2, #3, #4)

Background

A fundamentally important task for the adoption team is to develop an in-depth expert understanding of the safety or health risks being experienced by persons at work in the risk area of their focus. Such an understanding assists in the identification of key risks that need to be addressed, and of practices that can best reduce these risks to yield significant and sustainable improvements in health and safety performance. More importantly, it also provides the basis for identifying gaps in the understanding of key persons involved in the adoption process at mines. It is these gaps, misperceptions and mistaken beliefs that need to be addressed through custom designed communications.

The development of such an expert understanding is best accomplished by ensuring that persons who are the most knowledgeable on one or other aspect of the risk situation are appropriately consulted to obtain their expert input. This section deals with the process of obtaining such input and organizing into a form that is readily understandable by non-expert persons. This simplified description of the particular risk situation being addressed must nevertheless represent the most accurate and complete statement of the risk situation that is possible at the time.

Importantly, an up-to-date expert description of the causal chain risk story is needed each time the adoption team embarks upon the task of selecting a new leading practice for widespread adoption.

Purpose

The purpose of this section is to:

- Introduce key concepts useful in presenting the expert risk story,
- Provide guidance on the development of expert descriptions of the causal chain risk story, and
- Highlight the importance of ensuring a quality outcome.

Key considerations

The six key steps involved in developing an expert understanding of the causal chain linkages of risk situation in any particular area are as follows:

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	Review
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	

Scope of risk areas

Each adoption team has been established to focus on an identified health and safety risk area. These are broad risk areas. Each of these risk areas may be broken down into smaller areas of risk and so on down to a fundamental risk event. This section deals with the development of causal expert models for the broad risk area being addressed by the adoption team, but the same principles would apply to more narrow areas of risk that may need to be focused upon within the broad area. The description of these smaller areas of risk would then become subordinate models of risk for the broad risk area.

- Step1 - Understand the key concepts
- Step 2- Identify relevant expert stakeholders and experts
- Step 3- Investigate the risk situation in detail
- Step 4- Develop working expert models of the risk situation
- Step 5- Finalise development of the expert models
- Step 6- Identify major risks and risk reduction opportunities

Each of the above steps is considered in detail below.

Step 1 - Understand the key concepts.

There are three key concepts that need to be well understood:

1. **Expert model:** An expert model is a clear presentation of accepted knowledge about a topic. It is the best and most accurate description of the topic that is possible. Expert models may be put forward in many forms. As an accurate and systematic integration of knowledge, an expert model summarizes the knowledge in a form that enables a clear understanding of the topic, as well as appropriate judgments to be made about the topic and issues related to it. In the Adoption System an expert model of the risk situation is presented either as a tabular causal chain risk summary, or in the form of an influence diagram. It should be possible for many different people to use the expert model in many different ways, and to adapt the model as new issues arise or new information becomes available. Quality expert models will become *valuable intellectual property assets* of the Adoption Teams.

Done well, the development of an expert model should:

- i) Ensure that no critical knowledge is missed or overlooked.
- ii) Ensure that only risk and risk management decision-relevant information is addressed.
- iii) Make communication about risks with non-experts more tractable by breaking down the risk into readily understood and manageable pieces.
- iv) Provide a strong, flexible framework for systematically obtaining knowledge from experts.
- v) Document the assumptions underlying conclusions about the risks and the information which supports such conclusions.
- vi) Be readily subjected to peer review.

2. **Causal chain risk summary:** A causal chain risk summary is a tabular presentation that sets out the way in which the risk arises through various causal links. Something happens (people are exposed to dust), and something else then happens (they breathe in the dust), and this gives rise to something else (they develop disease). The occurrence of each event affects the probability of the next event occurring and together they become a chain of causes and effects. In this way the causal chain brings out the likelihood of harm occurring. It must capture an expert understanding of all key elements of the risk, with a view to providing a sound basis for identifying knowledge gaps or misunderstanding in those exposed to, or responsible for managing the risk. Basically, the causal chain risk story is a readily understandable and easily presented verbal description of the following risk equation:

$$\text{Risk} = \text{Hazard} \times \text{Exposure} \times \text{Outcome} \times \text{Probability}$$

Importantly, the story should also identify ways in which the risk can or might be reduced or mitigated in each of the key elements expressed in the above risk equation.

The basic tabular framework of the generic causal chain risk summary is provided below to illustrate the concept, and to guide the work of Adoption Teams. A worksheet version of the framework is provided in Worksheet Doc #3.

Basic Framework of a Generic Causal Chain Risk Summary Table					
Part A – Description of the causal chain					
No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure
	Description Information here includes substances (such as a chemical, mineral or metal) or phenomena (such as high decibel sound) or an event that comprise the hazard. Also, actions that can be taken to eliminate or reduce the hazard in some way		Description Information here includes detail about what types of workers are exposed to the hazard and details about them (ex: gender, age, typical fit-for-duty levels), and how workers can be exposed, levels of exposure required to affect the physical safety, physiology or health of workers. Also, actions that can be taken to reduce or eliminate exposure in some way.		Description Information here includes all the ways in which workers might be affected and harmed by exposure to the risk including biological or physiological affects (with or without evident harm) and safety or health effects (ex: crushing injuries to head or chronic numbness of hands – nerve damage, or chronic obstructive pulmonary disease, COPD). Also, action that can be taken to reduce or eliminate the likelihood of outcomes from occurring.
Note: The number columns (No) are provided to enable convenient reference to the listed points and do not imply a particular linkage between points having the same number in different columns.					
	Data Gaps - Identify gaps that need to be investigated		Data Gaps - Identify gaps that need to be investigated		Data Gaps - Identify gaps that need to be investigated
	Summary of major risks - Create a summary list of the major risks identified		Summary of major risks - Create a summary list of the major risks identified		Summary of major risks - Create a summary list of the major risks identified

Part B - Current risk mitigation controls and strategies – Identify and describe.					
	Weaknesses – Identify and list the major weaknesses		Weaknesses – Identify and list the major weaknesses		Weaknesses – Identify and list the major weaknesses

Part C – Possible improvements in risk mitigation controls and strategies – Identify and describe					
	New practices - Identify ways to reduce risks to those most at risk		New practices - Identify ways to reduce risks to those most at risk		New practices - Identify ways to reduce risks to those most at risk

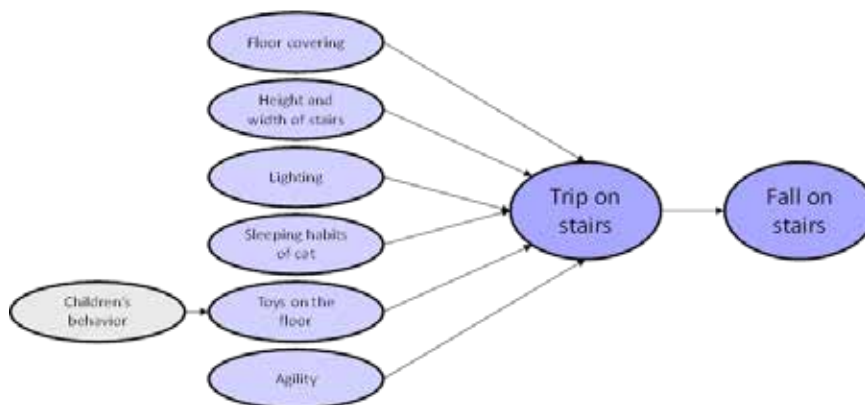
3. **Influence diagram:** An influence diagram graphically depicts the influence that one factor has on one or more other factors; it also shows how the factor is itself influenced by one or more other factors. Each factor is usually represented by an oval shaped node in the influence diagram, with influences being depicted by an arrow, where the direction of the arrow indicates the direction of the influence. Rectangular shaped nodes are used to represent choices made by a decision maker. An influence diagram therefore provides a graphical means of presenting the causal linkages between many key factors that are linked in one way or another. It provides a good basis for obtaining expert input from many experts, in one-on-one meetings or in group workshop sessions. It provides a basis for achieving a deeper understanding of the risk factors, and for communicating with experts. It is a form of expert model that readily lends itself to quantitative analysis.

The concept of building an influence diagram is illustrated below for the simple situation associated with the risk of tripping and falling on stairs in a double story house.

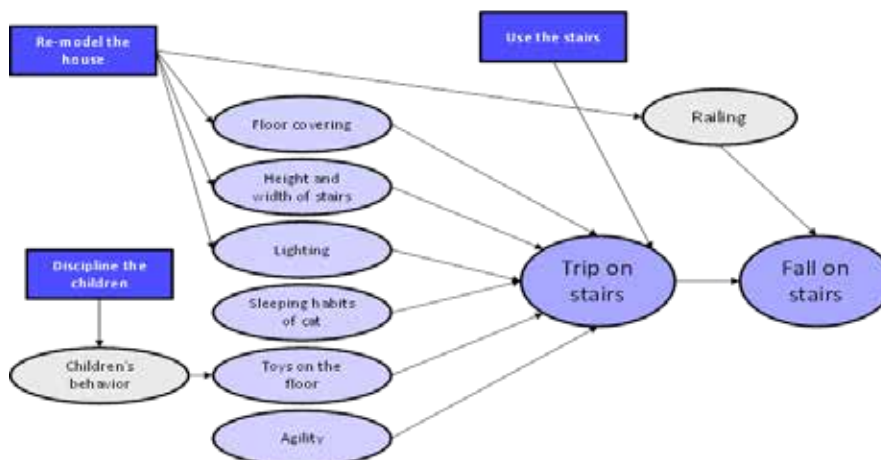
Initial two nodes for the risk of tripping and falling on stairs



Add nodes to show other factors that influence the risk situation



Add nodes showing possible decisions that influence the risk situation



From "Risk Communication – a mental models approach" by Morgan, Fischhoff, Bostrom and Atman (Cambridge University Press, 2002)

Step 2 - Identify relevant stakeholders and experts

Relevant stakeholders are those people at mines who *experience*, *manage*, or *influence*, the risk that is experienced, or who have otherwise acquired *expert knowledge* about the risk:

4. **People who experience the risk:** They are the people who need to be protected. They are also the people best able to describe the way in which they first become aware of hazard, the associated risk, and the way in which they experience it on a day to day basis. It is important to recognise that people who experience the risk are experts in regard to what they know and experience.
 - In most cases the people who experience the risk will involve a high proportion of workers and first line supervisors. They, as with all experts approached to obtain input into developing the risk story, need to be afforded the respect they deserve.
 - Adoption Team Managers must ensure that an adequate number and spread of persons from this group are consulted in developing their expert model. The persons should be drawn from an appropriate cross-section of mines.
5. **People who manage the risk:** Some of the people who manage the risk may have already been identified as people who also experience the risk. However, there may be others, at a higher level of management who are seldom personally exposed to the risk, and yet they play a key role in deciding upon how the risk should be managed, or in day to day management of the risk. This will usually include the Mine Manager, and in some cases Group Level consultants who advise the Mine Manager. An appropriate spectrum of persons involved in managing the risk must be consulted in developing the expert risk story.
6. **People who influence the risk:** In most risk situations there will be persons who may significantly influence the risk that is experienced. This may be informal peer group leaders within the production team, or people in service departments or external service providers responsible for equipment, training or other services that impact on the risk. This would include external consultants advising on management of the risk. It could also include labour union and workplace safety representatives. The identification of persons who influence the risk experienced should thus emerge from broad considerations.
7. **Recognised experts:** A great deal of research has been undertaken into all risk experienced in South African mines and there are thus recognized experts in all major risk areas. These experts may work in research organisations, consultancies, in Group Head Offices or perhaps at mines. Indeed, it is likely that some of these experts may well be industry members of the adoption team. They will in most cases have published their work in recognised journals. Such persons have a valuable role to play in developing an expert understanding and description of the causal chain risk story.
8. **List of identified stakeholders and experts:** The Adoption Team Managers, with the assistance of their Adoption Specialist should systematically identify and list the spectrum of stakeholders and experts who need to be consulted in developing their expert causal chain description of the risk story. The identification of the particular persons to be consulted is however likely to be somewhat on-going in conjunction with the investigations of Step 3. A worksheet for recording the identified positions / persons is provided in Worksheet Doc #2.

Step 3 – Investigate the risk situation in detail

Investigation of the risk must involve a thorough review of published information, detailed discussion with selected experts as well as exploratory fact finding visits to mines to obtain the expert input required to develop the required causal chain expert model. The investigative discussions should be guided by a protocol containing a set of standard questions, with the input received being documented in detail. The facts about the risks should be organised around key aspects of the risk.

9. **Review of published information:** The adoption team leadership should conduct a thorough review of published information about the risk they are investigating. Key points of understanding about the nature of the hazard and the risk situation should be documented in summary form. Experts to be consulted with a view to obtaining further expert input should also be identified. The adoption specialist should take a lead in this review process.
10. **Risk investigation protocol:** With a view to ensuring the collection and recording of the information needed to develop a quality causal chain risk story, a protocol setting out a guiding set of questions should be prepared. The protocol should outline any background information that needs to be shared prior to asking the questions, as well as the key questions that need to be addressed. The review of published information should be particularly helpful in developing the protocol.

The questions provided below are illustrative of those that could comprise a comprehensive protocol. They are not the only questions or all the questions that could be asked:

Example questions for inclusion in a protocol to guide preparation of a risk summary

i)	What is the nature of the risk – how does it occur, who is subject to it and in what ways, what sorts of safety or health consequences are associated with the risk and how severe are they?
	· Why is it a risk issue?
	· How and when did concerns about this issue arise?
ii)	For the specific risk being addressed:
	· What is occurring now compared to what should be occurring (if the risk was significantly reduced or eliminated)?
	· What parts of the risk are we certain about and how certain are we?
	· Why are we certain – what's our evidence?
	· What is less certain?
	· What is still uncertain and how important is it to address these uncertainties?
	· What efforts are required and/or are underway to address these uncertainties?
	· When will we have more information?
iii)	Who is at most risk and why? – Describe in detail, including where relevant their age, language ability, language and technical or science literacy level, health status, family circumstances, cultural background, work experience, working and living (off the job) circumstances)?
iv)	For those at risk, what are their job functions? What do they typically do in the course of a work day? What are the key tasks involved in performing their job safely?
v)	What are the outcomes or consequences of concern for those at most risk, should the risk manifest itself unfavourably, as in a negative safety or health event or exposure? (Address immediate, short term and long-term consequences in the workplace as well as outside the workplace – home and community life).

- vi) What procedure, technology or practice can be introduced to significantly reduce the risk and harm to those most exposed to the risk?
- vii) Is any action required immediately to reduce their risk?

During the discussions it will be important to use probing questions to achieve a deep understanding of why things happen, and not just simply to record that they happen. One needs to understand why people do not follow instructions, not just to note that they don't.

- 11. Discussions with recognised experts:** Prior to arranging exploratory visits to mines the adoption team managers should have discussions with a number of the identified recognised experts. In addition to providing much useful information about the risk situation, these discussions should enable the investigation protocol to be improved and refined as necessary. It should also be helpful in identifying particular mines that should be visited because of the special nature of their risk situation that might be known to the experts. Similarly, such discussions are also likely to identify particularly knowledgeable persons at mines who should be consulted. Based on the input from these experts, and with their assistance, the input should be ordered into the form of an emerging causal chain risk story, as well as an emerging influence diagram. Procedures for doing this are outline a little later. These emerging expert models should be used to facilitate meaningful discussions at mines, either in one-on-one discussions or in group discussions at the mines to be visited.

Differences between mines

It is important to recognise that in a broad risk area the specific risks may differ significantly between mines, and certainly between mines in different sectors. In developing an expert model generally applicable for a range of mines, the adoption team will need to judge whether the differences warrant a sub-division of the mines into different groupings. For practical reasons the number of such groupings should be kept to a minimum, bearing in mind that the adoption process at a particular mine includes a customisation process to identify and take account of mine specific differences.

- 12. Exploratory visits to mines:** In arranging exploratory visits to mines it will be important to liaise with the industry members on the adoption team to get their input and assistance in selecting the mine/s and persons that are to be visited. It is envisaged that the development of a quality causal chain risk story will in most cases necessitate exploratory visits to at least two or three mines from each mining sector to adequately cover risk-related differences between sectors. As new information emerges from the discussions at these mines, the emerging causal chain risk story and influence diagram should be further developed.



Fall of ground risk assessment – the nature of some of the risks considered

- 13. Detailed documentation of expert inputs:** Discussions with the recognised experts and with those at mines should be documented in detail. With this in mind, and with the agreement of the persons being interviewed, digital recorders should be used to capture and store the input received. A brief summary of the key findings from each interview should be prepared and systematically filed for later use and reference.

Step 4 - Develop working expert models of the risk situation

Having acquired a substantial body of input from published documents and the identified stakeholders and experts, the Adoption Team Leadership should be well placed to develop quality working drafts of the required expert model. There is no single recommended approach for doing this, or for converting scientific or technical information into lay level language or readily manageable formats. The process for producing a quality expert model is thus iterative,

and includes experts from the relevant disciplines reviewing one another's work and reflecting on their own as the model is developed. The first working drafts of the causal chain risk summary table and the influence draft should thus emerge soon after discussions have been held with the recognised experts referred to in point 7 above. However, in broad terms the iterative procedure for preparing the causal chain risk table and influence diagram versions of the expert model involves:

- Summarising and logically grouping the expert inputs received,
- Arranging the groupings into the form of a causal chain risk table,
- Using the headings of the risk table to set up the initial nodes of an influence diagram,
- Evolving and enriching both the causal chain table and the influence diagram by iteratively considering and developing the two.

14. Summary and grouping of inputs received: In order to make sense of the extensive expert input received the detailed notes should be carefully reviewed and reduced to a set of summary statements that accurately reflect the expert input about the risk situation (hazard, exposure, outcome, probability). These inputs should then be logically grouped to define the set of risk factors that need to be considered. In doing this, the ultimate objective of arranging the groupings into a logical chain of causally related factors should be borne in mind. There are many ways of doing this, with the process of recording the input statements on sticky notes, arranging them into logical groupings on a white board, and then causally linking the groupings by means of arrows being particularly effective and well-suited to group participation.

15. Development of causal chain risk table: The simple generic version of the summary risk table presented earlier should be used as a guide to the work of Adoption Teams. The basic framework comprises of three columns covering the three core elements that can be used in general to describe causal linkages of risk. They are as follows:

- *Nature of the Hazard:* Information here includes substances (such as a chemical, mineral or metal) or phenomena (such as high decibel sound) or an event that comprise the hazard. Also, actions that can be taken to eliminate or reduce the hazard in some way.
- *Exposure:* Information here includes detail about what types of workers are exposed to the hazard and details about them (ex: gender, age, typical fit-for-duty levels), and how workers can be exposed, levels of exposure experienced, and the physiology or health of workers. Also, actions that can be taken to reduce or eliminate exposure in some way.
- *Outcomes:* Information here includes all the ways in which workers might be affected and harmed by exposure to the risk including biological or physiological effects (with or without evident harm) and safety or health effects (ex: crushing injuries to head or chronic numbness of hands – nerve damage, or chronic obstructive pulmonary disease, COPD). Also, action that can be taken to reduce or eliminate the likelihood of such outcomes occurring.

The groupings identified in point 14 above should initially be split into these three core elements of the causal chain. The next step is to investigate whether any of the causal

chain linkages that exist within these columns warrant being grouped and brought out as major sub-elements of the causal chain risk story.

- **Sub-elements and columns:** In the event that any of the three core elements warrant being split into sub-elements to better illustrate the identified causal chain, the table should be appropriately modified to include additional columns. In practice, it is unlikely that more than two or three sub-elements will warrant being brought out for any one of the three core columns of the causal chain risk summary table. Indeed, a table with too many columns may be counter-productive to the presentation of a clear causal chain risk story. This is clearly a judgement issue that may involve iteration. Two examples of table headings illustrating the use of sub-elements and additional columns are provided below. An example of a fully developed causal chain risk summary table is provided later.

Example 1: Transport and machinery causal chain risk summary table

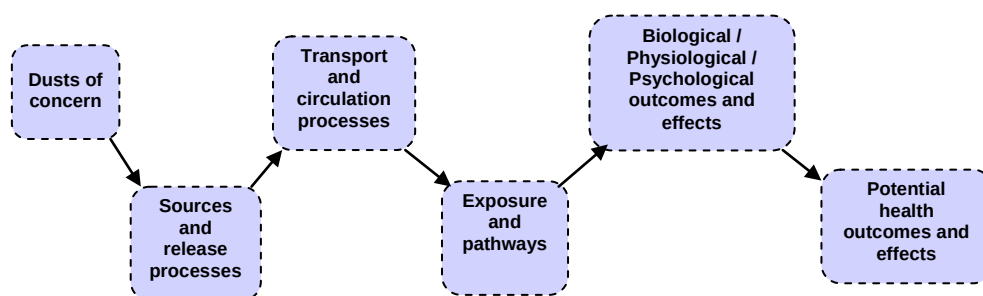
Nature of the hazards			Exposure to the hazard	Outcomes of the exposure	
Equipment	Operators	Operation of the equipment	Extent / nature of exposure	Short-term outcomes	Long-term outcomes

Example 2: Dust causal chain risk summary table

Nature of the hazards			Exposure to the hazard	Outcomes of the exposure	
Dusts of concern	Sources and release processes	Transport and circulation processes	Exposure and pathways	Biological / Physiological / Psychological outcomes and effects	Potential health and safety outcomes and effects

16. **Development of influence diagram:** The process of grouping and arranging the grouped input statements into a set of causally related risk factors should result in a reasonable initial outline of the required influence diagram. However, in order to ensure expression of cause and effect logic, and to create better synergy between the causal chain risk table and the influence diagram, the headings of the causal chain risk table should initially be used as the primary nodal areas of the influence diagram. This is illustrated below for the dust example just considered, using dotted line rectangular shapes to identify them as key nodal areas.

Initial primary nodal areas for a dust influence diagram

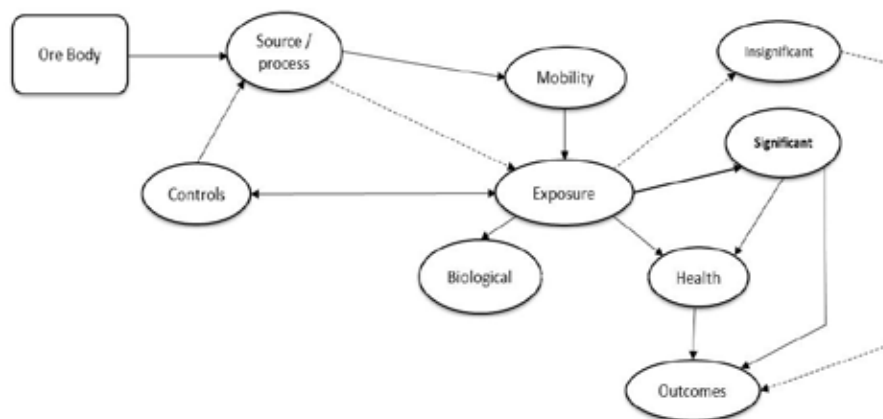


The identified risk factors in the causal chain risk summary table that fall under these key nodes should then be created as individual nodes within these key nodal areas, with the influences between the individual nodes, including nodes within the other primary nodal areas, being shown by appropriate connecting arrows. In identifying and building the linkages, for each factor it will be important to insightfully identify what it is that causes or influences that factor, and then what caused or influenced the identified factors, and so on until all of the key influencing factors have been identified. This process might initially be done at quite a high level resulting in a diagram with relatively few nodes. However, the process should continue until all of the identified causal chain factors in the summary table have been considered in detail. An example of a relatively high level influence diagram for the dust risk is shown below, with the fully developed version (expert model) of the diagram being provided at the end of the section.

Expert Model - Dust

basic model

From the risk "story"



17. **Iterative development of the two expert models:** An important aspect of the development process is that of interrogating the nodes of the influence diagram to identify all of the important influencing factors for each node. The questions *why* and *how* should be repeatedly asked and answered until all of the important causal chain influencing factors have been identified and incorporated into both the influence diagram and the causal chain risk summary table. The adoption team leadership should do this drawing on the detailed record of the expert input that they have accumulated.

Step 5 – Finalise development of the expert models

Notwithstanding use by the adoption team leadership of the accumulated expert input to develop the two expert models, a workshop process should be used to finalise the two models.

18. **Workshop to finalise the expert models:** A selection of relevant persons and experts already consulted should be invited to attend a workshop to finalise the expert models. All industry members of the adoption team should be invited. A few other persons identified as having special insight or knowledge could also be invited but the workshop should be kept to

a manageable size. Ideally it should not exceed 30 people. Each of the two expert models should be presented and the elements reviewed in workshop mode to confirm or identify any missing elements or aspects in need of adjustment. The influence diagram should be used to review the elements of the causal chain, and the causal chain risk table to review the other elements contained in the causal chain risk summary table. The two expert models should then be finalised based on the input received.

19. **Adoption team leading practice planning workshop:** The final versions of the two expert models should be provided to all participants attending the Adoption Team's workshop to select a leading practice for widespread adoption. They should be considered during the workshop primarily as source documents and not for refinement, although workshop participants should be asked to confirm their acceptance of the expert models. Relatively minor refinement of the expert models could thus well emerge at this late stage.

Step 6 - Identify major risks and risk reduction opportunities

The information, understanding and insights embedded in the expert models should be examined to identify the major risks in need of attention, as well as significant improvements possibilities.

20. **Major Risks:** While an analysis of health and safety data is likely to be the key determinant of the risks in need of attention, the health and safety data does not always clearly point to the underlying cause of the outcomes captured in the statistical data. For example, in the case of fatigue, a fatality caused by fatigue may simply appear in the records as being due to the activity of the person at the time. Both forms of expert model, as well as health and safety data, should be examined as a basis for preparing a summary table such as that provided below, see Worksheet Doc #4.

Summary tabulation of major risks		
No	Description	Priority Rating High / Moderate / Low
1		
2		
3		
etc		

21. **Risk reduction opportunities:** The causal chain risk summary table should be examined to identify significant opportunities for risk reduction. They may involve the use of available technology, procedures or practices. These possibilities have the potential to significantly help the process of identifying and selecting a leading practice with the best potential benefit if widely adopted. They should be captured in a table such as that below, see Worksheet Doc #4.

Summary tabulation of identified improvement possibilities		
No	Description	Priority Rating High / Moderate / Low
1		
2		
3		
etc		

Concluding comment

The importance of preparing a detailed high quality expert model of the risk situation cannot be over-stated. Importantly, it provides the basis for insightfully pin-pointing the underlying cause of the major harm being experienced. Perhaps more importantly, it also provides the expert datum for identifying the misunderstandings, erroneous beliefs, and simple gaps in knowledge that lead to accidents and mismanagement of the risk. It therefore provides the foundation for identifying leading practices that have the best potential for bringing about widespread improvement in the risk area under consideration, as well as the information that needs to be communicated to facilitate their widespread adoption.

Example table of related factors for dust risks**Part A – Description of the causal chain**

Nature of the hazard			Exposure to hazard	Outcome of exposure	
Dusts of Concern	Sources/Release Processes	Transport / Circulation Processes	Exposure and Pathways	Biological / Physiological / Psychological Outcomes / Effects	Potential Health and Safety Outcomes / Effects
Silica - Description and risk factors for disease or illness, such as risk factor for silicosis. Asbestos - Description and risk factors for disease or illness, such as risk factor for asbestosis and types of lung cancers (Ex: mesothelioma). Coal - Description and risk factors for disease or illness, such as risk factor for coal worker pneumoconiosis (black lung disease). Hard metals (from tool use such as grinders) - Description and risk factors for disease or illness, such as risk factors for asthma and interstitial lung disease. Additional worker/work environment concerns or additional risk factors of note - Lung exposure to certain fumes such as ammonia and chlorine can represent complicating risk factors. Smoking or other worker practices affecting lung exposure and function. Exposure to radioactive particles or gasses. Focal risk of concern: Ex: silica dust in (<u>what operations</u>) in gold mining. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Nature/description of workplace. Nature and description of dust: Ex: particle size and shape, density, etc. Workplace sources of silica dust. Release processes in the workplace (air, water, solid surfaces) Additional sources: Outside workplace sources of silica dust and release processes there.	Transport/circulation in air, water and on solid surfaces in the workplace. Change/breakdown processes (if any) Influences on transport/circulation such as humidity/dryness, ventilation, air conditioning, etc. Cross contamination, if any.	Workers exposed: Describe which workers, where are potentially most exposed and why. Inhalation: Major pathway of concern. Describe mechanics of inhalation, such as deep deposition in the lungs, accumulation on mucous membranes. Ingestion: Secondary pathway if dust is taken in by eating, such as eating a sandwich contaminated with dust from air or from unwashed hands. Dermal: Dust accumulates on exposed skin and garments but is of concern only if inhaled from skin or garment surfaces. Other pathways of note: Describe	Effects on tissues (Ex: lung and stomach lining or intestinal tissues, etc.) Effects on functions (Ex: lung functions, digestive processes etc.) Effects on neurological performance (Ex: effects on central nervous system – drowsiness, dizziness). Effects on reproductive capabilities or functions: Effects on cognitive performance (Ex: inattention to detail, slow cognition, loss of short term memory) Effects on ability to perform essential work or key tasks.	Primary effects on safe work performance, short and long-term, reversible and irreversible. Primary effects on occupational health, acute and chronic, reversible and irreversible. Effects from injuries (safety) and/or illnesses (health) at the home place and in the community. <u>Data Gaps</u> (What would be useful to know that we don't know today?)

Part B: Current risk mitigation controls and strategies

Nature of the hazard			Exposure to hazard	Outcome of exposure	
Current Risk Controls/Mitigation Technology and Practices	Considerations on Controls / Mitigation for Sources	Considerations on Controls / Mitigation for Transport / Circulation	Considerations on Controls / Mitigation for Exposure Pathways	Considerations on Controls / Mitigation for Biological / Physiological / Psychological Outcomes / Effects	Considerations on Controls / Mitigation for Potential Occupational Health and Safety Outcomes
Describe the status of current controls/mitigation technology and practices on Sources, Transport/Circulation, Exposure Pathways (such as use of protective breathing equipment), Biological/Physiological Outcomes/Effects and Potential Occupational health and safety Outcomes/Effects Note issues associated with current controls and mitigation such as ineffectiveness or high variation in quality. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on sources. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on transport/ circulation. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on exposure pathways. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on biological/physiological/psychological outcomes/effects. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on potential occupational health and safety outcomes, occupational and home place/community perspectives. <u>Data Gaps</u> (What would be useful to know that we don't know today?)

Part C: Possible improvements in risk mitigation controls and strategies

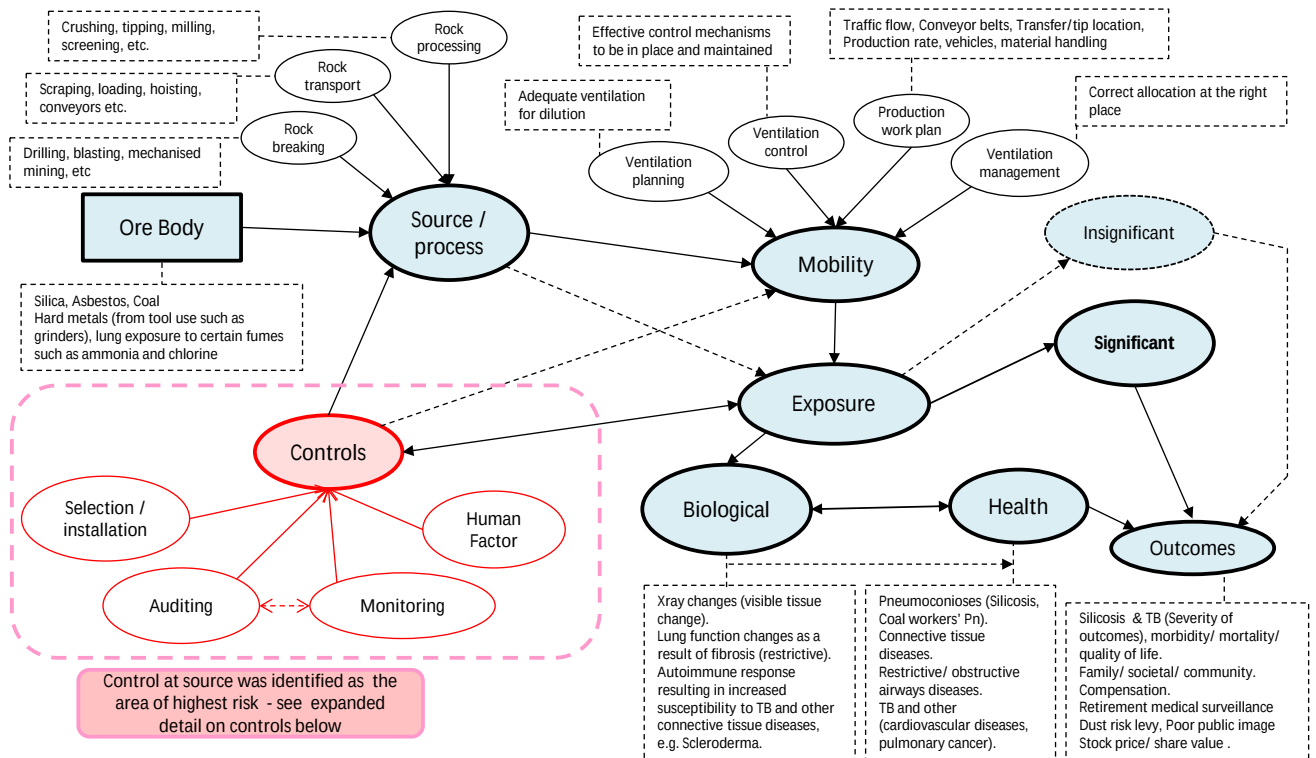
Nature of the hazard			Exposure to hazard	Outcome of exposure	
Dusts of Concern	Considerations on Controls / Mitigation for Sources	Considerations on Controls / Mitigation for Transport / Circulation	Considerations on Controls / Mitigation for Exposure Pathways	Considerations on Controls / Mitigation for Biological / Physiological / Psychological Outcomes / Effects	Considerations on Controls / Mitigation for Potential Occupational Health and Safety Outcomes
See part A	Describe opportunities and issues associated with possible controls / mitigation on sources. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on transport / circulations. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on exposure pathways. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls / mitigation on biological / physiological / psychological outcomes / effects. <u>Data Gaps</u> (What would be useful to know that we don't know today?)	Describe opportunities and issues associated with possible controls/mitigation on potential occupational health and safety outcomes, occupational and home place/community perspectives. <u>Data Gaps</u> (What would be useful to know that we don't know today?)

Example causal chain summary risk table for Transport and Machinery

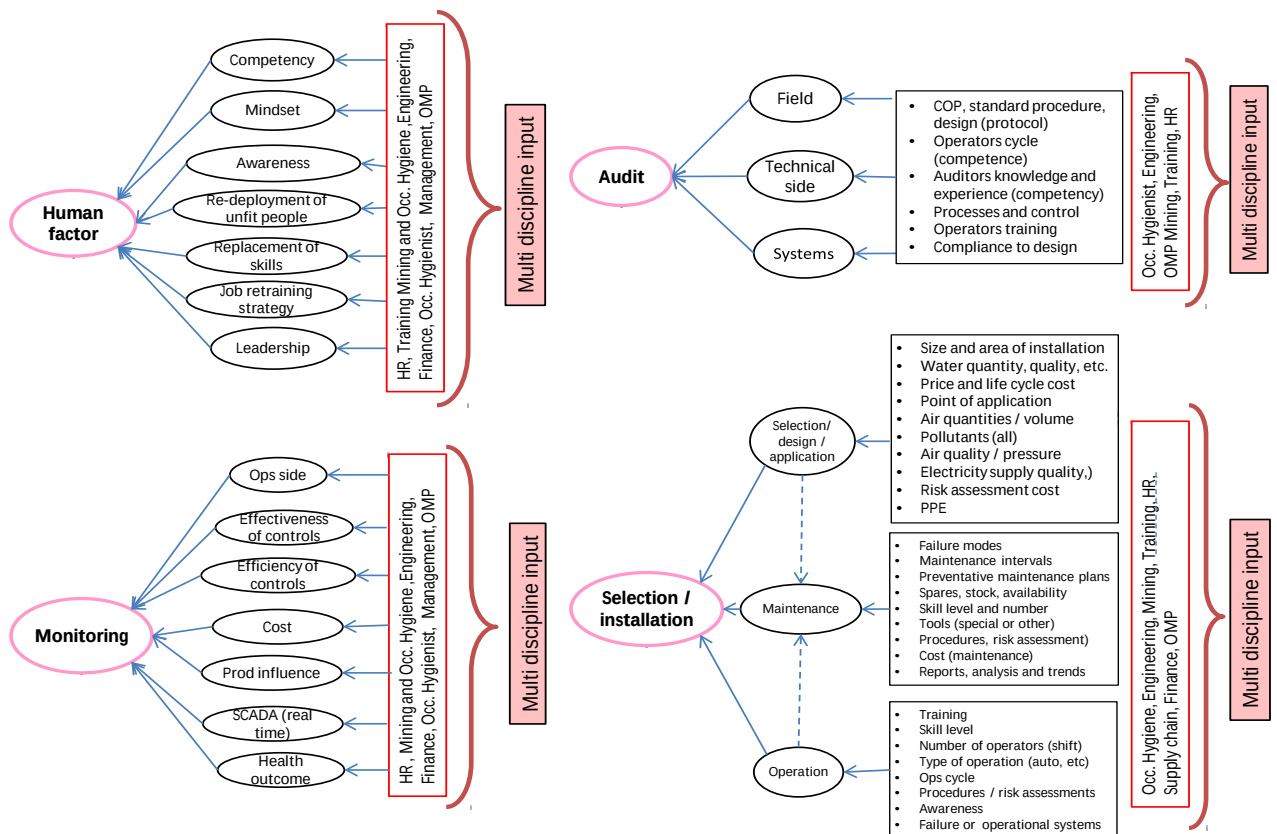
The table below illustrates guidance provided to assist in the preparation of a causal chain risk summary table for risks associated with Transport and Machinery in underground mines.

Transport and machinery: causal chain risk summary (source of hazard ð exposure ð outcome)					
Provide information for items of equipment identified as hazardous					
Nature of the hazards			Exposure to the hazard	Outcomes of exposure	
Information here includes the equipment that gives rise to the hazard, the short-comings or other characteristics of the equipment operators that are hazardous (fit for duty) and then the various hazards that arise when and in the way the equipment is operated. Also actions that can be taken to eliminate or reduce the hazard in some way. Note: Select and provide information for the equipment that gives rise to the greatest risk of harm to people			Information here includes details about the persons exposed to the hazard and the extent to which they are exposed. Also actions that can be taken to eliminate or reduce exposure in some way	Information here includes the nature of the harm that persons may experience as a result of their exposure to the hazard, in either or both the short or long-term. Short-term outcomes include physical injury and death and long-term outcomes includes health effects such as nerve or organ damage etc. Also action that can be taken to reduce or eliminate the likelihood of such outcomes occurring	
Equipment	Operator	Operation of equipment	Extent / nature of exposure	Short-term outcomes	Long-term outcomes
Description of causal chain					
Identify the equipment (or group of equipment where it can be reasonably dealt with as a group) that is responsible for directly or indirectly causing damage to those who are exposed to it in one way or another	Identify / describe those aspects about the operator that most represent a hazard to those exposed to the equipment including aspects that may cause harm to the operator him / herself. Aspects could range from operating the equipment when fatigued, or lack of experience, or lack of competence, etc	Identify / describe the ways in which the equipment most often causes damage to those exposed to it. Do this in a way that brings out the underlying cause of the risk. Aspects could range from component failures, overdue maintenance, misuse of the equipment, etc	Identify / describe the persons who may be harmed through the operation of the equipment, including maintenances of the equipment. Focus on those persons most likely to be harmed, indicating the nature and duration of the exposure that gives rise to the harm.	Identify / describe the nature of the harm that people exposed to the hazard may experience. Indicate the most common form of injury responsible for lost time from work, death or permanent physical disability.	Indicate /describe the nature of the harm that persons exposed to the hazard may experience in the long-term. These would usually be health effects, such as nerve or organ damage, hearing loss, chronic pain or other disability.
Data and knowledge gaps that need to be investigated to clarify understanding of the risk					
This could include things such as the extent to which the equipment is used, or the variations in the design that may exist. (One group found that their fleet of LHDs had 11 different configurations of controls).	In general, any aspect about the operator that is unknown but which could add significantly to the hazard. This could include things such as training and experience, levels of fatigue at the time of accident, etc.	In general, this would include anything that would add to our understanding of the nature of the hazard. For instance, it might be useful to know the details and frequency of the misuse of the equipment, etc.	In general, this would include anything that would add to our understanding of the risk. For instance, the disabilities (hearing / vision) of injured workers, as opposed to the operators of the equipment.	In general, this would include anything that would add to our understanding of the risk. For instance it could include the time taken for the injured person to receive expert medical care (the golden hour issue), etc.	In general, this would include anything that would add to our understanding of the risk. For instance, it could include the acquisition and linkage of health data to operator / worker exposure to the hazard.
Summary of major risks identified					
List the major risks that are associated with the design of the equipment . These risks should be evident from the above description of the causal chain.	List the major risks that are associated with the operators of the equipment. These risks should be evident from the above description of the causal chain.	List the major risks that are associated with the operation of the equipment. These risks should be evident from the above description of the causal chain.	List the major risks that arise from operator and other worker exposure to the equipment. These risks should be evident from the above description of the causal chain.	List the major risks that arise from the response to and treatment of the harm caused . These risks should be evident from the above description of the causal chain.	List the major risks that arise from the response to and treatment of the harm caused . These risks should be evident from the above description of the causal chain.
Current risk mitigation controls and strategies					
Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading	Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading	Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading	Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading	Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading	Identify / describe the risk mitigation controls and strategies in place to address risks related to this heading
Weaknesses in current risk mitigation controls and strategies					
Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.	Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.	Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.	Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.	Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.	Identify / describe any weaknesses in the risk mitigation controls and strategies related to this heading.
Possible improvements in risk mitigation controls and strategies					
Identify / describe possible improvements in risk mitigation controls and strategies related to this heading	Identify / describe possible improvements in risk mitigation controls and strategies related to this heading.	Identify / describe possible improvements in risk mitigation controls and strategies related to this heading	Identify / describe possible improvements in risk mitigation controls and strategies related to this heading	Identify / describe possible improvements in risk mitigation controls and strategies related to this heading	Identify / describe possible improvements in risk mitigation controls and strategies related to this heading

Detailed expert model for dust



Expanded detail for identified high risk area – Controls at source



Section 3.6

Review, assess and tabulate useable R&D outcomes not yet implemented

Key outcomes

- A basis for identifying R&D outcomes worthy of in-depth consideration by adoption teams as potential leading practices
- A conceptual understanding of how to deal with promising R&D outcomes that have not yet been adopted by a mine
- Guidance on key issues that should be considered in reviewing R&D outcomes with adoption potential
- A heightened awareness of the need to seek input widely from others in identifying R&D outcomes with adoption potential
- Awareness by R&D providers of the potential benefit of keeping the Learning Hub well advised of emerging R&D outcomes

(Doc #5, #53)

Background

There is a tendency for persons concerned with achieving improved occupational health and safety performance to underestimate the contribution that new technology can make in achieving their goal. While it is right to ensure a strong focus on people issues, this should not result in important opportunities being missed. This step in the adoption planning process seeks to ensure that this does not happen, and that the outcomes of research and development, R&D, are given appropriate consideration in this process.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

More specifically, the purpose of this section is to:

- Identify key points that need to be considered in identifying R&D outcomes that have the potential to bring about significant improvements in occupational health and safety, and
- Provide guidance on the information that needs to be recorded in the worksheet for later consideration.

Key considerations

The key points to consider in undertaking this step of the process are as follows:

- 1. The successful introduction of a new technology can bring about a step change in performance:** It is widely accepted that 90% or more of accidents and unhealthy exposure are due to people not adhering to standards, or otherwise acting in a way that is inappropriate. Within any given system of mining, including the engineering systems involved, this may often be true. The potential benefit of focusing improvement efforts on the people element is thus clear. However, while the introduction of a new mining and or engineering system may not change the 90% apportionment factor once the changes have been implemented, the new systems may have resulted in a dramatic improvement of the absolute level of the performance achieved. The example of the coal mining industry's introduction of mechanized mining under shield supports is a case in point. It is crucial that the adoption teams give specific attention to properly exploring the opportunity for introducing new technology that has the potential to bring about such step changes.
- 2. There is a gap that needs to be bridged between completion of R&D and adoption of its outcomes:** The outcomes of many successfully completed R&D projects may never be implemented due to the gap that exists between the R&D process and the end-users. There are many reasons for this gap, including the not invented here syndrome, the

general resistance to change factor, and the risk of implementing an undemonstrated technology. Importantly, the adoption system has been designed with a view to bridging this gap, with this step being an essential part of that bridge. It is thus important that the activities of the adoption teams adequately fulfill this role.

3. **A focused effort is needed to ensure that the considerable resources devoted to R&D are not wasted:** The mining industry spends around R40 million per year on occupational health and safety R&D conducted through the SIMRAC system. Very considerable resources are also devoted by mining companies to in-house R&D, and a similar comment applies also to such R&D conducted in other countries. The scope to identify useful outcomes not yet widely implemented, and perhaps not yet implemented at all, is thus considerable. The adoption teams are well placed to ensure that this real opportunity is not missed.
4. **The review and assessment of potentially useful new technologies should be as wide as possible:** There are many potential sources of new technology that should be systematically investigated. A few of the more important of them are listed in the table below:

Potential sources of new technology for improving occupational health and safety			
No	Organisation	Comment	Website
1	SIMRAC, SA	All aspects of South African occupational health and safety R&D in mining	Etc.
2	NIOSH, USA	All aspects of USA occupational health and safety R&D in industry and mining	
3	South African National Institute of Occupational Health	R&D on South African occupational health in industry and mining	
4	Etc.		
5			

An important role of the Monitoring Specialist of the Learning Hub will be to fully develop the above table and then to maintain contact with key persons in the identified organisations, and to regularly scan their outputs to maintain familiarity with recent developments. The secretariat should regularly update and add to the list of potential sources of new technology that they monitor. The adoption team managers should thus liaise closely with the secretariat to source the information they require for their consideration of this matter.

5. **The assessment of potentially useful technologies should be appropriately critical:** It will be important to guard against the inclusion of new technology that has not been adequately developed. The time and difficulty of developing a new technology are considerable and the adoption teams should take care to ensure that any new technology that they identify has reached an adequate state of development. They should not become involved in the development of new technology. Their assessment of the situation should include consideration of the following check list.

Check list of factors for consideration when assessing potential new technologies		
No	Consideration	Check
1	Does the equipment or technology have the potential to bring about a significant occupational health or safety performance improvement?	☐
2	Has the technology been subjected to adequate field testing / trials in its development?	☐
3	Has the equipment been adequately designed to withstand the harsh underground environment?	☐
4	Has the operation of the technology or practice been adequately simplified for mine application?	☐
5	Is further development required to arrive at a commercially and practically viable technology or practice?	☐
6	Can the equipment or technology be acquired from a commercial supplier?	☐
7	Will the equipment supplier be able to meet industry's needs in the event of a successful demonstration project?	☐
8	Is the technology, practice or knowledge ready for transfer and adoption by industry?	☐
9	Is the technology, practice or knowledge accessible for adoption by industry?	☐

6. Promising R&D outcomes should not be discarded simply on the grounds that they have not yet been adopted operationally: A potential difficulty that may arise with most R&D outcomes is that the technology or practice has not yet been adopted at an operational mine. There will thus not be a source mine at which to investigate and document the identified potential leading practice, and little or no operational data to substantiate the benefits of adopting the practice. This is a gap that must be bridged.

7. Process for R&D outcomes selected as a leading practice: In the event that an identified R&D outcome is selected as the most promising potential leading practice, the process for bridging the gap mentioned above would be as follows:

- The first step would be to identify an operational mine that is prepared to take on the challenge of working with the adoption team to become the first mine to implement the R&D outcome as a potential leading practice. Importantly, they should be prepared to do this at their own cost. This should be regarded as a firm requirement, and as an indicator of end-user acceptance of the potential of the identified potential leading practice.
- In the event that this is agreed, the adoption team would then work closely with the mine, the researchers and the suppliers to implement, effectively demonstrate, and document the piloted practice at the selected operational mine. The process of implementing the practice should follow essentially the same process as that when demonstrating a leading practice, with the process of documenting the practice being done in much the same way as that outlined for documenting a leading practice at a source mine. The overall process for doing this is illustrated in Reference Doc #53. The sections of the Handbook that cover the steps outlined in Doc #53 are identified in that

document. The Adoption Specialist would need to work closely with the MOSH Adoption Team Manager to secure successful implementation of the process.

- On successful completion of the process the MOSH Adoption Team would be well-placed to prepare a report that combines the essential elements of both the Source and Demonstration Mine reports. Provided that such a report documents all of these elements at the required level of detail, the MOSH Adoption Team would then be in a position to prepare a Leading Practice Adoption Guide. It will also be in a position to prepare for a leading practice adoption workshop, and to move on to the process of facilitating widespread adoption of the demonstrated leading practice.

It is on this basis that R&D outcomes that have been favourably assessed, and which have the potential to bring about a significant improvement in occupational health and safety performance, should be considered further.

8. **The identified technologies worthy of further consideration should be recorded in Worksheet Doc #5:** Details of the new technologies that have been assessed as being worthy of further consideration should be captured in the Worksheet Doc #5, The details entered should be sufficient to clearly convey the nature of the new technology, the risk addressed, and the potential benefit of its adoption.
9. **The input of potential adoption team members should be actively sought:** Following on from the adoption team manager's completion of the work outlined above, the adoption team members should be requested to identify any additional new technologies that in their view warrant consideration in the planning process. They should be advised that they will be given the opportunity to present their views to the adoption team during the planning workshop, with a view to further refining the work of the adoption team managers.

Concluding comment

The extent to which the adoption teams are able to identify new technologies for inclusion within their work will depend largely on the time and attention to detail that they devote to the task outlined above. They will need to take a balanced approach to the task in order to ensure due consideration, but not to the point where the time taken becomes excessive. Noting that the potential benefit of a successful investigation could be large, the adoption team managers, with the assistance of the secretariat, will need to make a judgement call on this issue.

Section 3.7

Identify potential leading practices currently in use on mines

Key outcomes

- Guidance identifying potential leading practices at mines worthy of in-depth consideration
- Clarity on the substantial role of the industry members in identifying potential leading practices
- Clarity on the upfront leadership role of adoption team managers in identifying potential leading practices
- An awareness of the expectation that the search for potential leading practices should extend to international consideration

(Doc #5)

Background

The fundamental concept of the adoption system is based on the idea that pockets of excellent occupational health and safety performance do exist, and that the adoption system can facilitate their identification and widespread adoption across industry. The success of this simple concept is thus heavily dependent upon the ability of the adoption team to identify and effectively document these excellent practices – it is this step that enables the process of facilitating their adoption by others, while at the same time defining (limiting) the extent of the benefit to be derived. These practices may involve either a set of procedures or the use of a particular technology, or both. Accordingly, the term leading practice similarly covers either a set of procedures, the use of a particular technology, or both. The adoption team members will need to draw not only on their own experience and expertise in identifying these possibilities, but also on the experience and expertise of their colleagues.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Identify the key points that need to be considered in identifying and preparing a list of potential leading practices for widespread adoption,
- Provide guidance on these key points and on the preparation of the worksheet for later consideration by the adoption team in the planning workshop, and
- Indicate the ongoing need to search for and identify potential leading practices.

Key considerations

The key points for consideration are as follows:

- 1. Ensure that the focus is on identifying leading practices with high benefit potential:**
The importance of ensuring this is self-evident. In particular the teams should recognize that, in broad terms, leading practices that apply at a *systems level* are likely to offer greater benefit than those that apply to a *specific activity*. However, this may not always be the case and adoption teams will need to guard against the identification of a practice or technology due to enthusiastic but unfounded support by a user, supplier, or possibly even one of the adoption team members.
- 2. A two-pronged approach should be followed to maximize useful input into the process:** The adoption team leadership should pursue the one approach while initiating a parallel process to be followed by the industry members of the team. Both should be

undertaken prior to the team meeting to review and consolidate the work done as part of the team planning workshop.

Work by the adoption team leadership

- 3. Adoption team managers should analyze occupational health and safety data to identify potential source mines:** As part of the risk assessment process the adoption team leadership should have undertaken a detailed analysis of occupational health and safety data. That data should be used to identify mines that have the best performance in the area of risk being considered by the team. These are the mines that are the most likely source of a leading practice worthy of widespread adoption. They are the mines that warrant specific consideration.
- 4. Adoption team managers should use their own knowledge of the industry to identify potential leading practices:** It is likely that the adoption team managers will have personal knowledge and experience that they can usefully contribute towards the identification of potential leading practices worthy of more detailed investigation. Noting the caution expressed in point 1 above, they should identify and list any potential leading practices that they consider to be worthy of such investigation.
- 5. Adoption team managers should travel to mines to meet key persons to discuss the risks and to identify and document potential leading practices:** Another aspect of the risk assessment process that to some extent overlaps with the identification of potential leading practices is the discussions with key mine personnel. In that process the team will have identified and consulted with key stakeholder groupings, and in those interactions it would be appropriate to discuss particularly successful means of addressing the risks at mines. Having identified the best performing mines in the major areas of risk, the adoption team managers should travel to mines to more specifically investigate and document the essence of potential leading practices for consideration during the planning workshop.
- 6. The identification of potential leading practices should include consideration of mines and practices used outside of South Africa:** There will be a natural tendency to focus attention on practices in use in mine within South Africa, and while this should indeed be the primary focus, the possibility of identifying potential leading practices in other mines and industries should not be excluded. This possibility should be explored in the discussions held with key persons at mines and through other means that might be available to the team. The use of internationally accessible web-based data bases such as "MIRMGATE" should certainly be explored.

Work by Industry members of the adoption team

- 7. Request the industry team members to separately identify potential leading practices:** The adoption team managers should request the industry members of their team to each identify and document between 3 and 5 potential leading practices prior to the planning workshop. The need for such practices to have the potential to make a significant improvement to occupational health and safety performance in the area of risk under consideration must be emphasized. This activity should be done in parallel with the team leader's own work to identify such practices.
- 8. Provide guidance to industry team members in identifying and documenting leading practices that they put forward:** In making the above request the industry adoption team

members should be asked to consult with colleagues in their process of identifying and documenting the sought after leading practices. They should be made aware that their input is intended to supplement that of the team managers and that the scope of their consultation process should thus not be unduly onerous. It would be important however to ensure that they tap experience and knowledge that is readily accessible to them. Similarly, in order to provide guidance on the detail that should be provided, and to achieve a measure of consistency in the inputs made, they should be provided with a copy of the worksheet developed for listing the potential leading practices to be considered during the planning workshop.

Ongoing search for high benefit leading practices

- 9. Ongoing need to identify leading practices:** While the above points are focused on activities immediately prior to the adoption team selecting the leading practice that has the greatest potential, the search for potentially high benefit leading practices should be ongoing. Adoption Team Managers, Adoption Specialists and Industry Members of Adoption Teams should always be on the lookout for leading practices with high benefit potential, and any newly identified practices should be added to a “living” version of Worksheet Doc #5. Such a version of the worksheet should be created immediately after the planning workshop to select their leading practice for widespread adoption at that time.
- 10. Simple leading practices, SLPs:** In the search for potential leading practices, it is likely that some of the practices identified by the adoption team might qualify for consideration as Simple Leading Practices, as outlined in Section 7. Accordingly, adoption teams should keep a separate version of Worksheet Doc #5 for simple leading practices, for consideration and action as time permits, in parallel with work on their selected leading practice.

Concluding comment

Provided that the procedures outlined above are well executed, the adoption team should have available for their consideration at their planning workshop the best possible selection of potential leading practices that address the risks under consideration. This should become a personal objective of each team member.

Section 3.8

Consolidated list of potential practices to address identified risks

Key outcomes

- Guidance on the preparation of a consolidated list of potential leading practices to address the identified risks
- Identification of key parameters for use in screening potential leading practices to be included in the consolidated list
- Identification of parameters for use in excluding potential leading practices from further consideration
- A completed worksheet listing potential leading practices with real potential for bringing about a significant improvement in occupational health and safety

(Doc #5)

Background

The identification of practices that address the major risks is clearly a key component of the systematic approach to innovation outlined in the introductory section of this handbook, and in the more detailed process outlined in section 3.1. In developing a summary table of the potential leading practices, it is thus important that all practices that are potentially beneficial are identified and listed. In looking for new ways forward it is counter-productive to be too critical too soon. The summary table produced by the adoption team should thus be rather too long than too short. This should minimize the risk of inadvertently excluding an unusual but potentially excellent leading practice. It is important to ensure that all options receive appropriate consideration in the process of selecting the best option to be pursued and the summary table presented in Worksheet Doc #5 has been designed with a view to taking the first step in this direction.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to outline the process to be followed to:

- Prepare a consolidated list of potential leading practices, and
- Undertake a preliminary assessment to identify practices that do not warrant further consideration.

Key considerations

1. **Key aspects about the identified potential leading practices should be captured in the summary table in worksheet Doc #5:** In identifying the potential practice to be put forward the adoption team managers and the adoption team members should compile detailed notes about each of the practices identified and put forward. These notes should be available at the planning workshop to assist in the resolution of issues that might arise in the team's discussion and assessment of the various practices. However, in preparing the summary table, while only the key aspects of the practice need be captured, the brief description of the practice should be sufficiently detailed to clearly convey what the practice is. Guidance on other aspects of the worksheet are provided below.
2. **Assessments in the preliminary evaluation of the identified practices should be consistent:** The worksheet calls for an assessment to be made in respect of factors that are important in considering whether the identified practices have the potential to qualify as

a leading practice for widespread adoption. With a view to achieving a systematic basis for making these assessments the following guidance is provided. For convenience, only the words in italics need be entered into the table.

Assessment descriptors	
State of application:	The assessment should identify which of the following descriptors is appropriate: · Successful field trial – <i>Field trial</i> · Fully demonstrated R&D – <i>Demonstrated</i> · Used in another industry – <i>Other industry</i> · Used at one mine only – <i>One mine</i> · Used at more than one mine – <i>Multiple mines</i>.
Accessibility:	In this case the descriptors are as follows: · <i>Readily accessible</i> – <i>Readily</i> · <i>Subject to IP constraints</i> – <i>IP Constraints</i> · <i>Commercially available</i> – <i>Commercially</i>
Potential OHS impact:	The following descriptors apply: · <i>Very high</i> · <i>High</i> · <i>Moderate</i> · <i>Low</i> · <i>Very Low</i>
Risk area addressed:	The risk areas identified in Worksheet Doc #4 should be used where possible, with new categories introduced as necessary.
Adoption potential:	The assessment of adoption potential should be left open for joint assessment by the planning workshop participants, as described in point 6 below.

3. **Identification of the risk areas addressed should be based on the risk analysis undertaken by the adoption team:** It is possible that the process of identifying potential leading practices may lead to the identification of risk areas that were not brought out in the summary risk table of Worksheet Doc #4, although they may have been considered in the risk analysis process. In some cases it may be necessary to update the risk analysis table, in others to define a new risk area for use in the summary table of identified potential leading practices. However, with few exceptions the link between the risk table and the table of potential leading practices should be clear.
4. **A consolidated summary table of potential leading practices should be prepared prior to the planning workshop:** The adoption team managers should ensure that the identified industry members of the adoption team are provided with the necessary worksheet and guidance material to be able to submit their input well in advance of the planning workshop. On receipt of this information the team managers should faithfully

consolidate the information received with that of their own into a consolidated summary table for consideration at the planning workshop. The consolidated summary table should be provided to the experts who are to participate in the workshop, with a view to gaining maximum benefit from their participation.

5. **The consolidated summary table should be reviewed, updated and jointly agreed in the planning workshop:** An important delivery of the planning workshop will be an updated and jointly agreed summary table of potential leading practices. A key step along the way will be to conduct an open review workshop session to critically review the consolidated table, with a view to adding to and refining the identified possibilities. It will be particularly important to ensure that the invited experts are given adequate time to make their input into the finalisation of the worksheet. Apart from the direct benefit of such inputs, this will add to the credibility of the output from the workshop.
6. **Potential leading practices with unacceptably weak adoption potential should be identified:** At this point it is appropriate for the team to jointly assess the identified practices and to set aside those practices that clearly have unacceptable adoption potential. However, since the team has not yet developed the firm selection criteria required later, judgments at this stage need to be relatively broad and subjective. In this context, and with a view to rating the adoption potential as either **Promising** or **Weak**, the assessment of the adoption potential of each possibility should take into account the following considerations:

Considerations in assessing adoption potential

Strategic: The degree to which the option may align with the Team's priority for improving health or safety performance in industry.

Substantial advance: The degree to which the technology or best practice may solve a significant or serious health or safety-related problem for adopters/end-user(s) identified in the Team's risk assessment activities.

Advantageous: The extent to which the option might offer unique or the most appropriate solution to adopters/end user(s) problems, compared to the technologies or practices in place today.

Technically feasible: The degree to which:

- There is no large technology "gap" to cross, that is, that there is little or no further development necessary for the practice to be deemed "ready",
- The technology or best practice is not procedurally complex (high complexity is "bad"),
- The degree to which there is a high technical certainty, that is, the extent to which the technology or best practice will in fact perform (high certainty is "good").

Business appropriate: The degree to which:

- The results will be relevant or meaningful to leaders throughout the industry,
- The results delivered by the technology or best practice will occur in a reasonable time period,
- The practice is affordable

Each of the workshop participants should make their own assessment for each of the identified practices. The group should consider and agree whether the adoption potential is

either **Promising** or **Weak**. Apart from achieving a jointly agreed assessment, this process is likely to expose misunderstandings between participants due to inadequately defined practices. Correction of these misunderstandings will help later stages of the process. It is thus an important objective of the assessment process. Practices assessed as having **Weak** adoption potential should be highlighted in the summary table. Unless there is some compelling reason for doing otherwise, they should be excluded from further consideration.

Note: To facilitate convenient consideration of the list the adoption teams may wish to use the “sort” function on the spreadsheet programme to sort the practices, first by risk addressed and then by adoption potential.

7. **Simple leading practices:** A similar assessment process should be applied to the practices identified as simple leading practices, although it is not intended that they should receive focused consideration during the planning workshop. As indicated earlier, consideration and action on simple leading practices is expected to occur in parallel with work on the leading practice selected for widespread adoption, as time permits.

Concluding comment

While the above process and the summary table may well lend themselves to making a more graded assessment of the adoption potential of the identified practices, at this stage this should not be done. The early prioritisation and identification of front runners should be resisted as it can compromise the selection process that is to be undertaken later.

Section 3.9

Identify trends and policies relevant to identified risks and practices

Key outcomes

- An appreciation of the sort of trends and policies that could become crucially important considerations in selecting the leading practice for widespread adoption
- Guidance on the use of a structured approach to identifying potentially counter-productive trends and policies
- A prioritised listing of the potentially counter-productive trends and policies that have been identified

(Doc #6)

Background

Adoption teams must constantly be on the lookout for signs that point to the possible emergence of issues or unintended consequences that might detract from the envisaged positive impact of the identified potential leading practices. When considering these practices there is a natural tendency for a positive “go forward” attitude to develop, and while this is good, it can cause warning signs to be missed, suppressed or simply ignored. This must not be allowed to happen and the adoption planning process therefore includes a number of check points, such as the considerations outlined in this section, to minimize the chance of this happening. In the process of identifying trends, while the focus will be towards trends of a counter-productive nature, it is of course possible that supportive trends with significant implications might be identified. These must clearly be recognised and taken into account.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Highlight the importance of identifying trends and policies that could impact negatively, or positively on the value of the identified potential leading practices, and
- Provide guidance on the identification and selection of trends and policies that should be taken into account in selecting the leading practices that is to be facilitated for widespread adoption.

Key considerations

1. **It must be recognised that seemingly remote trends and policies can seriously affect the adoption of a selected leading practice:** In many situations it is the unexpected event from a remote and seemingly unrelated area that can have the most devastating results. The sub-prime lending policy of banks in the USA is the most recent example of one such event. It has had devastating impacts in many areas in ways that few people would have been able to predict. There are many other less extreme examples. One such example is the policy adopted by one major mining group in respect of its energy usage. The decision of this group effectively brought to the fore the advantage of using quieter electric rock drills in

Trend and policy issues that impacted on the selection and adoption of a quiet rock drill

In the original planning workshop of the noise adoption team, the team identified a newly developed quiet pneumatic rock drill as the leading practice to be put forward for adoption. The advantage was that it was significantly quieter than the currently used pneumatic rock drill and yet the new drill used the same infrastructure as the present rock drill. It therefore offered the prospect of a simple clip out clip in conversion. It was however the product of a new company that was not well established in the mining industry. The first policy issue that effectively negated the selection was that the mining company that was to use the drill decided that the supply company was too small and would not be able to reliably supply and support the drill. The second was the decision of a major deep-level gold mining company to convert from pneumatically powered drills to electric rock drills with a view to reducing both their power consumption and their carbon footprint. It should have been possible to identify the potential impact of both of these issues before selecting the leading practice. At the time it seemed that switching to an electric rock drill would work out well, but the energy considerations proved to be an insufficient motivation for adoption of the electric rock drill at mines – adoption has not occurred..

place of equally quiet but less energy efficient pneumatic drills. This worked strongly in favour of the selection of the electric rock drill in place of the equally quiet new pneumatic drill that the noise adoption team had initially selected as the leading practice to address the problem of noise induced hearing loss. More detail about the unfortunate role that policy considerations played in the selection and adoption of the quiet rock drill is given in the box provided. The list of possible examples and impacts are endless. The adoption teams will need to face two key challenges in undertaking this “what if” exercise. Firstly they will need to switch into a frame of mind that generates the possibilities, and secondly, they will need to ensure that their considerations remain realistic and sensible.

2. **A structured approach should be followed in identifying trends that could impact on the identified potential leading practices:** Given that the list of trends and policies that could impact on the selection of a leading practice is limitless, the adoption team should follow a structured approach to stimulate, focus and to some extent limit the time spent on this important exercise. With this in mind the adoption team managers should:

- Work through the checklist for systematic consideration of likely areas for the identification of trends and policies that have the potential to significantly impact on one or more of the leading practices that have been listed.
- Regard the checklists as a means of stimulating the thought process, and not as an exhaustive list of all possibilities.
- Record the identified trends, policies and issues in the worksheet provided for this purpose.
- Terminate the process in each area as soon as the time spent becomes unproductive.

A checklist of areas for systematic consideration

Social and demographic

- “ Changing lifestyle that impacts on work performance
- “ Changing work ethic
- “ Changing age of workforce
- “ Regional population shifts affecting labour availability
- “ Changes in educational levels of workforce

Technical

- “ New technologies
- “ New materials
- “ New processes or production methods

Economic

- “ Domestic inflation
- “ Availability of credit
- “ Mining input costs
- “ Commodity prices

Political or mining company or industry policy

- “ Energy efficiency
- “ Use of imported products
- “ Support of local industry

Legislation / regulation

- “ Growth in regulation and controls
- “ New priorities in regulation and control
- “ New OHS regulatory requirements

Environmental

- “ Water quality standards
- “ Water discharge standards
- “ Land use practices

Health

- “ Changes in obesity levels
- “ Changes in diet patterns
- “ Change in population wellness status
- “ Improved diagnosis and treatment of occupational diseases

Other

- “ For new categories and additional issues under each of the above categories

3. Input into the identification of relevant trends and policies should be sought widely:

It is clear that the quality of the outcome of this exercise will be directly dependent on the quality of the insights from which it derives. Input should be sought from people who are well-positioned to provide such insights. The adoption team managers should thus:

- Prepare a summary of the trends and policies that they have identified. They should then use this as a basis for requesting identified industry team members to use the list of possible practices, the checklist above and the prepared summary to identify any other trends or policies that should be added, or for good reason deleted.
- Request team members to provide their input prior to the planning workshop.
- In parallel with this, approach a number of the key stakeholders identified in the risk analysis process with a view to getting their input on this matter.
- Consolidate the input received into the worksheet that is to be considered and prioritized by the adoption team during the planning workshop – see worksheet Doc. #6.

Concluding comment

There will be time when the adoption team managers, and the team's industry members, may feel that the rigour of the planning process is delaying their progress. This might be one such time. It will be important to resist the temptation to seemingly make faster progress by giving only superficial consideration to this issue. Regrettably, the importance of this step is likely to emerge only with hindsight, as was the case with the quiet pneumatic rock drill. The consequences of missing or misreading key trends can waste much more time, as the case of the quiet rock drill so clearly demonstrates.

Section 3.10

Programme and facilitation arrangements for a planning workshop

Key outcomes

- Clarity on the issues that should be taken into account in arranging and conducting an effective planning workshop
- A proforma workshop programme to guide the development of a programme that addresses the planning needs of the adoption team
- Guidance on the facilitation arrangements considered necessary for a successful planning workshop
- Realisation of the key role that the Head of the Learning Hub should play in ensuring adequate preparation for the planning workshop
- Awareness by all who are to participate in the workshop, of what is involved, and of what is expected of them

(Doc #7)

Background

It is most important that both the risk analysis and the leading practice selected to substantially address the identified risks are convincing and credible. Accordingly, both need to draw on the best expertise that is available in the best possible way. The selection of adoption team members was undertaken with this in mind, and for similar reasons, a small group of experts to assist the adoption team in its planning should be invited to attend. This is dealt with in the next section. A planning workshop conducted at a suitable “live-in” venue over perhaps one, but probably two to three days, is considered to be the best way of achieving the focused attention required to deliver a quality outcome that the adoption team fully supports, and which will command credibility in industry. Such a workshop also provides a good opportunity for team building, and to create the initial momentum and commitment needed for successful implementation of the adoption process.

Purpose

The purpose of this section is to:

- Identify and provide guidance on the key points that should be considered in planning the workshop,
- Outline the programme that should be followed, and
- Identify the facilitation arrangements considered necessary for a successful workshop.

Key considerations

Given below are a number of key points that should be considered in arranging a planning workshop:

1. Each adoption team should plan and hold its own planning workshop:

- When the adoption system was first piloted, the first planning workshop involved a number of adoption teams. It is unlikely that such a need will arise again and a planning workshop involving more than one team is not advised. The time required by the teams for the various steps differs and leads to undue pressure, wasted time and an inefficient process. The teams need to arrange and hold their planning workshops when they are needed and with a programme tailored to meet their needs.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

2. Clarify the scope of the planning workshop:

- Planning a workshop for the selection of more than one leading practice is not advised.
- However, in the event that an adoption team decides to, or is required to plan for the selection and facilitation of more than one leading practice, this must be clarified and factored into the planning of the workshop.
- In particular, the worksheets that deal with the selection of the leading practice will need to be modified to deal with a larger number of prioritized selections. Also, the worksheets that deal with planning that is specific to the leading practice will need to be independently considered and completed.
- It will be important to ensure that these considerations are not compromised by a shortage of time or by an attempt to inappropriately integrate the planning process for each of the selected leading practices. Additional time should be allowed by extending the planning process over more days, as necessary.
- While conducting a workshop is one thing, the adoption teams should not attempt to simultaneously initiate a parallel adoption process involving two leading practices. Doing so will result in a diffusion of focus and work overload, particularly as the teams deal with the logistics and operational complications in conducting the source mine and other detailed investigations. This is likely to result in set backs and an unacceptable risk of failure.
- Initiating a parallel process as outlined in the previous point must not be confused with the process of initiating the planning and facilitation process for a new leading practice once the COPA process for the previous leading practice is well established, or begins to slow and run down. This is both acceptable and expected.

3. Select and brief an appropriate facilitator:

- A good facilitator can make an important contribution to ensuring that the planning workshop delivers a quality output. A list of internal and externally available facilitators with the required skills should thus be maintained by the Head of the Learning Hub.
- The adoption specialists and the other specialists within the learning hub should all receive training as facilitators to ensure that they are well equipped to serve as facilitators. A similar comment applies to the Head of the Learning Hub. This should enable the selection and use of an in-house facilitator on most occasions.
- The adoption specialist of an adoption team should not be selected to facilitate the planning workshop of that adoption team. The adoption specialist and the adoption team managers need to play an active role as key participants in the planning process of their adoption team.
- With a view to ensuring a deep appreciation of the adoption process and the context of the planning workshop, the learning hub should aim to use its own staff as facilitators to the maximum extent possible.
- The use of in-house facilitators will certainly reduce, but not eliminate the need to properly brief the person selected to facilitate the workshop. The crucial need to ensure a systematic and rigorous approach to selecting the leading practice offering

the greatest potential occupational health and safety benefit must be clearly brought out. In this context it will be important for the facilitator to surface the mental models of the participants and to address any issues that have the potential to hinder achievement of the workshop objectives.

4. Ensure that the facilitator is provided with the necessary support:

- The adoption specialist of the adoption team should ensure that the team's facilitator is provided with the necessary support, either through direct assistance in the detailed planning of the workshop, or through outsourced assistance to the extent necessary.
- In particular, the facilitator should be provided with an assistant who is capable of capturing the input from the workshop participants on-line so that it can be displayed during the workshop process.
- The assistant should be provided with an electronic copy of the worksheets and any other templates needed for capturing and displaying the data at the workshop.

5. Ensure that the preparatory work has been properly done:

- The adoption team managers and the adoption specialist should lead the process of preparing for the planning workshop. A schedule for undertaking this preparatory work should be prepared by the adoption specialist in consultation with the adoption team managers.
- The Head of the Learning Hub should review progress on preparation for the workshop, as necessary, but with a critical review being undertaken at least two weeks before the scheduled date of the workshop to ensure that the preparatory work has been properly done. Should the preparatory work be inadequate, the workshop should be delayed.

6. Customise the workshop programme to meet the needs of the adoption team:

- The planning requirements of adoption teams may differ and vary from time to time. The pro-forma workshop programme provided below should thus be tailored to meet the requirements of the team. In some cases, particularly after a number of planning workshops involving the same adoption team, the time required could be considerably less than that indicated in the pro-forma programme. In particular, the time required to orientate participants; explain later adoption processes; agree upon OHS performance data; the expert model; the major risks; and the potential leading practices in need of in-depth consideration, may be much reduced.
- In recognizing this it will be important for the facilitator to guard against preconceived ideas developed by the adoption team prior to the workshop. This consideration adds to the importance of ensuring an appropriate selection of experts and other knowledgeable persons to attend the workshop.
- The time provided for the various planning tasks should thus be geared to the needs of the team, and not dictated by some arbitrary external consideration. In this regard it should be recognized that the time allowed should take account of the number participants, as sufficient time needs to be allowed for full participation. The work time for the various agenda items should thus be adjusted accordingly. Worksheet Doc [#7](#)

is provided to capture the workshop programme and to plan and record the necessary facilitation arrangements.

- Unless there are circumstances that dictate otherwise, the workshop should be conducted at an appropriate live-in venue over an uninterrupted period.

7. Select an appropriate venue:

- To a large extent the above points already provide a good indication of the type of venue that should be selected. It will be clear that the venue should offer all of the usual workshop aids and facilities, including data projection facilities.
- The venue should be sufficiently remote from the participants normal work environment to minimize interference from that quarter, but sufficiently close to enable convenient access by team members and others who are to make presentations during the process.
- A live-in venue is considered important to readily enable a flexible daily finishing time, and a team building experience. It also lends itself to the inclusion of an after-dinner presentation of interest and benefit to the team, as well as the involvement of key stakeholders in such an event.

8. Hold a briefing session in advance of the workshop:

- Experience during piloting of the adoption system exposed the need for time to be provided for persons participating in the system, for them to become adequately familiar with the key concepts, structure and operation of the adoption system. It was also observed that the adoption team members needed aspects of the system to be clarified and elaborated upon from time to time.
- In order to ensure that the workshop time is well spent and that all who are to participate in the workshop enter with a good understanding of the key concepts, structures and operation of the adoption system, an appropriate briefing session should be held at least a week before the workshop. All persons who are to participate in the workshop should be strongly encouraged to attend the briefing session. The session will thus also provide a good opportunity for the adoption team members to meet the invited experts as well as the facilitator.
- The programme for the briefing session should be structured to allow ample time for participants to raise and clarify any uncertainties and questions they may have. It should also be used to obtain previously requested input from participants that has not yet been submitted.

Preliminary workshop to ID leading practices

Some adoption teams have found benefit from conducting a preliminary workshop with key persons primarily to identify potential leading practices for consideration in the planning workshop. Such workshops should really be seen as part of the preparatory process described in earlier sections, but when held shortly before the planning workshop they can build interest, input and momentum that is helpful.

Concluding comment

The time spent in arranging an effective workshop must be regarded as a necessary and good investment. In addition to providing an important opportunity for team building and the creation of valuable momentum and commitment, it will also result in a shared understanding of the key issues. Clarity and a clear focus on these issues should save time as the project progresses.

Pro forma draft programme for an adoption team planning workshop			
Day 1			
1	Welcome	5 min	Head of Learning Hub
2	Opening motivational presentation and discussion	15 min	Adoption Team Sponsor
3	Key adoption system elements, and the context and objectives of the workshop	20 min	Head of Learning Hub
4	Introduction of facilitator and invited experts	5 min	Head of Learning Hub
5	Brief review of adoption team achievements todate	15 min	Adoption Team Manager
6	Outline of workshop programme	15 min	Facilitator
7	Review of pre-workshop investigations and planning activities (S4.1) - Review of the adoption system process (S3.1) - Management orientation (S3.2) - Key insights from past work (S3.3) - Key OHS Statistics (S3.4 Doc #1) - Risk analysis (S3.4 Doc# 2,3 & 4) - Potential leading practices (S3.6, 3.7 & 3.8 Doc#5) - Relevant trends and policies. (S3.9 Doc # 6)	30 min 20 min 30 min 30 min 90 min 60 min 40 min	Facilitator, with input presentations by Adoption Team Manager and Adoption Specialist, as appropriate.
8	Day 1 closure and preparation for Day 2	10 min	Facilitator
Day 2			
9	Presentation and discussion of behavioural communication and leadership behaviour	45 min	Behaviour Specialist
10	Review / develop overall team objective and key success factors (S4.2 Doc # 9)	30 min	Facilitator, with input presentations by Adoption Team Manager and Adoption Specialist, as appropriate.
11	Develop criteria for selection of leading practices with best potential	30 min	
12	Identify and describe the three practices that have the best adoption potential	30 min	
13	Explore scope for improving the three selected potential leading practices	60 min	
14	Identify the extent of potential adoption of the selected potential leading practices	30 min	
15	Identify potential make or break issues for the selected potential leading practices	30 min	
16	Select leading practice with best potential	30 min	
17	Assess selected practice against demo-adoption criteria	30 min	
18	Identify potential first adoption mines (or host mines for the demonstration project)	30 min	
19	Identify adopters and stakeholders for behavioural communication purposes	30 min	
20	Develop a preliminary statement of the value case	30 min	
21	Day 2 closure and preparation for Day 3	10 min	
Day 3			
22	Presentation and discussion on the use of a COPA to facilitate widespread adoption	45 min	Adoption Specialist
23	Preliminary consideration of key future activities - Identify and prioritise potential adoption mines (S5.2) - Evaluate potential lead adopter mines / host demonstration mines (S5.3) - Identify decider, adopter and stakeholder groupings (S5.4) - Develop and implement behavioural interview protocol and plan (S5.7) - Analysis and implication of behavioural interview findings (S5.8) - Prepare generic behavioural communication plan (S5.9) - Prepare generic leadership behaviour plan (S5.10) - Plan and conduct detailed source mine investigations (S5.11) - Possible refinement of the leading practice (S5.11) - Update generic behaviour-based plans using source mine data (S5.12) - Develop generic value case (S5.13) - Identify and address critical adoption-demo issues and criteria (S5.14) - Prepare consolidated source investigations report (S5.15) - Prepare draft leading practice adoption guide (S5.16) - Systematic check before initiating adoption process (S6.1) - Set up support arrangements with lead adopter / demo mine (S6.2) - Design and hold a leading practice adoption workshop (S6.3) - Set up a Community of Practice for Adoption (S6.4)	180 min	Presentations by Adoption Specialist with facilitated discussion.
24	Decide timing of a preliminary action plan for the adoption team	30 min	Facilitator / Adoption Team Manager
25	Modus operandi of the adoption team	30 min	Facilitator / Adoption Team Manager
26	Presentation of identified leading practice and adoption team action plan	30 min	ATM
27	Concluding discussion	30 min	Facilitator

Facilitation notes

Given below are notes for consideration in planning the presentations and facilitation arrangements for the various sessions of the planning workshop. The numbering corresponds with that in the draft workshop programme presented earlier. The handbook section and worksheets of relevance to each agenda item should also be considered in conjunction with these notes as they provide further more specific guidance. Based on these considerations the facilitator should prepare an updated set of facilitation notes, as well as a set of slides for use in the facilitation process.

No	Agenda Item	Facilitation guidance notes
1	Welcome	
2	Opening motivational presentation and discussion	It is important to have a high-level person provide the context for the planning workshop. The Sponsor should bring out the importance of the work, the potential contribution that the team can make, and open the way to future interaction on key issues.
3	Key adoption system elements, and the context and objectives of the workshop	- A discussive style of presentation should be adopted to allow interaction and facilitate a deeper understanding of the concepts. It will also set the tone for active participation during the remainder of the workshop. - Deliberate pauses between slides at selected points should be planned to facilitate such interactions.
4	Introduction of facilitator and invited experts	- In introducing the experts the importance of developing an expert understanding of the risk situation, as a basis for identifying the content of the behavioural communication plan should be emphasised. - The role of the experts in ensuring that the outcomes of the workshop fully take account of current knowledge so that they are credible should also be emphasised.
5	Brief review of adoption team achievements to date	The Adoption Team Manager should highlight the team's key achievements for the benefit of any new members and the experts but an important focus of the presentation should be on identifying the areas where the team fell short and where improvement is required
6	Outline of workshop programme	- Briefly work through the programme to provide an opportunity for participants to clarify any uncertainties. - Emphasise the importance and benefits of the pre-workshop work, (efficient use of time, considered input and preparation for the workshop) but stress the special need for, and role and benefit of an interactive workshop involving team members and selected experts.
7	Review of pre-workshop investigations and planning activities	- The guidance provided in section 4.1 on this aspect of the workshop programme should be used in conjunction with the points that follow. - In opening the session the facilitator should bring out the value and importance of ensuring that the planning process is done properly, emphasising that the "difference is in the detail". - The presentation of the full adoption system process (probably by the Adoption Specialist) should be used by the facilitator to highlight this point, using examples where possible. - Having reviewed the planning and adoption process, using the guidance provided in section 3.1, the facilitator should indicate that the most effective way of considering the work done prior to the workshop is for it to be presented by the Adoption Team Manager as a "straw-dog" for discussion and further development. All material

		should then be presented in the discursive style already adopted. • The facilitator to begin consideration of each of the areas to be covered, by presenting a few slides to bring out the applicable key points from each of the relevant handbook sections. With reference to these sections, the input required from team members should be clearly identified. • As appropriate this should be followed by a brief presentation by the Adoption Team Manager of the outcome of the pre-workshop preparatory work that has been done. • In those cases where it is necessary to build on what has been presented, quiet time should be provided for each person to separately identify and prioritise the improvements that they would like to introduce. • Each person should then be asked in turn to present their top improvement that has not yet been presented, until all key issues have been adequately addressed.
8	Day 1 closure and preparation for Day 2	• Highlight any particular points that emerged during the day, point out the primary focus of Day 2, and identify any particular preparation needed to be done overnight. • In particular, request participants to familiarise themselves with the explanatory sections on behavioural communication and leadership behaviour, sections 15.3 and 15.4, and to identify any points that they need to have clarified.
9	Presentation and discussion of behavioural communication and leadership behaviour	• In the discursive-style presentation of the workshop, the Behaviour Specialist should use a set of slides to highlight the basic concepts, including a recap on the way in which the concepts have been integrated into adoption planning and implementation process. • The explanatory diagram on behavioural communication in section 15.3 should be used to bring out the importance of ensuring that each step of the process is executed effectively – the accumulative effect of inefficiencies should be emphasised. • The difference between the Adoption System's use of the ABC concept and that of behaviour-based safety systems, as indicated in section 15.4, should be explained. • The session should include an extensive facilitated discussion to ensure that all uncertainties have been addressed.
10	Review / develop overall team objective and key success factors	• Present a slide to bring out the key issues covered in section 4.2, and then work through Worksheet Doc #9 to indicate what needs to be done. • Provide quiet time for each person to develop their own thoughts and notes on the ultimate objective to be recorded on Worksheet Doc #9. • The existing statement (if one exists) of the overall key objectives and key success factors should then be made available as a handout for review and adjustment / restatement as necessary. • Each team member should be asked to put forward their own proposed adjustment, or restatement, of what had previously been agreed to by the team, or proposed before them by team members. • The experts should be invited to comment critically but constructively on the team's previous work, and on proposals put forward by team members. • The Facilitator should manage the inputs and discussion to arrive at an agreed statement of the overall team objective. This should then be tested to ensure that it embodies a stretch target, but one that is achievable.

		Once the overall team objective has been agreed, a similar process should be followed to identify the key success factors, ensuring that the team is encouraged to think beyond the points identified in the worksheet.
11	Develop criteria for selection of leading practices with best potential	- Present a slide to bring out the key issues covered in section 4.3, and then briefly work through Worksheet Doc #10 to indicate what needs to be done. Draw attention to issues raised in previous sections. - Provide a few minutes of quiet time for individuals to consider the issues raised and to make notes in respect of each of the items listed on the worksheet. - Each person should then be asked to provide their top five criteria that have not already been put forward. The process should continue until each person has had their turn, with the inputs being captured and displayed online. - The listed criteria should then be consolidated to the extent necessary and then rated as indicated in the worksheet by means of a facilitated discussion. - Conduct a facilitated discussion to identify and list the five criteria considered most critical. Use a voting process if necessary.
12	Identify and describe the three practices that have the best adoption potential	- Present a slide to bring out the key issues covered in section 4.4, and then briefly work through Worksheet Doc #11 to indicate what needs to be done. - Facilitate implementation of the detailed guidance for completing the worksheet, as outlined in section 4.4.
13	Explore scope for improving the three selected potential leading practices	- Present a slide to bring out the key issues covered in section 4.5, including a brief explanation of the six thinking hats concept for creative thinking. Then briefly work through Worksheet Doc #12 to indicate what needs to be done. - Before starting the process outlined in section 4.5, the facilitator should stress three key issues – the need for the process, which can be time consuming, to be done properly – there is danger of inadvertently introducing counter-productive consequences – the need to get the source mine to agree to implement the identified improvement at their cost, as part of the source mine investigations to document the leading practice (see section 5.11). - The adoption team managers should then indicate whether they would prefer to apply the process to the selected practice after the workshop. If so then move on, if not, then proceed to facilitate implementation of the detailed guidance outlined in section 4.5.
14	Identify the extent of potential adoption of the selected potential leading practices	- Present a slide to bring out the key issues covered in section 4.6, and then briefly work through Worksheet Doc #13 to indicate what needs to be done. - Facilitate implementation of the detailed guidance for completing the worksheet, as outlined in section 4.6 and the worksheet.
15	Identify potential make or break issues for the selected potential leading practices	- Present a slide to bring out the key issues covered in section 4.7, and then briefly work through Worksheet Doc #14 to indicate what needs to be done. Emphasise that the group will need to work quickly. - Provide a few minutes of quiet time for each person to identify and list any additional potential make or break issues that should be considered by the team. - Ask each person in turn to identify their top potential make or break issue for each practice, which should be captured and displayed

		online. Continue until all significant input has been obtained. • Provide a further few minutes for the group to consider and record their own make or break ratings of the various factors for each of the practices and to identify their top five issues that should be considered in selecting the best of the practices under investigation. • Conduct a voting process to identify the top make or break issue for each practice. In each case reach agreement on the applicable rating. Repeat the process until the top five issues have been identified for each of the candidate practices. • Facilitate a brief discussion to identify and resolve any uncertainties about the identified top five make or break issues for each practice, and to develop the brief description of the issue that is to be entered onto Worksheet Doc #15.
16	Select leading practice with best potential	• Present a slide to bring out the key issues covered in section 4.8, and then briefly work through Worksheet Doc #15 to indicate what needs to be done. Importantly, the concept of adoption potential should be clarified. • Facilitate inclusion of the basic information needed in the worksheet for assessment purposes. • Facilitate a discussion of the information in the worksheet with a view to agreeing on a relative ranking of the candidate practices in terms of their adoption potential. If necessary proceed to a voting process as described in section 4.8. • Facilitate completion of the remainder of the worksheet along the lines described in section 4.8.
17	Assess selected practice against demo-adoption criteria	• Present a slide to bring out the key issues covered in section 4.9. Explain the important timing and practical differences between the demo and adoption options. • Explain the criteria identified in Worksheet Doc #15.1 • Provide quiet time for each person to make their own assessment of the selected practice in relation to each of the assessment criteria • Record the individual assessments for each of the criteria. • Facilitate a discussion of the assessments for each of the criteria to arrive at a generally agreed assessment. Note the reasons for any residual disagreement. • Facilitate a discussion to arrive at generally agreed overall assessment. Use a voting process if necessary. • Record any provisos / special precautions identified as a basis for arriving at the agreed overall assessment.
18	Identify potential lead adopter / host demonstration mines	• Explain that this and the next two workshop items form part of the detailed work that lies ahead but which is given preliminary consideration in this workshop to benefit from the collective input of the team and the experts. • Present a slide to bring out the key issues covered in section 5.3, and then briefly work through Worksheet Doc #17 to indicate what needs to be done. • Briefly discuss the criteria listed in the worksheet, and then provide a few minutes of quiet time for persons to consider the insights and checklist mentioned in section 5.3 and to identify any other criteria that should be added. • Facilitate a brief discussion to add any additional criteria that the team agrees should be added. • Facilitate a brief discussion to identify the four mines that the group feel are most likely to meet the agreed list of selection criteria.

		• Provide a few minutes for each person to rate each mine against the various criteria and then facilitate a discussion to quickly work through the list to agree a group rating on each, including an overall assessment on each of the candidate mines. • Taking into account the guidance provided in section 5.3, facilitate a final brief discussion to identify the mine considered best suited to being the lead adoption mine or for hosting the demonstration project should that be required. Emphasise that the adoption team will need to regard the completed worksheet as a starting point in their investigations to arrive at their final selection of a lead adoption or demonstration mine.
19	Identify deciders, adopters and stakeholders for behavioural communication purposes	• Present a slide to bring out the key issues covered in section 5.4, and then briefly work through Worksheet Doc #18 to indicate what needs to be done. Ensure that the group has a shared understanding of what is meant by key deciders, adopters and stakeholders. • Facilitate a discussion to identify and record the key risks that the selected leading practice is considered to address. Ensure that the group take account of their earlier work, as indicated in section 5.4. • Emphasise that the main input of the group has now been done but that the team could also benefit from a preliminary identification of the key adopters and stakeholders. • Facilitate a discussion to identify the decider, adopter and stakeholder groupings, including a brief description of the group. • Emphasise that the partially completed worksheet is expected to be helpful to the Adoption Team in due course when they need to consider and diligently complete the worksheet.
20	Develop a preliminary statement of the value case	• Present a slide to bring out the key issues covered in section 5.13, and then briefly work through Worksheet Doc #19 to indicate what needs to be considered in the present workshop. • Facilitate a discussion about the difference between a value case and a business case. Explain why the value case increasingly becomes the key consideration as industry performance improves towards achievement of the ultimate objective of zero harm. • Explain that workshop considerations will be limited to a preliminary identification of the three mining scenarios that are to be evaluated, and to the preparation of a tentative value case for the typical mine scenario, to the extent possible with the information available to the group. • Based on the guidance provided in section 5.13, including the annotated worksheet at the end of the section, facilitate a discussion to identify and record details for each the three mining scenarios. Record the available data for each of the three scenarios. • Facilitate a discussion to complete the value case section for the typical mine scenario, drawing on guidance provided in section 5.13 as necessary.
21	Day 2 closure and preparation for day 3	• Highlight any particularly significant points that emerged during the course of the day, recap on where the team is in the planning process and summarise what is to be done on day 3. • Thank the experts for their contribution and invite them to add any residual points that they think might be useful to the Adoption Team. • Request the Adoption Team members to refresh themselves on the sections to be covered during day 3 and in particular to identify issues that need to be discussed and clarified.

22	Presentation and discussion on the use of COPA to facilitate widespread adoption	• Using the discussive style of presentation adopted for the workshop, the presentation should draw attention to the crucial role of the COPA in achieving widespread adoption, and that the work of the Adoption Team to achieve an effective COPA must, in effect, start immediately after this planning workshop. • The presentation should bring out the various activities needed well in advance of finally setting up the COPA at the leading practice adoption workshop. • Highlight the need to ensure that the necessary attention to detail in the source and lead adoption / demonstration mine work should not allow the necessary early work towards establishing an effective COPA be compromised. • Ensure that adequate time is provided for an in-depth discussion of the COPA and its operation.
23	Preliminary consideration of key future activities	• Using a set of slides that bring out the key aspects of each of the relevant sections of the handbook, the Adoption Specialist should systematically work through the various sections. • Facilitate the input of the Adoption Team Manager to highlight and discuss key points, including those that have been problematic in past work. Ensure that team members have the opportunity to raise points for discussion and clarification. • In each section bring out and discuss the input that the industry members of the Adoption Team can, and are expected to make.
24	Decide timing of a preliminary action plan for the adoption team	• The example plan of the key activities set out in Worksheet Doc #16, should be presented and followed by a discussion to ensure that the any uncertainties are clarified. • In a facilitated discussion the Adoption Team should then agree on any adjustments that need to be made to the listed activities, and on their timing requirements. • The facilitator should close the session by emphasising the need for early action on the part of the team, including at more detailed consideration and refinement of the action plan.
25	Modus operandi of the adoption team	• Present a summary of the key points made in section 2.2 about effective operational arrangements for Adoption Teams. Also present a summary of the modus operandi of an existing team. • Check through the key points to identify those that the team need to review in the event of an existing team, or to further develop in the case of a new team. • Facilitate a discussion to reach agreement on the identified points – in particular ensure that the arrangements for effective involvement of the industry members in Adoption Team activity are adequately considered and agreed upon. • Ensure that the essence of what has been agreed is adequately captured and displayed online, and that it forms part of the record of the workshop.
26	Presentation of identified leading practice and adoption team action plan	• Bring out the importance of adoption team members making a brief presentation of the outcome of the planning workshop to key persons within their organisations. • Facilitate a discussion led by the Adoption Team Manager to identify the material that should be covered in the presentation • If time permits the Team Manager should run through the agreed presentation to solicit critical input from the team. • A copy of the presentation should be made available to all participants at the close of the workshop.

27 Concluding discussion

- The planning workshop should be closed with a facilitated discussion to identify shortcomings of the process followed, and suggestions of how the planning process can be improved.
- Ensure that the inputs made are captured and displayed online and that they become part of the workshop record.
- Conclude the workshop by providing each participant with an assessment form to be completed and collected in a way that preserves anonymity.

Section 3.11

Identify and invite experts to participate in selected workshop sessions

Key outcomes

- Guidance on the selection of industry experts who will add value to the adoption team's planning process
- Awareness of the role that adoption team managers and adoption specialists need to play in selecting and focusing the attention of the experts
- Recognition of the crucial important contribution and value that well selected experts will bring to the planning process

(Doc #8)

Background

Two important values that underpin the adoption system are excellence and involvement. The identification of recognized industry experts to participate in the planning workshop is a practical manifestation of these values. Their active participation should clearly add to the quality and credibility of the workshop outputs. The combination of recognized industry experts working with the persons specially selected by industry to participate in the adoption process will also contribute to achieving a sense of industry ownership of the workshop outputs. This is an important adoption enabling factor

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the key role that recognized experts can play in the planning process, and
- Provide guidance on the selection and use of recognized industry experts in selected workshop sessions.

Key considerations

1. Recognised industry experts should be identified and invited to participate in the planning workshop:

- To derive maximum benefit from their participation in the workshop, the background above highlights the importance of ensuring that the selected experts are widely recognized in industry as leading experts in the field. This does not mean that other experts capable of making a particularly insightful contribution should not be invited. Indeed, logistics and funds permitting, a few experts with other expertise considered to be helpful to the planning process should also be invited. However, their involvement must not be allowed to diminish the effort to secure the participation of widely recognized industry experts, otherwise the credibility and industry ownership referred to in the introduction may not be achieved.
- The following should be considered when identifying and selecting recognised experts:
 - Established reputation within relevant local professional institutions
 - Reputation within their mining group or industry discipline based structures
 - Reputation with members of the adoption team
 - Participation in relevant local and international workshops and conferences

Identification of recognised experts

The importance of ensuring that recognised group and industry experts are invited to the workshop cannot be overestimated. Each mining group and relevant key industry committees should thus be consulted in the process of identifying those to be invited to the planning workshop.

- Quality and number of technical papers and publications in the field
 - Academic standing
- The total number of experts to be invited should not exceed the number in the adoption team and should preferably be kept to less than about 50% of the number of members in the adoption team.
 - The identified experts should be invited to participate at least four weeks before the workshop so that there is sufficient time for them to complete the pre-workshop planning described in the earlier sections.
 - This process should be undertaken jointly between the adoption team managers and the adoption specialist, with the adoption specialist taking responsibility for implementing what has been agreed. Worksheet Doc #8 is provided for use in listing and selecting experts to attend the workshop.
- 2. The involvement of the experts should be focused on those areas where their contribution has the greatest potential to add value:**
- There are a number of areas where the input of suitably selected experts has the greatest potential to add value. These are as follows:
 - Review of safety statistics data
 - Risk analysis and the identification of key risks
 - Identification of potential leading practices to address the key risks
 - Identification of trends that could impact on the selection of a leading practice for adoption
 - Selection of the leading practice that has the potential to make the greatest contribution
 - Development of a preliminary statement of the value case for the selected leading practice
 - Since these issues need to be dealt with in the first part of the workshop, depending on workshop programme, it is possible that some of the experts may choose to leave at a convenient point soon after these issues have been satisfactorily dealt with.
- 3. The experts should be well briefed prior to the workshop to facilitate their prior input and preparation for the workshop:**
- The adoption team managers need to ensure that the experts are provided with an electronic copy of relevant sections of the handbook at the earliest stage possible. In doing so the process of interaction with them prior to and in preparation for the workshop should be clearly outlined.



Former Chief inspector of Mines providing critical feedback

- In the event that it is decided to provide them with an electronic copy of the entire handbook, it would be essential to also provide a reading guide that very clearly identifies the required reading. It will be important to ensure that the experts are not unnecessarily burdened with preparatory material for the workshop.
- The experts should be invited to attend the pre-workshop briefing session described in section 3.10. In extending the invitation the strong need for all participants to enter the workshop with a good appreciation of the structure and operation of the adoption system should be highlighted. It should be explained that the session will provide ample opportunity for their questions to be addressed.

Concluding comment

The opportunity to invite industry recognised experts to participate in the adoption team's planning workshop should be grasped and explored to the full. It is an opportunity that offers great reward in both the short and long term, particularly if the adoption team works at building on the understanding and relationship established during the planning process.

SECTION 4

Planning workshop

- 4.1 Consider and update preparatory work for the workshop
- 4.2 Formulate overall adoption team planning objective and key success factors
- 4.3 Develop criteria for selection of the practice to be adopted
- 4.4 Select the three best adoption possibilities
- 4.5 Explore scope for improvement of the three best adoption possibilities
- 4.6 Identify potential extent of adoption
- 4.7 Assess the adoption challenge - identify make or break issues
- 4.8 Select the best adoption alternative
- 4.9 Assess demonstration needs of the selected practice
- 4.10 Consider and schedule future adoption team work

Section 4.1

Consider and update preparatory work for the workshop

Key outcomes

- Guidance on the process to be followed in updating the preparatory work done for the workshop
- A basis for achieving a reasonable level of consistency in the way that the planning workshops are facilitated
- Heightened awareness of the importance of adhering to a systematic approach and that the difference is in the detail

(Docs [#1](#), [#3](#), [#4](#), [#5](#))

Background

Provided that the preparatory work for the workshop has been well executed, much of the time consuming exploratory work necessary to provide a sound foundation to successfully plan the future work of the adoption team should have been done. Such work cannot readily be undertaken in a workshop setting. The important function that the workshop is well placed to undertake is that of assessing, prioritizing and building on the foundation that has been created in preparing for the workshop. Particularly important aspects of the process will be that of facilitating further input from the invited experts and the industry members of the adoption teams, as well as creating ownership of the final agreed outcome by the assembled participants.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to provide guidance on:

- The process to be followed in the workshop session aimed at facilitating further input on the work done prior to the workshop, and
- Achieving agreement and ownership of the material that is to serve as the foundation for the future work of the adoption team.

Key steps to enhance and consolidate preparatory work

1. Allow time for parallel thinking and data capture to maximize the benefit to be derived from the team planning process:

- The effectiveness of the workshop process should be enhanced by ensuring that the participants are provided with brief periods of quiet time to think about and prioritise their input into the open discussion periods. Given the preparatory work that should have been done by all of the workshop participants, in most cases a few minutes is all that will be required to achieve this.
- Workshop participants should be asked to prepare their input in brief written statements that can be readily captured during the discussion periods, and collected after the session. This will allow any key points not made during the session to still be taken into account by the team in follow-up work after the workshop.
- All workshop participants should be provided with the opportunity to provide their highest priority input into the discussion. The point should add to what has already been stated by others or in the preparatory work. Having stated the brief point for capture purposes, it should then be elaborated upon and discussed by the

participants as necessary to ensure that it is well understood and built upon as appropriate. This process should be continued on a rotational basis until no further meaningful input is forthcoming, or until the allocated time runs out.

2. Ensure a shared understanding of the adoption process:

- With a view to placing the planning workshop in its proper context, the Head of the Learning Hub should clearly present the long-term vision, mission and values of the Learning Hub. This should be done in the introductory presentation. These considerations must continuously inform and guide the work of the adoption team, and this should be brought out.
- Notwithstanding the detail provided in section 3.1, and the preparatory reading that will have been done by the workshop participants, unless they have been through the planning process a number of times they are unlikely to have a common or deep understanding of the process, or of the overarching vision, mission and values that guides the work of the adoption teams.
- It is thus important to clearly and concisely present the full adoption process to the workshop participants in a way that invites questions and comments on points that are unclear, or not fully agreed with for some reason. In making this presentation, both the facilitator and the adoption team manager should take the opportunity to bring out that “the difference lies in the detail”. To get full benefit from the adoption process, each of the steps must be properly done.
- The presentation should bring out the simplicity of the basic three-phase adoption process described in section 3.1, but also the detail of the process as outlined in the one-page summaries of the adoption and implementation process presented later in that section. The one summary contains a schedule of the 45 process steps, and the other a diagram that more graphically illustrates the process. Importantly, it should also bring out the coherence and logical sequence of the eleven behavioural elements that have been embedded in the leading practice adoption process.



MOSH dust adoption team manager making a point to her team

3. Facilitate a discussion to internalize the management orientation of industry leaders:

- A key aspect of the innovation process upon which the adoption system is based is that of management orientation. This is illustrated in the schematic presented in section 1.1, with specific detail being provided in section 3.2. It is in this context that the details of the agreement by the mining company CEOs, about the values and

occupational health and safety culture that is to be fostered in the industry become a significant indicator of the current orientation of senior management.

- In presenting the key elements of the desired occupational health and safety culture outlined in section 3.2, the workshop participants should be asked to identify how these elements might best be utilized within the adoption process to both secure adoption of leading practice and help create the desired culture across industry. This should become a focal point of the discussion under this agenda item. Other points to be considered in the presentation and discussion of this point are provided in section 3.2.

4. Review and facilitate further input on key occupational health and safety data:

- Consideration of this item should begin with the adoption team manager making a prepared presentation of the safety data gathered and consolidated into the worksheet in preparing for the workshop (Worksheet Doc #1). In introducing the presentation participants should be requested to identify shortcomings or other data that could usefully be included into the assessment of past performance and the current position.
- Following the process outlined in point 1 above the participants should be provided with the opportunity to provide input aimed at updating or otherwise improving the presented position. The discussion should be facilitated with a view to achieving an agreed high quality assessment of past and current occupational health and safety data.

5. Review and facilitate further input and agreement on the key risks to be addressed:

- The process to be followed in facilitating further input and agreement on the three worksheets under this agenda item is essentially the same as that outlined in point 4 above. Each of the worksheets should however be dealt with sequentially and separately.
- In preparing the presentation of the risk analysis, consideration should be given to using an influence diagram as described in section 3.5, but only if such inclusion will assist and not confuse understanding of the logic of the causal chain approach of Worksheet Doc #3.
- The bulk of the time should be allocated to updating and reaching agreement on Worksheet Doc #4. It is most important that all participants, and particularly the invited experts, feel comfortable that the worksheet captures the key risks and possible improvement opportunities embedded in the more detailed risk analysis presented in Worksheet Doc #3. The facilitator should ensure that each person is provided with the opportunity to articulate any reservations they may have, and that their concerns are adequately considered by the group.
- The facilitator should endeavour to achieve full agreement on Worksheet Doc #4, but at least an outcome where anyone holding any residual concerns feels that their concern does not need to be expressed. In a case where this is not possible it would be important to note any residual concerns for further consideration when time

permits. There will usually be a good reason for such a concern and it will be important for the adoption team manager to gain a good understanding of this reason.

6. Review and facilitate further input on potential leading practices to address the identified risks:

- The process outlined under point 4 above should once again be followed. In doing so a particular focus of the discussion should be to ensure that the invited experts are provided with sufficient time to fully make their input. This is an area where their insight and contribution could have a very significant impact.
- In updating Worksheet Doc #5 the facilitator should take care to ensure that the participants give adequate consideration to potential leading practices not yet implemented in the South African mining industry, as well as to those that have been.
- In finalising the worksheet it should be noted that the assessment of adoption potential seeks only to differentiate in a fairly coarse way between those practices that have promising adoption potential and those that do not. It should be emphasized that it would be inappropriate for the team to begin to do more than this at this stage, as to do so could compromise the effectiveness of the systematic selection process to be employed later in the process.

7. Review and facilitate further input on trends and policies that could impact on the identified potential leading practices:

- The process to be followed on this agenda item is as outlined under point 4 above. In setting the participants to work the facilitator should emphasise the need to ensure the existence of a logical link between the trend or policy and the risk and or the practices to address the risk.
- In facilitating further input on this item, the key point of focus should be that of reaching agreement on deciding the priority allocated to the various trends and policies identified in the worksheet.

Concluding comment

Provided that the preparatory work is considered in detail as set out above, the adoption team will have created a sound basis for the planning steps that are to follow.

Section 4.2

Formulate adoption team overall objective and key success factors

Key outcomes

- Guidance on the process to be followed in identifying the overall planning objective and key success factors
- Recognition of key issues to be considered in formulating the adoption teams overall objective
- A shared view of the adoption team's ultimate objective
- An overall long-term planning objective that is challenging, but which is realistic and achievable
- Heightened awareness of the need to take stakeholder's views into account

(Doc #9)

Background

In a situation of limited resources and great and important needs, it is essential that the adoption team has a shared and clear view of their ultimate objective. It serves as a source of inspiration, but also as a compass to keep the team on course, and to aid its evaluation and selection of identified adoption opportunities. Although an adoption team may have previously developed a shared objective, risk profiles and circumstances change with time, particularly if the team has been successful in its work, and so the process outlined below should be approached as a zero base opportunity. The work undertaken by the team prior to this point should have resulted in an updated and shared understanding of the risks and of potential means for addressing them, so the team should be well placed to consider and confirm or restate its long-term (3 to 5 years) objective and key success factors.

Purpose

The purpose of this section is to provide guidance to the adoption team on:

- The development of a shared long-term objective, and,
- The identification of criteria that must be satisfied to achieve success.

Key considerations

Ensure that the interests of the key stakeholders are identified and appropriately considered:

1. In undertaking the risk analysis outlined in section 3.5 the adoption team should have identified the key groupings that have a stake in seeing that the risk is effectively addressed. This list should be reviewed to ensure that it is complete and that no important stakeholder has been inadvertently missed.
2. The interests of the key stakeholders should then be identified and systematically considered as indicated below.

Consider issues of concern to executive management in industry:

3. The issues of concern to executive management in industry will inevitably include productivity and profits, but it is their other concerns, often of a qualitative nature, that will be more important in setting the objectives of an adoption team.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

4. A particular issue that will be most important for the adoption teams to take into account will be the commitment of executive management to achieve the tripartite agreed occupational health and safety milestones set in 2003. The adoption teams have an important role to play in the achievement of those milestones, and this emphasises the need to secure adoption of measures that will have the largest impact across the industry as a whole.
5. Another key issue that should be taken into account is the commitment made at the CEO roundtable in 2008 to bring about a change in the occupational health and safety culture of the industry. In particular, consideration should be given to the beliefs, values and leadership behaviour articulated at that time, as set out in section 3.2.

Consider the needs of the persons most at risk:

6. Reference to the occupational health and safety statistics assembled in considering section 3.4 should point to the persons who have historically been most at risk. The obvious need of these persons will be to experience a significant reduction in the health and safety risks that they face at work. This carries similar implications to those associated with management's commitment to achieve the occupational health and safety milestones agreed to in 2003.
7. The persons most at risk may also have other health and safety related needs, in areas such as training and skills development, and it would be important for the adoption team to identify and consider needs of this nature.

Recognise the need for all sectors to benefit from the activities of the adoption team:

8. While the safety statistics may justify a consistent focus on a particular sector, the adoption teams must ensure that all sectors experience significant benefit from their financial and other support of the activities of the adoption teams. Even sectors with relatively good occupational health and safety performance will need to see performance improvements as they strive toward their ultimate goal of zero harm. In order to sustain their support, the adoption teams will need to assist them in their quest.

Identify the needs of operational management:

9. Operational management faces the challenge of ensuring the implementation and routine operation of effective systems, often with limited resources and skills. This has implications for the type of practice that they will be willing to adopt, and this is something that needs to be considered.



MOSH noise adoption team manager leading the discussion

10. The adoption team should endeavour to identify other key issues of concern to operational management that need to be considered in the formulation of their objectives, as it is this group of stakeholders that play a crucial enabling role in the adoption of a new practice at the mine.

Consider the needs and concerns of workers:

11. In many, if not most cases the persons most at risk will be the workers and many of the points considered under point 3 above are likely to be applicable here too. However, there may be other important needs, such as an improvement in the nature or quality of their work, or in the work place relationships, and the adoption team should consider such possibilities. In particular, the input obtained from workers in developing the expert model of the risk situation should be taken into account here.

Take into account the requirements of the learning hub and the adoption teams:

12. One of the most important considerations in setting the objectives of the adoption team should be that of building trust and securing and maintaining its credibility with all of its key stakeholders. This has implications in respect of the quality, frequency and impact of its outputs. The adoption teams should give particular consideration to these two points in setting their objectives.

Consider the issues of concern to other key stakeholders:

13. The list of stakeholders identified under point 1 should include stakeholders such as the Inspectorate, Unions, and Mines Professional Associations and they may have important concerns, or needs additional to those that have emerged out of the above considerations. These should be identified and taken into account.

Ensure that the objectives of the team embody stretch targets, but which are achievable:

14. The credibility of the adoption teams, but also the adoption process, will depend on the adoption teams being able to set stretch targets that are not only achievable, but also meaningful to the key stakeholders. This key point should be the primary focus of the considerations outlined above.
15. Based on these considerations and the guidance provided in Worksheet Doc #9 the long-term objectives of the adoption team should be recorded on the worksheet.

Define what should be achieved for the work of the adoption team to be considered successful:

16. An important part of setting the adoption team's objective will be to identify and record what should be achieved for the work of the adoption team to be considered a success by the key stakeholders. These achievements represent a clear statement of key success factors, and Worksheet Doc #9 should be used to record them as such.

Concluding comment

The adoption team objectives and the key success factors recorded on Worksheet Doc #9 will serve as an important framework to guide the future activities of the team and the selection of the leading practice for adoption upon which the team will focus its attention.

Section 4.3

Develop criteria for selection of the practice to be adopted

Key outcomes

- Awareness in adoption team members of the need to base the selection of leading practice on sound criteria
- Recognition of the spectrum of potential selection criteria that need to be considered
- A basis for identifying, discussing and agreeing upon the criteria that are to be used to select the leading practice
- A set of selection criteria to help ensure that the limited and valuable time of the adoption teams is spent in the most rewarding way

(Doc #10)

Background

At this stage of the planning process the adoption team is already quite well placed to select a leading practice for adoption from the list of identified potential leading practices. Important selection criteria have already been identified in the earlier sections and this and the next section are focused on ensuring that not only these, but that other important criteria are identified and explicitly brought to bear on the selection of a practice for adoption. It is important that this selection is not simply based on an expression of personal preferences in a group discussion, where the dominant factor might often be forceful presentation rather than logical well-made argument.

To the extent possible, the selection needs to be against objective criteria agreed to by the adoption team in advance of making the selection. Given the urgent need for improved occupational health and safety performance, and the very substantial time and effort required to achieve widespread adoption of a leading practice, the importance of making a well considered selection is clear.

Purpose

The purpose of this section is to:

- Outline key points that should be considered in identifying selection criteria to be used, and
- Provide guidance in completing the worksheet and in deciding key selection criteria to be used.

Key considerations

1. Recognise that key selection criteria already established must be appropriately taken into account:

- Much of the planning process has been directed at the development of a sound basis for selecting the leading practice for adoption. The focus of this section is thus on adding to that sound platform. The selection process outlined in section 4.3 will require the adoption team to consider the results of their risk analysis, their trend analysis, and the overall team objective that they have just formulated, and those considerations are thus not duplicated here.

2. Potential key selection criteria should be systematically identified and considered:

- There are many potential selection criteria. These should be identified and considered with a view to arriving at a short list of key criteria to be used in the

Adoption Process	OHSAS
Vision and management orientation	Policy
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Document the identified practice	
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Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

selection process. Considerations that could give rise to such selection criteria are briefly elaborated upon below with a view to completing Worksheet Doc #10.

- § *Impact on Occupational Health and Safety Performance:* It is essential that the selected leading practice should have the potential to bring about a significant improvement in occupational health and safety performance. This requirement may already be embodied in the adoption team's statement of its overall objective, but the team should in any event consider introducing a particular requirement under this selection criterion. The requirement could be quantitative, but would most likely be of a qualitative nature.
- § *Cost constraints:* Some of the identified leading practices may require substantial refinement that may be both time consuming and expensive. The team will need to set an upper limit on such costs so that its budget is not exceeded, but also with a view to identifying leading practices that should be referred either to SIMRAC or to some other research agency for further development. This consideration should ensure that any refinement undertaken by the adoption team does not become an inappropriate process of R&D.
- § *Time constraints:* The introduction of some leading practices may have very substantial time requirements, due to the infrastructure, process or other needs of the practice. This would delay the team moving on to considering other leading practices. Although this would need to be moderated by the extent of the benefit to be derived from the practice in question, the adoption team may need to set an upper limit on the time that would be required to conduct a successful demonstration project.
- § *Sector coverage:* While the overall goal of the adoption team may articulate the need for all sectors to benefit from the activities of the team, they may not have been able to meet this requirement to date. The team may thus consider it necessary to include a "hard" requirement that a certain sector, or sectors, benefit from the leading practice selected for adoption on this occasion.
- § *Policy constraints:* In the trend analysis considered in section 3.9 the adoption team focused on policy constraints at the political or mining company level. At this point the team needs to identify any policy constraints that may have been established by the Task Force or by the Management of the Learning Hub that need to be taken into account in the selection process.
- § *Readiness for adoption:* In preparing the list of potential leading practices the adoption team should have already recorded the state of application of each of the identified potential leading practices. Depending on the success achieved in their previous work the adoption team may choose to limit their risk by requiring that the leading practice be well established in a mine within the South African mining industry. The team may define other criteria to eliminate potential leading practices that in their view are not yet ready for adoption.
- § *Accessibility:* Once again this is a factor that the adoption team should have already considered in a relatively coarse way in compiling their consolidated list of potential leading practices. The team may consider it necessary to refine the

criteria used in Worksheet Doc #5, and to define either cost or time constraints that should be met in respect of acquiring access to a particular leading practice.

- § *Operational conflict:* Some potential leading practices may have the potential to impact negatively on productivity or operational and capital costs. Such impacts will of course need to be weighed against the potential occupational health and safety improvements, but the team will need to ensure that these benefits significantly outweigh the costs. Although a full value case will be developed later, at this stage the team will need to make a preliminary assessment against qualitative criteria to minimize the risk of selecting a practice that conflicts unduly with existing operations and cost structures.
- § *Skills development:* This is another difficult assessment that the team may consider to be important. The team will need to assess and be confident that it will be possible to achieve the required level of skills development on a widespread basis.
- § *Strategic:* While one or more of the selection criteria considered above could be elevated in importance as a result of particular strategic considerations, it is considered appropriate to separately reflect the specifics of any strategic issue that needs to be taken into account. In particular, the priority rating that the issue commands in relation to other key considerations needs to be carefully agreed and separately reflected.
- § *Other:* It is not expected that the points listed above will necessarily identify all factors that are important in the selection process, and it will be important for the team to seriously consider the identification of other criteria that might need to be taken into account. They may relate to the circumstances of the Learning Hub, or the adoption team, or perhaps to the economic circumstances of the industry, or other factors that may vary from time to time.

3. Identify the most important selection criteria that are to be used in the selection process.

- In keeping with the general guidance provided earlier, the adoption team members should be provided with time to consider the above points and to make their notes on each of the points listed on Worksheet Doc #10.
- The adoption team should then consider and record the criteria identified by team members under each of the points listed on the worksheet.
- Having generated a list of criteria considered important by team members, the team should consolidate the points under each heading, and then agree a rating for each of the recorded criteria (critical / important / noteworthy). They should then agree upon a limited set of criteria that they consider as critically important in making their selection. This short list should involve no more than five items.

Concluding comment

On completion of Worksheet Doc #10 the adoption team should be well positioned to select the three or four leading practices that have the best potential for widespread adoption, and that warrants further in depth consideration by the adoption team.

Section 4.4

Select the three best adoption possibilities

Key outcomes

- A systematic approach that takes account of the various selection criteria that have been identified by the adoption teams
- Guidance on facilitating the selection by the adoption team of the three most promising leading practices for adoption
- Identification of the three most promising leading practices for adoption
- A credible basis for gaining industry support for the three adoption possibilities that have been selected for investigation

(Docs [#5](#), [#6](#), [#10](#), [#11](#))

Background

Much of the work done by the adoption team up to this point has been directed at assembling the material needed for the team to select the leading practice that has the greatest potential benefit. Leading practices considered to have promising adoption potential were identified in Worksheet Doc [#5](#), and the challenge that now needs to be addressed is that of using the selection criteria that have since been assembled to systematically select the three leading practices that have the greatest potential benefit for further in-depth investigation.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is thus to outline processes for:

- Systematically considering the key selection criteria, and
- Selecting the three best leading practices for further in-depth investigation

Key steps in the selection process

- **List the leading practices considered to have promising adoption potential:**
 1. Based on the preliminary screening process used in completing Worksheet Doc [#5](#), the leading practices considered to have promising adoption potential should be listed in Worksheet Doc [#11](#). Given the usual time constraints, the number of practices listed should not exceed about 20, but if sufficient time is available this should not be regarded as a restrictive upper limit.
- **Assess alignment with the adoption team's overall objective:**
 2. Using Worksheet Doc [#11](#), the next step is for the workshop participants to assess the alignment of each of the listed potential leading practices with the adoption team's overall objective. In each case, in a facilitated discussion, the participants should collectively agree upon a rating of the alignment using the five point assessment scale indicated in the worksheet (Excellent – Good – Moderate – Weak – Unacceptable).
 3. Each participant should make their own assessment of the alignment for all of the listed leading practices before starting the facilitated discussion.
 4. In this and the steps that follow, the facilitator must ensure that proper consideration is given to each selection criteria in relation to each of the potential leading practices.

Assess the potential impact of the identified trends:

5. With reference to the trends identified in Worksheet Doc #6, in a similarly facilitated discussion, the workshop participants should then assess the potential impact of the identified trends on each of the listed potential leading practices. As indicated in the worksheet, the participants should use the same five point rating scale.

Assess the practices against the identified additional key selection criteria:

6. Similarly, with reference to the critical selection criteria agreed to by workshop participants in Worksheet Doc #10, a facilitated discussion should be conducted to assess the potential leading practices against these critical criteria. Using the same rating scale the participants should collectively agree how well each of the potential leading practices meets the identified critical selection criteria.

Select the three best adoption possibilities for further consideration:

7. Having completed the above three collectively agreed assessments for each potential leading practice, the workshop participants should then individually arrive at an integrated overall assessment of the adoption potential of the listed leading practices. Once again, the same five point rating scale, and a facilitated discussion process should then be used to arrive at a collectively agreed overall assessment.
8. In arriving at this overall assessment, a rating of unacceptable on any one of the previous three assessments should lead also to a rating of unacceptable at the overall level.
9. Based on the agreed overall assessments, each of the workshop participants should then individually identify the three leading practices that they consider to have the best adoption potential. To facilitate the process of agreeing upon the top three leading practices the number of times a practice has been identified by a participant should simply be entered into the column provided as a basis for identifying the three practices considered to have the best adoption potential.
10. Depending on the spread of votes for the various potential leading practices, it may be necessary to debate the merits of the practices with the third and fourth highest number of votes, and whether there is a case for including a fourth practice for in-depth consideration. Unless considered absolutely necessary, a fourth practice should not be included

Concluding comment

This relatively simple selection process provides a sound basis for ensuring that the effort of the adoption team is devoted to facilitating the adoption of a leading practice will best meet the occupational health and safety needs of the industry in the area of focus of the adoption team.

Section 4.5

Explore scope for improvement of the three best adoption possibilities

Key outcomes

- A systematic approach to identifying possible improvements to each of the practices that have been short-listed
- Guidance on facilitating and focusing the adoption team's attention constructively towards a critically positive outcome
- Identification of credible enhancements to short-listed leading practices for adoption
- An awareness of the dangers of unintended consequences and of the need to ensure that they are identified and addressed
- Clear descriptions of any enhancements to the short-listed practices that are agreed to

(Docs #11, #12)

Background

It will be important to ensure that the adoption team does not miss the opportunity to maximize the potential impact of the practice that they select for demonstration and adoption by other mines. Equally, it will be important to ensure that the opportunity for improvement does not inadvertently cause an identified leading practice to be compromised by the introduction of well-intended improvements that prove to have counter-productive outcomes. On the other hand, in considering possible improvements, it is also not appropriate to embark upon a lengthy, costly and potentially risky programme of R&D. The combined experience and skill of the adoption team and the invited experts must thus be properly used in the process outlined below to deliver a beneficial outcome.

Adoption Process	OHSAS
Vision and management orientation	Policy
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Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Cautionary Note

Experience warns that there is seldom sufficient time available in the planning workshop for this process to be properly executed as part of the workshop. Although the potential benefit from the process is greater when it is applied prior to selection of the best leading practice, this benefit tends to be overshadowed by the risk of introducing a counter-productive outcome due to a hurried and inadequate reflective process.

While the process described below is structured to form part of the planning workshop, it is expected that in most cases it will be by-passed, and deferred for possible later consideration by the adoption team in respect of the selected leading practice only.

Purpose

The purpose of this section is thus to outline a process for:

- Systematically identifying potential improvements to maximize the impact of the practice to be adopted, and
- Critically evaluating the identified potential improvement options

Key steps in the development and assessment process

With reference to Worksheet Doc #12, which is provided for use by the teams in implementing the development and assessment process, the key steps that should be followed are presented below. The process draws on the six thinking hats concept of Edward de Bono, and is as follows:

- **List the short-listed potential leading practices and their key characteristics:**
 1. A short title for readily describing and distinguishing between the short-listed potential leading practices should be identified and entered into Worksheet Doc #12.
 2. More importantly, the combined expertise of the adoption team and the invited experts should be used to identify and list the key characteristics of each of the short-listed leading practices.
 3. The selection of characteristics should be guided by the need to identify shortcomings and potential for improvement, but not to the point of excluding other key characteristics. In particular, the list should be sufficiently complete to facilitate consideration of how the practice might be beneficially combined with other complementary practices.
- **Identify the possible shortcomings of the listed practices:**
 4. With a view to identifying improvement possibilities the team should focus on identifying possible shortcomings of each of the potential leading practices. The team must put on the “black hat” of critical judgment and together seek to expose any material shortcomings of each of the listed practices.
 5. The shortcomings of each of the practices should be listed on Worksheet Doc #12 in an appropriate way to clearly record the essence of what has been identified.
- **Identify possible improvements for each practice:**
 6. Even if the team has not identified any material shortcomings in any of the practices, they should now switch to wearing the “green and yellow hats” of creative thinking and positive judgment.
 7. This should be a conscious switch in people’s thinking and the facilitator should emphasise that negative judgment of expressed ideas should be temporarily suspended. Suggested improvements should thus be sensibly built upon and not dismissed.
 8. The suggested possible improvements for each of the short-listed practices should be appropriately recorded on Worksheet Doc #12, along with, importantly, the envisaged positive impact.
 9. Given that the practices under consideration are potential leading practices, the list of possible improvements is expected to be modest.



MOSH FOG adoption team manager leading the discussion

- **Consider combining the identified practice with other complementary practices:**
 10. In respect of each of the practices the workshop participants should then move to specifically considering whether there is a case for combining the practice with any one or more of the other originally identified practices, including those on the short-list.
 11. Documenting and facilitating a leading practice for adoption involves a major commitment and is not quickly completed, so the combination of practices into a single practice for adoption is in principle attractive. However, the temptation to combine too many potential leading practices into a single adoption initiative, to the point where the adoption process may lose both its focus and effectiveness, and become unmanageable, must be resisted.
 12. This is a judgment that the workshop participants, and in particular the adoption team will need to make. In doing so, it will be particularly important to ensure that specific consideration is given to the challenge of developing adequately focused leadership behaviour and behavioural communication plans.
- **Critically assess the proposed improvements:**
 13. Once again, the workshop participants should put on the “black hat” of critical judgment to assess the identified list of possible improvements. No participant should feel ownership for any improvement, including those that participants may have themselves suggested.
 14. The critical assessments should include all issues that could lead to the suggested improvement being ineffective, and not only the examples listed on the worksheet.
 15. In conducting this critical assessment it will be important to avoid the trap of unintended consequences. The prospect of achieving a much desired improvement in one important area must not be allowed to crowd out due recognition being given to counter-productive effects in other areas. These are often of a longer-term nature, and so there is a great temptation to minimize their effect, and it is likely that the participants will exhibit a weakness in identifying them at all. The facilitator should ensure that the participants devote adequate attention to this important aspect of the assessment process.
 16. In respect of each of the proposed improvements the group should strive to reach agreement on the critical assessment of what has been proposed. The facilitator may need to play an active role achieving this, and in ensuring that the agreed outcome is appropriately recorded on the worksheet.
- **Decide whether any improvement option should be implemented:**
 17. Having worked through the process outlined in point 5, the participants will need to decide whether any, or which of the suggested improvements should be regarded as part of the practice, for the purpose of finally deciding which of the short-listed potential leading practices should be adopted.

18. In respect of each of the short-listed practices, the participants should therefore select which, if any, of the options should be included. Once again, with the assistance of the facilitator, the participants should strive to reach agreement on this.

- **Ensure that the agreed improvement options are adequately documented:**

19. In respect of any improvements that are agreed upon, it will be most important that the details of the agreed enhancements are appropriately recorded on the worksheet, to provide a clear basis for selecting which of the short-listed practices should be selected for detailed further consideration and widespread adoption.

Concluding comment

This process offers the prospect of greatly enhancing the impact of the adoption team's efforts, and increasing the effectiveness of time required to facilitate the adoption process once the leading practice has been selected. However, done properly, the above process is likely to be quite time consuming. Importantly, it must be done properly, otherwise the process carries the real risk of identifying an improvement that actually lead to a counter-productive outcome. It would thus be better to skip this process rather than do it poorly.

Section 4.6

Identify potential extent of adoption

Key outcomes

- A detailed estimate of the potential extent and benefit of adoption for each of the short-listed leading practices
- Guidance on completing the worksheet used to develop the detailed estimates of the extent of application and benefit
- A sound basis for selecting the leading practice that should be put forward for widespread adoption

(Doc #13)

Background

The potential extent of adoption of the short-listed leading practices, together with the overall impact of such adoption, should in all cases be a most important consideration in deciding which of the leading practices should be taken forward into the adoption process. Having established a clear understanding of the candidate leading practices, attention needs now to be devoted to developing a good assessment of these two considerations, to assist the adoption team in their selection of the potential leading practice to take forward.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
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Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is thus to:

- Outline a framework for assessing the potential extent of adoption of the candidate practices, and
- Provide guidance in using the worksheet developed for this purpose.

Key points for consideration

With reference to Worksheet Doc #13, the key points for consideration are as follows:

1. Briefly outline the key characteristics of the type of mine that would benefit from the practice:

- In respect of each of the candidate leading practices the adoption team should discuss and agree on the characteristics of the type of mine or mining situation that the practice is well suited to addressing.
- A brief listing of these characteristics should be entered onto Worksheet Doc #13 along with a brief descriptor of the leading practice in question.

2. Identify the mines or groups of mines that are potential adoption mines:

- In identifying the extent to which the practice could be adopted, depending on the nature of the potential leading practice, it might be necessary to list individual mines. If so, the particular mines should be listed in the appropriate place on the Worksheet.
- In other cases the nature of the practice might be generally applicable to a particular class of mine, such as the classes listed in the worksheet. In such cases the percentage extent of the application to each class should be estimated and recorded.
- Should a practice warrant the definition of a class of mine not listed in the worksheet, this should be done.

3. Estimate the potential benefit (need) from implementing the practice at these mines:

- In order to provide an indication of the relative need for the practice, and hence the impact that the practice is expected to make on the identified potential adoption mines, the adoption team should make a qualitative assessment of this, entering a rating of high, moderate, or low, as appropriate.
- In addition to the above qualitative assessment the team should also enter their best estimate of the number of people at risk who are expected to benefit from adoption of the practice.

4. Provide an overall assessment of the benefit of adopting the practice:

- Based on the earlier mine specific considerations, an estimate of the total number of people at risk who are expected to benefit from adoption of the practice should be entered for each of the practices in question.
- Taking the individual mine assessments into account, the adoption team should then make an overall qualitative assessment of the benefit of adopting each of the practices.

Concluding comment

Diligent completion of Worksheet Doc #13 will help ensure that the final selection of the potential leading practice to be taken forward can be based on a detailed assessment of the extent of the potential application and benefit of the short-listed candidate practices.

Section 4.7

Assess the adoption challenge – identify make or break issues

Key outcomes

- Awareness of the need to critically identify issues that could make or break the short-listed candidate practices
- A systematic approach to identifying make or break issues for each of the short-listed candidate practices
- Guidance on implementation of the systematic approach outlined
- A short-list of the top five make or break issues to be considered in selecting the leading practice for adoption

(Doc #14)

Background

As with all investments, it is the risk reward relationship that must be considered as a basis for making a wise investment. This is true also in respect of selecting the practice to be put forward for adoption. Whereas section 4.6 was primarily concerned with the reward associated with adoption, in focusing on an assessment of the adoption challenge, the present section provides an appropriate assessment of the risk elements. However, it also provides a basis for identifying and assessing possible enabling elements. Together with the assessments developed in section 4.6, the assessments developed under this section should enable the workshop participants to identify the candidate leading practice that represents the best investment of the time and effort that will need to be devoted to secure its widespread adoption.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
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Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is thus to:

- Outline a framework for identifying possible make or break issues, and
- Provide guidance in using the worksheet to assess the various factors identified.

Key points for consideration

With reference to Worksheet Doc #14, the key points for consideration are as follows:

1. Recognise the importance of people-related issues:

- There is a natural tendency of operational persons at mines to focus on the physical, engineering or other operational aspects of a potential new practice. While these must receive due consideration, it is essential that the importance of the people related aspects is not underestimated, and that they too receive proper and detailed consideration.
- In making the assessments described below, it is important that the adoption team and the invited experts recognise that it is the focus on people-related aspects of adoption that largely differentiate the present system from previous industry attempts at technology transfer and implementation.

2. Consider the framework of potential issues listed on the worksheet:

- There are many issues that could aid or inhibit adoption and a framework of these is provided in Worksheet Doc #14. Each of these is considered briefly below to provide guidance on the nature of the considerations that is envisaged under each of the listed issues.

1	Impact on production	- Increase or decrease in production output - Increase or decrease in cost of production - Increase or decrease in risk of production
2	Supplier support	Increase or decrease in supplier support
3	Documentation for successful application	- Requirements for new procedures - Requirements for new documentation
4	Impact on environment	- Implications of practice in respect of environmental management requirements - Implications of practice on environmental perceptions of stakeholders
5	New skills requirement	- Implications in terms skills requirements - Availability of required training and / or employees with the required skills - Time required to acquire the new skills
6	Impact on established peer group leaders	- Impact on the status of established peer group leaders - Impact on relationships between peer group leaders and fellow workers - Ability of peer group leaders to acquire any required new skills
7	Impact on workers	- Ability of current workers to acquire any required new skills - Possible downgrading of current job requirements - Extra effort and / or work time to do their work - Positive or negative impact on earnings
8	Impact on first line supervisors	- Extent of new skills requirements and the ability of incumbents to acquire them - Extent to which prior practices will need to be abandoned - Extent to which new behaviour will be required - Possible change in status with co-workers
9	Impact on operational management	- Extent of new skills requirements and the ability of incumbents to acquire them - Extent to which new behaviour will be required, and old behaviours abandoned - Possible change in status with co-workers - Impact on reward and recognition arrangements
10	Impact on executive management	- Extent to which new leadership skills are required - Extent to which new behaviour will be required, and old behaviours abandoned - Impact on reward and recognition arrangements - Possible change in status or relationship with subordinates
11	Implementation costs	High or low one-off implementation costs
12	Implementation time	Long or short period required for adoption of the practice
13	Union support	Extent to which union support is required for successful adoption
14	Impact on engineering requirements	- No new equipment required - New equipment required and availability of equipment and the required support
15	Impact on support staff	New requirements in terms of time and skill of support staff
16	Access to practice at source mine	- Assurance of access to the source mine - Extent of required support from the source mine to document the practice

3. Identify additional issues that could aid or inhibit adoption of any one of the candidate practices:

- Although the framework of issues presented in the worksheet and above is very substantial, it must not be considered exhaustive. The workshop participants may consider it necessary to introduce additional issues that could aid or inhibit adoption and they should indeed ensure that this is seriously considered, with any new issues being duly entered onto the worksheet.



Addressing the adoption challenge - Facilitator making a point

4. Systematically rate the impact of the identified aids and inhibitors to adoption:

- As indicated on the worksheet, each of the identified issues should be rated for each of the candidate practices using a five point rating scale, which ranges from very positive to very negative.

5. Identify up to five potential make or break issues for each candidate practice:

- Based on the assessments that have been made of the various issues listed on the worksheet, the workshop participants should then identify up to five of the issues that have the potential to make or break adoption of each of their short-listed candidate practices.
- Only issues that have been assessed as having a very positive or very negative impact on adoption of the candidate practice should be regarded as make or break issues.
- A brief descriptive statement of the identified make or break issues for each candidate practice should be entered onto Worksheet Doc [#15](#) for consideration in finally selecting the practice that is to be documented and put forward for widespread adoption.

Concluding comment

The rigour of the process for acquiring the selection data developed in this and the previous section will undoubtedly test the resolve of the workshop participants. The role of the adoption team manager and the workshop facilitator will be critical in maintaining the resolve of the team invited experts to resist the temptation to cut corners.

Section 4.8

Select the best adoption option

Key outcomes

- A sound basis for selecting the leading practice that is to be put forward for widespread adoption
- Guidance on discursive approach for reaching an agreement on the leading practice that is selected
- Credible selection and a clear description of the leading practice that is to be put forward for widespread adoption
- Clarity on the option that is to serve as the primary fall-back option should the selected option need to be abandoned

(Doc #15)

Background

Having completed Worksheets Doc #13 and Doc #14 the adoption team and the invited experts should now be well-positioned to identify which of the candidate practices represents the best adoption opportunity. It is likely that this may already be intuitively clear to some workshop participants, but it is nevertheless important to complete Worksheet Doc #15 as a basis for the workshop participants to clearly and explicitly consider and jointly identify this alternative. Importantly, given the difficulties that can arise in the adoption process, participants also need to jointly identify which of the candidate practices represents the best fallback option.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline a simple process to rate the candidate practices, and
- Select the best adoption alternative

Key points for consideration

With reference to Worksheet Doc #15, the key points for consideration are as follows:

1. Consolidate the key information from the previous two worksheets using Worksheet Doc #15:

- The assessments made in completing Worksheet Doc #13 should simply be entered into the relevant cells on Worksheet Doc #15.
- In respect of the make or break issues, these should have already been entered onto the worksheet, and the team should simply check to confirm that the brief descriptive statements are adequately informative for assessment purposes.

2. Rank the candidate practices in order of adoption potential:

- It might be possible for the workshop participants to discuss the summary information in Worksheet Doc #15 and to then simply agree on a ranking of the candidate practices. This should be the first approach as it will facilitate identification of the rationale for the relative rankings.
- In the event that participants are unable to agree on a ranking of the candidate practices, a simple voting process should be used to sequentially rank the various practices. Participants should first vote on which is the best adoption alternative, and then revote to identify the next best alternative, and so on.

3. Provide a brief comment explaining the allocated ranking:

- Drawing on the initial discussion, workshop participants should then develop a brief comment to record the essence of the reason why one option ranks above the other. This may seem unnecessary at the time but may prove to be a helpful reminder in the event that the adoption team needs to abandon the selected practice for adoption and to fall back on using either the second or third ranked of the practices. It will also prove to be helpful to participants in reporting to colleagues within their organisations about the outcomes of the workshop.

4. Prepare a summary description of the leading practice selected for adoption:

- Finally, having identified the best adoption alternative, a summary description of the practice selected for adoption should be prepared, as called for in Worksheet Doc #15. The information recorded in Worksheet Doc #12 should be used and built upon in preparing this statement, which should then be used as the defining statement of the leading practice that has been selected.

Concluding comment

Having arrived at a well-considered selection of the leading practice that represents the best adoption alternative, the focus of the adoption team and the invited experts will now need to shift to that of charting the path forward.

Section 4.9

Assess need for including a demonstration phase

Key outcomes

- A sound basis for assessing whether or not a demonstration phase should be included in adoption process
- Guidance on facilitating the identification and consideration appropriate assessment criteria
- A credible assessment of whether or not a demonstration phase should be included in adoption process
- Recognition of the need to review and update the assessment towards the end of the source mine investigations

(Doc #15.1)

Background

Having selected the leading practice with the best adoption potential, the adoption team and the invited experts now need to consider whether a demonstration phase needs to be included in the adoption process. The option of including such a demonstration phase was outlined in section 3.1, where it was pointed out that in some cases the inclusion of such a phase might be necessary. Inclusion of a demonstration phase does however cause a significant delay in initiating the process of widespread adoption, and is a decision that must not be taken lightly.

Unfortunately, such a delay may result in some mines deciding to implement the practice prior to all aspects of the adoption process having been fully documented. The negative consequences of such premature activity can be harmful to industry. Failed attempts to implement the practice, due to implementation of inadequate adoption procedures, can cause unjustified negative sentiment about the practice. This can spread and grow to the point that unfounded resistance effectively prevents widespread adoption of the carefully selected practice, thus depriving industry of the benefits it might otherwise have enjoyed.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to provide:

- Assessment criteria for inclusion of a demonstration phase into the adoption process, and
- Guidance on the assessment process to be followed.

Key points for consideration

Assessment of the need to include a demonstration phase into the adoption process should involve consideration of the criteria listed in Worksheet Doc #15.1. The listed criteria are outlined in more detail below:

1. Extent of envisaged refinement:

- During the course of the workshop it is possible that some form of refinement of the leading practice may have been agreed upon. Although the investigations at the source mine should involve implementation of the identified refinements, experience with the revised practice will be very limited at the conclusion of the source mine investigations.
- In the event that the refinements are of a minor nature this is unlikely to be important. However, should the refinements be substantial aspects important to adoption of the practice may need to be more carefully established and tested. In such cases a demonstration phase will probably prove to be necessary.

- Given that the full extent and ramifications of any refinements introduced will only be clear towards the end of the source mine investigations, this aspect of the assessment should be reviewed by the adoption team at that stage.

2. Existence of bias and resistance against the practice:

- In the event that adoption of the selected leading practice faces a well-established bias resulting in resistance against the practice, the inclusion of a demonstration phase may be necessary to help overcome this bias and resistance. While communication to address bias and resistance would be important aspects of the behavioural communication plans, a carefully planned and executed demonstration phase would very substantially add to and facilitate the behavioural communication effort.

3. Extent of required skills training:

- Where adoption of the leading practice involves a major process of skills training it is likely that problems will be encountered in successfully introducing such training at a new mine. At the source mine it may be possible to identify and document how many of these problems should be addressed, but the chances of successfully identifying and documenting all of the important issues will decrease as the extent of the skills training requirement increases. In such cases a demonstration phase will assist in identifying and documenting important problem areas prior to the leading practice being presented for widespread adoption.

4. Complexity of the practice:

- A complex leading practice may involve unusual and thus unfamiliar technology, or many elements in a lengthy process, or technical and / or operational aspects that are likely to make adoption or operation of the practice difficult.
- As with a practice involving a major skills training requirement, it is likely that problems will be encountered in successfully introducing such a practice at a new mine. As noted in point 3 above, a demonstration phase will assist in identifying and documenting important problem areas prior to the leading practice being presented for widespread adoption.

5. Lack of performance data on the practice:

- Where there is a lack of reliable performance data on the selected leading practice, a demonstration phase may be necessary to acquire good data to address a situation of uncertainty and or contentious views. The acquisition and dissemination of reliable data is essential to enable positive decisions about the leading practice at potential adoption mines.

6. Weak recognition of practice at source mine:

- In the event that there is weak recognition of the leading practice at the source mine, it is unlikely that persons at the source will consistently assist in providing either helpful or positive communication about the practice. In such a case it will be advantageous to develop a set of credible peers through a successful demonstration project. However, this consideration would seldom alone warrant inclusion of a demonstration phase.

7. Short operational experience at source mine:

- In a case where the selected practice has only just emerged at the source mine, there may be a number of reasons for wanting to include a demonstration phase. These could include some of the criteria already listed, but also others. In particular, the practice may still be in the process of evolving and a demonstration phase may be needed to provide the time and opportunity to satisfactorily achieve an agreed final description of the leading practice.

8. Uncertainty in supplier supply and support:

- Where there is uncertainty about the ability of suppliers to supply and support a selected leading practice, this should have been considered at the time of selecting the leading practice. However, should there nevertheless be important residual concerns, then a demonstration phase may assist in addressing these concerns prior to the practice being presented for widespread adoption.

9. Other:

- While the above covers a number of most important considerations in assessing the need for including a demonstration phase in the adoption process, the adoption team and invited experts may identify other equally important criteria. These should be added to the list, for inclusion in the assessment process.

In facilitating assessment of the above criteria the facilitator should:

- Provide a few minutes for each participant to make their own assessment of the practice against each of the criteria listed in the worksheet.
- With a view to facilitating a discussion to arrive at an agreed assessment, capture the number of assessments falling into each category of demonstration need (Essential – high – moderate – low – negligible).
- Ask participants to identify any other criteria they consider important,
- Following agreement on any additional criteria to be included, facilitate that these are similarly assessed, and
- Facilitate a discussion to arrive at an agreed overall assessment.

Concluding comment

As has been pointed out, some of the information required to make a well-informed assessment of the need to include a demonstration phase may only be available towards the end of the source mine investigations. The present assessment should thus be reviewed and updated at that time. It does however provide the basis upon which the future work of the adoption team should at this stage be planned.

Section 4.10

Consider and schedule future adoption team activities

Key outcomes

- A shared understanding by adoption team members of the nature and timing of the work that lies ahead
- A preliminary plan and schedule for the work to be undertaken to facilitate widespread adoption of the selected practice
- An adoption team that is well positioned and eager to commence the process of facilitating widespread adoption of the selected leading practice

(Doc #16, #16.1)

Background

Although the work considered thus far is a crucial part of planning the adoption process, in many respects it has only provided the foundation and focus for considering and planning the many activities that now need to be tackled to facilitate widespread adoption. The detailed planning of most of these activities requires interaction with others and the acquisition of information that is either site specific or specific to the leading practice that has been selected. Such planning is thus part of the implementation process, rather than the initial planning workshop. However, it is most important that the team does not lose momentum and the preparation now of an agreed plan of action for undertaking this future work will help ensure that this does not happen.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is thus to:

- Outline a process to facilitate the adoption team developing a shared understanding of the work that lies ahead, and
- Develop a tentative schedule for execution of the key activities that have been identified.

Key points for consideration

With reference to the summary of the adoption planning and implementation process presented in section 3.1, and the tentative identification and scheduling of key activities presented in Worksheet Doc #16, the key points for consideration are as follows:

1. Develop a shared understanding of the scope of key future adoption team activities:

- The workshop facilitator, with the assistance of the adoption team manager, should briefly review each of the implementation activities outlined in section 3.1, drawing attention to what are considered to be the key challenges that the adoption team will need to address. In doing this the facilitator and the adoption team manager should refer to and use the material presented in later sections of the handbook.
- It is expected that most adoption team members will have read the relevant sections of the handbook, and this will enhance the value gained from the envisaged discussion. However, should this prove not to be case, then the facilitated review and discussion should nevertheless be of sufficient detail to provide the team with a shared understanding of the essence of the work and challenges that lie ahead.

- In respect of the above review it is noted that three of the sections covering future work are expected to have been considered by the adoption team in workshop mode prior to the above review, and the review would thus need to take this into account.
- Guided by the facilitator, the adoption team should then review and discuss the list of key activities identified in Worksheet Doc #16 with a view to developing a shared understanding of the way in which the relatively high-level planning outlined in the worksheet covers the adoption process outlined in section 3.1. (Worksheet Doc #16.1 should be used in the event that a demonstration phase is to be undertaken as part of the process.) In doing this the team should recognise that in their execution of the various key activities they may need to develop more detailed action plans to identify more precisely what needs to be done, and by who, but that such planning is part of future adoption team activity.
- In reviewing the list of key activities it will be important to draw attention to the parallel nature of much of the work. While this is generally indicated by the activity bars in the worksheet, the parallel and integrated nature of the activities linked to the source mine investigations should be highlighted and explained in detail. Careful scheduling and execution of this work is crucially important. It will largely determine the quality of the adoption process and the success of the adoption team.
- During the course of discussing the worksheet, in respect of each of the listed key activities the team should identify and enter into the comments column any particular comment or reminder considered necessary.

2. Develop a tentative schedule of future adoption team activities:

- Based on the understanding of the various activities that the team has developed during its discussion of the worksheet, the team should mark up any adjustments to the timing bars considered necessary, and then enter the appropriate start and end dates into the columns provided for this purpose.
- The column provided for the purpose of indicating who is to carry responsibility for executing the various activities should be left for completion later, although the team may wish to enter any preliminary thoughts it has on this matter in the column provided, or in the comments column if more appropriate.

Concluding comment

On completion of the review process outlined above, and having tentatively scheduled the various activities that the adoption team need to execute, the team should have developed a good appreciation of the scope of the work that lies ahead. In particular they should together feel the need to build on the foundation and momentum provided by the planning process they have just completed.

SECTION 5

Source investigations - documenting the leading practice

- 5.1 Preliminary investigations at source mine
- 5.2 Identify and prioritise potential adoption mines and their key players
- 5.3 Identify lead adopter mines / host demonstration mines
- 5.4 Identify deciders, adopters and key stakeholder groupings
- 5.5 Develop hypotheses of stakeholder mental models
- 5.6 Develop hypotheses of key leadership behaviours
- 5.7 Develop and implement behavioural communication interview protocol
- 5.8 Analysis and implications of survey data for behavioural plans
- 5.9 Preparation of generic behavioural communication plans
- 5.10 Preparation of generic leadership behaviour plan
- 5.11 Plan and conduct detailed source mine investigations
- 5.12 Update generic behavioural plans based on source mine findings
- 5.13 Develop the generic value case for the practice being adopted
- 5.14 Identify and address critical issues including demo-adoption criteria
- 5.15 Preparation of a consolidated Source Investigations Summary Report
- 5.16 Preparation of a draft Leading Practice Adoption Guide

Section 5.1

Preliminary planning for source investigations

Key outcomes

- An awareness of the integrated and parallel nature of the source investigations that lie ahead
- Guidance on the process of planning the various source investigations
- Guidance on the scope and content of the preliminary investigations at the source mine
- A sound basis for further work towards facilitating the widespread adoption of the leading practice

Background

Immediately after the planning workshop the Adoption Team Leadership needs to focus its attention on clarifying the details of its future work, and then updating the preliminary plan agreed to in the planning workshop. One of the important points that must be borne in mind when doing this is that many of the activities described in successive sections of the handbook depend on each other, with much of the work needing to be undertaken in parallel. The preliminary investigations at the source mine, which need to be undertaken as soon as possible following the planning workshop, serve the important purpose of setting up arrangements at the source mine to facilitate such parallel activity. In updating their preliminary plan, and in setting up these arrangements, the Adoption Team needs to have a clear understanding of how this parallel activity all fits together. This is outlined below and illustrated in detail in the schematic provided at the end of this section.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	Review
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

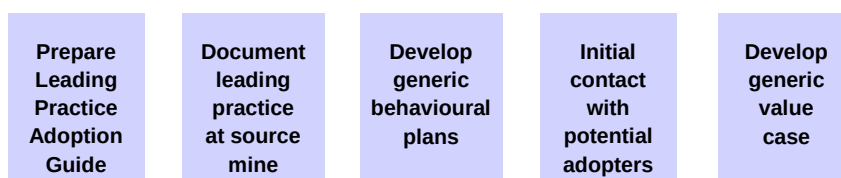
The purpose of this section is to:

- Provide an explanatory schematic indicating how the various source investigations fit together, and
- Outline the arrangements and preliminary investigations that need to be completed at the source mine.

Schematic overview of source investigations

Although the sequence of activity of the adoption process and the parallel nature of many of the activities is captured in section 3.1, and in Worksheet Doc #16, the integrated nature of the parallel work may not be readily or fully evident. While this is brought out in various sections of the handbook, the schematic provided at the end of this section graphically provides in one diagram a synoptic overview of the parallel work and the way in which it fits together. The schematic illustrates that, to a large extent, five substantial projects need to be conducted in parallel. For the selected leading practice, they are the source investigations. They are as follows:

Parallel source investigations to document the Leading Practice



Key points in relation to these source investigations are as follows:

1. **Detailed planning is essential:** The adoption team leadership must carefully take into account the parallel, integrated and substantial nature of the source investigations when reviewing and updating the planning agreed to during the planning workshop. In particular, although much of the work will need to be done as a team, they should consider allocating responsibility to individuals for ensuring delivery and appropriate integration in respect of each of the five project areas.
2. **Consult the handbook sections for detail:** The handbook sections identify the linkages between the various parallel activities, as shown in the diagram provided later. The various handbook sections should thus be reviewed to ensure no important linkages are overlooked. However, in doing this the adoption team needs to ensure that it is not inadvertently misled by the serial sequencing of the handbook sections. Although the sections are presented roughly in the order that the work needs to be initiated, the work must be planned and executed as a set of parallel activities. This is outlined in the planning schedules and the diagram provided later.
3. **Prevent inappropriate delays:** Experience has shown that adoption teams have a tendency to leave some crucially important activities to later, and to then reap minimal benefit from hastily doing the work when it is too late. This applies particularly to establishing meaningful contact with potential adopters, and to developing and making available a credible value case. Both provide the basis for successfully facilitating widespread adoption of the leading practice. Allowing work in these two areas to be delayed is a serious mistake.

Preliminary investigations at the source mine

Against the above background, key points regarding the arrangements and preliminary investigation needed at the source mine are as follows:

4. **Set up arrangements with the source mine:** The adoption team manager should hold discussions with the chief executive (Mine Manager) at the mine to outline and obtain agreement to the envisaged process of investigating and documenting the identified practice. The temptation to make arrangements with a colleague at a lower level should be resisted. It is important that the investigations are known to the chief executive and that they carry his support.
5. **Arrange access to the key operational person:** In setting up the arrangements the adoption team manager should, in particular, request the chief executive to identify the person at the mine responsible for overseeing and ensuring effective operation of the practice. The request should extend to asking that he set up any arrangements necessary for that person to assist with the investigation process.
6. **Prepare an accurate description of the leading practice:** At the time of selecting the leading practice for adoption, the adoption team will have prepared a summary description of the selected practice. This summary should be discussed and updated with the identified key operational person at the source mine. The process of preparing the updated description should serve to identify the key aspects of the practice that the adoption team

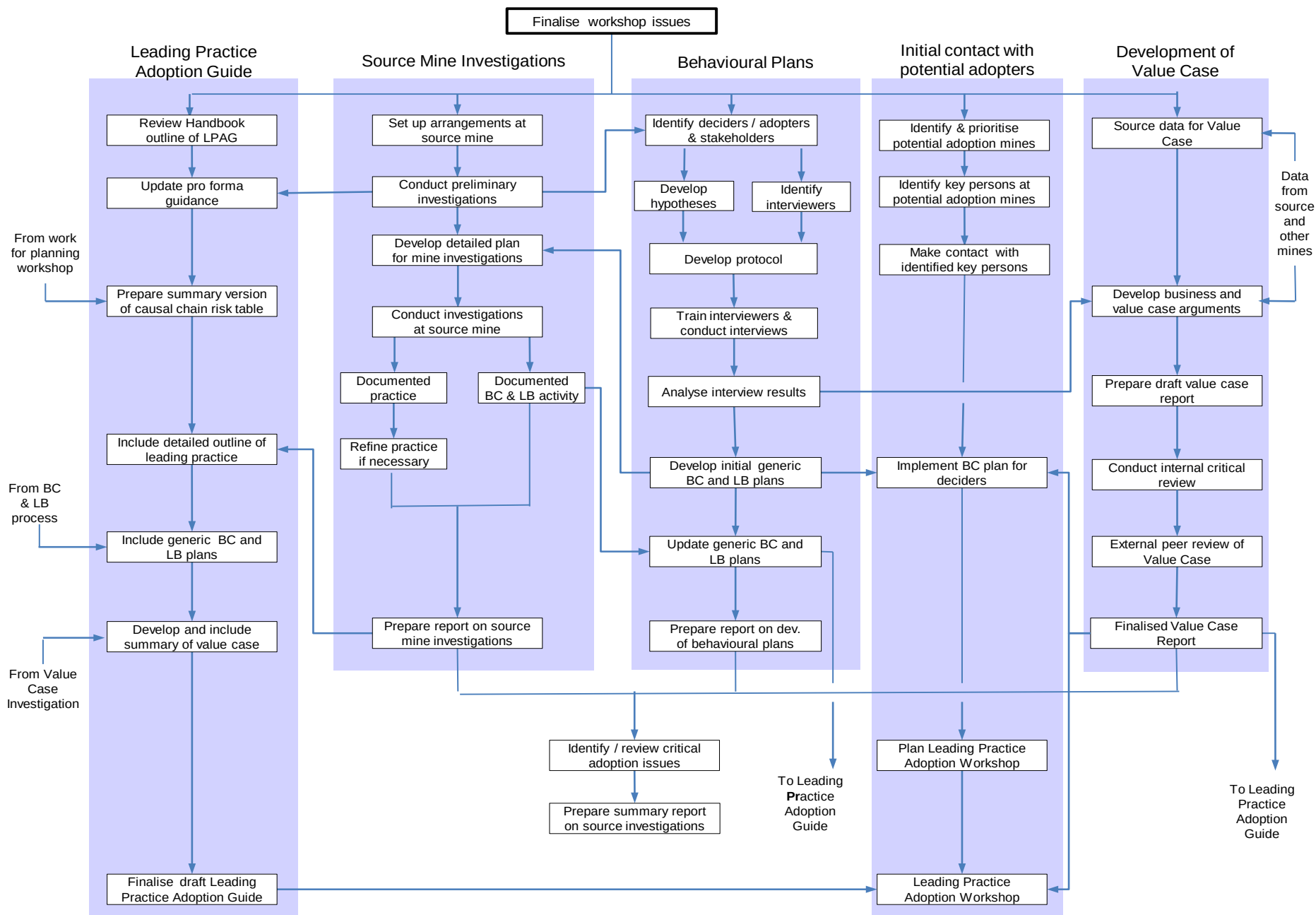
will need to investigate. It should also identify the hierarchy of leaders involved in deciding and operating the practice. The updated description should:

- Provide a general description of the practice, identifying its key features, as was required at the time of its selection
- Describe the key risks that the practice addresses at the mine
- Describe the benefits derived from adoption of the practice at the mine.
- Identify the key persons and groupings involved in operating and managing the practice.

7. **Identify the leadership hierarchy for the leading practice:** The list should start with identification of the first operational level responsible for operation of the leading practice. It should then progress to identification of each leader that may be involved in supervising individuals or operational teams. Each level of leader that influences or is involved with operational adoption of the leading practice, up to and including the most senior leader in the mine should be identified. This should include those leaders who play a key role in making the initial decision to adopt the practice. For some leading practices, such as those involving large capital budgets, it might be necessary to extend the identification and description of the hierarchy to include leaders up to and including the mining company's chief executive officer. The information is needed for development of the leadership behaviour plans for the selected leading practice, see sections [5.6](#) and [5.10](#) and Worksheet Doc #32.
8. **Agree procedures for detailed investigations at the mine:** Although much of the detail of the various investigations at the mine has still to be planned, having reviewed relevant sections of the handbook, the adoption team should be in a position to outline the envisaged nature of the investigations, including the approximate time scale. This should be explained to the identified key person. Agreement should be reached on the timing and procedures to be followed in liaising with relevant persons at the mine to obtain information and to conduct the necessary investigations. The relevant persons should be identified to the extent possible so that they can be briefed about what lies ahead.
9. **Meet with relevant people at the mine:** The initial interactions at the mine should include introductory briefing meetings with those persons who are expected to be particularly relevant to the envisaged investigations. In some cases it may be prudent to indicate the sort of information that will be needed, and to request that it be assembled in the interim.
10. **Initiate the process of gathering information for the value case:** Assembly of information relevant to the business and value case for the leading practice is one of the specific requests for assistance that should be discussed in detail. In particular the name of the person at the mine who is best positioned to assist in providing such information, and also to assist in developing the value case, should be obtained during these preliminary investigations.

Concluding comment

The work undertaken in the first few weeks following the planning workshop will largely determine the success of the adoption team in facilitating widespread adoption of the leading practice. The adoption team has two main points of focus. The first is to select the practice that will deliver the greatest occupational health and safety benefit, and the second is to facilitate its widespread adoption. Careful planning and structuring of the facilitation process, as outlined above, represents an important step in this direction.



Section 5.2

Identify and prioritise potential adoption mines and their key players

Key outcomes

- A systematic process for identifying and prioritising potential adoption mines
- Identification of the key players at potential adoption mines who will be involved in deciding on, and implementing the leading practice at the mine
- Initiation of the process of interacting with key players at the potential adoption mines in preparation for them becoming members of the COPA when it is established.
- Knowledge of the type of information that the key players are interested in receiving as the adoption process unfolds
- Establishment of contacts at potential adoption mines to assist in setting up and conducting the direct enquiry process that forms part of developing relevant behavioural communication plans

(Doc #20)

Background

Once the adoption team has decided upon the practice that is to be put forward for widespread adoption it is important that the adoption team develops a list of the mines that are potential future adopters of the selected practice. Just as documenting details of the leading practice serves as a key step in the process of facilitating widespread adoption of the selected practice, in the context of initiating meaningful communication with future adopters, so too does the process of identifying and listing the potential future adoption mines, and the key persons at those mines. It is these persons who will in due course decide whether or not to adopt the practice at their mine. It is their decisions that will largely determine the success of the adoption team in facilitating widespread adoption. They are also potential members of the Community of Practice for Adoption, COPA, which the adoption team will need to establish in due course as a core aspect of facilitating widespread adoption of the practice. The importance of identifying and initiating appropriate interaction with these mines and key persons at an early stage should thus be clear.

Purpose

The purpose of this section is to provide guidance on:

- The criteria and process for identifying and assessing potential adoption mines, and
- The identification of key persons at the adoption mines and the initiation of communication with them.

Identification of potential adoption mines

Based on the adoption team's collective knowledge of the industry, but also with the assistance of Task Force members, the Secretariat and the communication team, and supported by further enquiry as necessary, the adoption team members should identify all potential adoption mines, as follows:

1. All mines that satisfy the following criteria should be regarded as potential adoption mines:
 - The practice is applicable to the mine in question
 - The mine has the potential to benefit from adoption of the practice in question
 - The practice is not disqualified by policy directives operating at the potential adoption mine.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
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Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

2. In a case where the practice is very widely applicable the adoption team should consider defining groups of mines that are similar and which have common characteristics. However, at least three or four of the larger mines from each grouping should be selected for inclusion in the analysis process outlined below.
3. MOSH Task Force members, in their role as their Group's Adoption Coordinator, have a particularly important role to play in identifying mines within their group that are potential adoption mines.
4. The total number of mines listed for analysis should not exceed about 40.

Prioritisation of potential adoption mines

Given the large number of mines that may be identified as potential adoption mines, it will be important to focus the efforts of available resources on those mines that have the best adoption potential. These should be regarded as the high priority mines:

5. A particular reason for doing this is that the prioritisation process also provides a means for identifying the key persons at those mines. They are the persons who will in due course decide whether or not to adopt the practice at their mine. It is expected that the mine manager, or an appropriate departmental head, and the specialist at the mine responsible for the area addressed by the leading practice, should emerge as being key persons. They are also best suited to being the mine's initial members of the COPA that is to be established to facilitate widespread adoption of the leading practice.
6. Importantly, the identification of these key persons at the mines with the best adoption potential facilitates the work of developing a generic behavioural communication plan with good applicability. In particular:
 - It is these mines that should be provide a substantial portion of the persons to be interviewed in the direct enquiry process described later.
 - The persons identified will also be the ones who are primarily responsible for making the decision about whether or not their mine will adopt the leading practice in question. They should thus be the recipients of behavioural communication material developed for the decision makers.
 - They should also be the recipients of material and efforts aimed at developing a management orientation conducive to successful adoption. The importance of this point was explained in section 3.2, and communication efforts in this direction should be initiated without delay.

The prioritisation process is thus a means of maximising the impact of the adoption team's efforts to facilitate adoption of the leading practice.

7. In order to prioritise the identified mines it will be necessary to obtain information about each mine. In doing so, it will be important to obtain the relevant information from those persons at the mine who are expected to play a key role in adoption of the practice at that mine. The adoption team should use their knowledge of the industry, as well as the input of MOSH Task Team members to identify these key people.
8. In that interaction, and after conveying essential information about the leading practice, the opportunity should be taken to identify the sort of information that the key persons at the

mine would need to take into account in deciding to adopt the practice. This input will help guide the information that should be presented at the leading practice adoption workshop and in the leading practice adoption guide that is to be prepared.

9. It will also be important to establish whether the persons would be interested in being kept informed of progress prior to the leading practice adoption workshop, and the type of information they would like to receive.
10. Interaction with the key persons at the potential adoption mines should be structured to enable the adoption team to complete the prioritisation table set out below. A practical worksheet form of the table is provided Worksheet Doc #20:

No	Prioritisation factors	Factor	Mine A	Mine B	Etc
1	Good potential to benefit from adoption of the practice OHS indicator - no of people who benefit – ease of implementation – life of mine	4	Each factor should be rated on a scale from 1 to 5, with 1 indicating very weak and 5 indicating very strong. The rating should then be multiplied by the weighting factor and the derived score entered		
2	Mine leadership OHS management orientation - progressive and enthusiastic – good record in adopting new practices – good management / union relationships	3			
3	Adequate time, resources and infrastructure at the mine Good profitability - Management time – support infrastructure (Training/engineering/other/etc)	2			
4	Project leadership at the mine Readily available champion to lead the adoption – good skills and experience	1			
	Overall assessment				

11. The overall assessment developed in the above table would provide a primary indication of the order in which the mines should be ranked. However, during the prioritisation process other important factors may emerge, or there may be a good case for adjusting the proposed weighting factors, and the final priority ranking should take account of these considerations, with an appropriate comment being provided to account for any changes to the ranking arrangement proposed in the above table.
12. Finally, in the event that it has been necessary to group mines due to the large number of potential adoption mines, the table should be checked to ensure that at least one of the mines from each grouping falls within the top 10 mines listed. Should that not be the case the adoption team should make enquiries and endeavour to identify and assess a mine that does fall within the top ten potential adopters.

Concluding comment

The process of prioritisation is an important means for gathering information to guide future communications, and to identify potential members of a future Community of Practice for Adoption, COPA. It also establishes a group of people well placed to assist in identifying who should be interviewed in the direct enquiry process that forms the basis of developing a sound behavioural communication plan. As key deciders, it is also this group who will be the recipients of the behavioural communication plan developed for deciders. It is thus a key enabling step in the process of facilitating widespread adoption of the leading practice

Section 5.3

Identify potential lead adopter mines / host demonstration mines

Key outcomes

- A set of criteria to guide the selection of an appropriate mine for first implementation of the adoption process
- A shared understanding by adoption team members of factors that are crucial in selecting a suitable first adopter mine
- A preliminary short-list of potentially suitable first adopter / demonstration project mines
- A deeper understanding by the adoption team of the issues to guard against at a first adopter site

(Doc #17)

Background

Successful adoption at the first mine to adopt the leading practice is one of the most fundamental, enabling and powerful communication initiatives that the adoption team will facilitate. It amounts to an action that in itself communicates the value of adopting the practice. More importantly, it also provides many opportunities for the adoption team, and the key persons at the first adopter mine, to identify and communicate *the right things to the right people in the right way at the right time*. In order to fully realize this communication opportunity, it will be necessary for the mine to have good prospects for successful adoption, and for it to be willing to work closely with the adoption team. The selection of an appropriate lead adopter mine (or demonstration mine), therefore requires careful consideration, initially during the planning workshop, but then afterwards in more detail when the necessary information about candidate mines can be acquired.

Purpose

The purpose of this section is to provide guidance on:

- The identification of criteria for the selection process, and
- The process for selecting mines that best meet the lead adopter / demonstration mine requirements.

Key points for consideration

With reference to Worksheet Doc #17, the key points for consideration are as follows:

1. Develop the list of criteria for use in assessing and selecting suitable candidate mines:

- The adoption team should examine and briefly discuss the list of criteria presented in Worksheet Doc #17. These have been found to be essential considerations in selecting a mine that is well suited to being a successful lead adopter mine / demonstration mine, and the selection process must recognise this. The discussion should focus on ensuring that the adoption team has a shared understanding of the importance of these factors.
- Consideration should nevertheless be given to identifying and adding other pertinent selection criteria. The adoption team should discuss this with a view to drawing on the experience of its members. However, prior to this discussion the team should review the list of insights presented in section 3.3 as well as the checklist in section 6.1, for use immediately before embarking on the first adoption process. Pertinent criteria identified should then be added to the criteria listed on Worksheet Doc #17.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

- Unless it can be strongly justified, the total number of selection criteria should not exceed about 10.

2. Identify a short-list of candidate mines:

- Bearing in mind the listed selection criteria, the adoption team should work through the list of potential adoption mines developed on Worksheet Doc #13, with a view to identifying potentially suitable lead adopter / demonstration project mines.
- During the course of doing this the industry members of the adoption team should draw on their knowledge of the industry to identify any mines that they consider to be suitable candidates. In doing so, with the assistance of their MOSH Task Force member they should identify the mine within their group that would be best suited to being a candidate first adopter mine.
- The names of the short-listed candidate mines should then be entered onto the worksheet.

3. Critically assess the suitability of the short-listed mines:

- In respect of each of the listed selection criteria the adoption team should critically assess each mine according to each of the listed criteria. In each case a qualitative rating using the 5-point scale indicated on the worksheet should then be agreed upon and entered onto the worksheet.
- On completion of the case by case ratings the adoption team should discuss and agree an overall rating for each of the listed mines. Importantly, any mine that has been rated unacceptable in respect of any one of the first 7 of the 8 criteria originally listed should be rated as unacceptable in the overall assessment.
- Without compromising the prospect of a successful outcome, and with a view to spreading an awareness of the adoption process around the industry, and with all else being equal, the adoption team should favour mines that have not previously been a lead adopter / demonstration project mine.
- Based on these assessments the adoption team should then identify which of the candidate mines is best suited to successfully adopting the leading practice

4. Ensure that the preliminary selection process is properly completed and confirmed:

- As indicated earlier, the above selection process should be undertaken by the team during the planning workshop, based on the adoption team's knowledge of the potential adoption mines that were identified in the workshop. The adoption team should however recognise that proper consideration of the selection criteria requires information that the team will need to gather after the planning workshop.
- An objective of the preliminary process is thus to help identify the full range of information that the team will need to gather in order to finally make the required soundly based selection of the lead adopter / demonstration mine.

Concluding comment

The orientation and momentum generated in the planning workshop by working through the selection process outlined above will help ensure a successful first adoption of the leading practice, and a sound basis for facilitating widespread adoption of the practice.

Section 5.4

Identify deciders, adopters and key adoption stakeholder groupings

Key outcomes

- Guidance on the identification of decider, adopter and key stakeholder groupings for behavioural communication purposes
- Clarity about who should be identified as deciders, adopters and as key stakeholders
- A shared understanding by the adoption team of the rationale for identifying decider, adopter and stakeholder groupings
- A completed worksheet identifying key deciders, adopters and key stakeholders for behavioural communication purposes

(Doc #18)

Background

The first important step in the process of developing a behavioural communication plan for the leading practice being put forward for adoption was the preparation of the expert risk summary described in section 3.5. One of the key elements of that process was the identification, in broad terms, of stakeholders and adopters with a view to obtaining their input into the development of the expert model. However, following on from the development of that expert risk model, the adoption team has now selected the leading practice for adoption. The team is thus now in a position to much more precisely identify the deciders, adopters and key stakeholders who need to be addressed through purpose designed behavioural communication plans. Formulation and implementation of these plans is a key element of the adoption process.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	
Identify hazards and assess risks	Plan
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

The purpose of this section is thus to:

- Briefly recap on the rationale for identifying deciders, adopters and key stakeholders, and
- Provide guidance on the identification process to be followed.

Key points for consideration

With reference to Worksheet Doc #18, the key points for consideration are as follows:

1. Ensure a clear understanding of the rationale for identifying deciders, adopters and key stakeholders:

- The detailed explanation of the behavioural communication concept presented in section 15.3 provides a basic understanding of this concept. Adoption team members should ensure that they are familiar with the contents of that section. It provides the basic rationale for careful identification of the deciders, adopters and stakeholders who have the capacity to directly influence the adoption process.
- It is however also appropriate to clarify the reason for the adoption team needing to again give consideration to the identification of adopters and stakeholders. In developing the risk summaries of section 3.5 the adoption team needed to identify adopters and stakeholders who could be consulted in the process of developing the expert risk model for the broad area of interest to the adoption team. The spectrum of adopters and stakeholders was thus intentionally broad.
- Having now selected the leading practice for adoption, the identification of adopters and stakeholders must now be tightly tied to the leading practice. They are the persons

who have the position and capacity to influence the adoption process, and it is a selected sample of these persons who need to be interviewed to gain insight into the prevailing mental models.

- Importantly, it is now also possible to identify the persons who will decide whether or not a mine should initiate adoption of the selected leading practice. In the absence of a positive decision from such persons to do so, behavioural communications intended for adopters and other key stakeholders at the mine become irrelevant. The importance of effective advance communication with the decider group is thus self-evident.
- In the first instance it is thus an in-depth understanding of the factors that are important to, and which influence the decision-making of the decider group that needs to be developed. Following on from this, but no less important, is the development of an in-depth understanding of the factors that influence the behaviour of the adopter and key stakeholder groups with respect to reducing and managing risks, including the prospect of adoption the selected leading practice. It is this understanding and insight that determines the scope and content of the behavioural communication plans that need to be developed and implemented to secure widespread adoption of a leading practice. More specifically, it is these plans that need to facilitate the initial strategic decision by top management at a mine to adopt the leading practice, and which must then foster eager and successful adoption of the leading practice at an operational level.
- The above point highlights an important reality. In the first instance the focus of the communication needs to be on those persons and issues that are important in making the initial strategic decision. It is only after this decision has been made that the communication needs to focus on the people and issues important to operationally achieving successful adoption of the leading practice.

2. Develop a shared understanding of who the stakeholders and adopters are:

- Experience warns that difficulties can arise in differentiating between deciders, adopters and key stakeholders. The difficulty stems from the fact that all deciders and adopters are also key stakeholders, but with special interests that warrant them being separately classified. The definitions provided below should thus be carefully assessed and discussed to ensure that all adoption team members have a shared understanding of what is meant by the terms.
- *Deciders: Deciders are those people who are directly involved in making the initial decision at a mine to adopt the leading practice, or who have a significant influence on that decision making process.*

At most mines the initial decision to adopt the leading practice will be made by a relatively small group of people. This would usually include the mine manager, the production manager, the occupational health and safety manager and depending on the practice in question, the relevant specialist at the mine. Significant influence over the decision could in some cases come from one or two persons at the mine's group head office, as well as from senior union representatives at the mine. Where this is the case they should be included within the decider grouping.

- *Adopters: Adopters are people who will be expected to perform a procedure or practice, or use a particular product or service, as part of implementing or operating a leading practice, or who are responsible for directly supervising such activities.*

The procedure may be, for example, a certain set of activities completed in a precise order to assure that people are at low risk of being harmed by a fall of ground. It could also be the installation and maintenance of the electrical infrastructure required for the operation of electric drills underground. The product involved in the leading practice may be a new tool, such as a rock drill. It may also be a new service, such as expert maintenance of a system.

- *Key stakeholders: Key stakeholders are individuals, groups or organizations that may be affected by, or perceive themselves to be affected by the risks being addressed by the leading practice, and who may in some way influence the adoption process.*

They are individuals and groups who are likely to have a significant interest of some kind in seeing risks reduced or situations managed in a particular way. Key stakeholders are people or groups in a position to significantly influence performance or use of the procedures, practices, tools or services. The deciders and adopters are clearly such people, but as indicated earlier, they are identified and treated separately.

An example of a key stakeholder may be a senior leader in mine operations who may not actually operate or directly supervise the leading practice, but who is dedicated to supporting the practice and seeing it performed well. Other examples of key stakeholders may include labour union representatives, such as shop stewards, and health or safety specialists.

3. Identify and list the deciders, adopters and the key stakeholders:

- The first step towards identifying the deciders, adopters and key stakeholders should be an examination of the expert risk model prepared in accordance with section [3.5](#). With reference to the description of the leading practice presented in Worksheet Doc [#15](#), this summary should be examined to identify the key risks that the selected leading practice addresses. A description of this set of risks should then be entered into Worksheet Doc [#18](#).
- Depending on the leading practice that has been selected, this set of risks may be a relatively small subset of the risks identified in the expert risk model developed in section [3.5](#).
- Guided by the definitions provided above, and the notes provided in Worksheet Doc [#18](#), the adoption team should use the worksheet to identify and list the deciders, the priority adopters and the key stakeholders, as outlined in the worksheet.
- In preparing this list, the adopters and stakeholders identified in Worksheet Doc [#2](#) at the time of developing the expert risk model should be examined to ensure inclusion of previously identified adopters and stakeholders who are relevant to the leading practice and the set of risks that it addresses.

Note: Worksheet Doc [#18](#) includes a column for entering a summary of the knowledge gaps and misperceptions that the adoption team thinks might apply to the various groupings. The process for determining these gaps and misperceptions is described in section [5.5](#) as one of the steps involved

in developing the protocol and questions to be used in the direct enquiry process. The inclusion of such a summary in the worksheet is not an essential requirement, but it would provide a more complete and potentially useful description of the identified adopters and stakeholders.

Concluding comment

Completion of Worksheet Doc [#18](#) represents the adoption team's best understanding of who the key people are expected to be in the process of deciding and adopting the selected leading practice, and of the team's perception of the knowledge gaps and misperceptions of these people. In this regard the adoption team must remind themselves that their perceptions serve the purpose of designing a meaningful direct enquiry process involving the identified deciders, adopters and stakeholders, and that these perceptions *must not* be regarded as an alternative way of determining the mental models required for the development of a behavioral communication strategy and plan.

Section 5.5

Develop hypotheses of key stakeholder mental models

Key outcomes

- Enhanced understanding of mental models research methods
- A finalised causal chain expert risk model for use determining and analyzing mental models
- An understanding of how to develop soundly based hypotheses
- An understanding of the role of hypotheses in the preparation of the direct enquiry interview protocols
- Insights for use in designing direct enquiry interview protocols and people related aspects of source mine investigations

(Docs #18, #21)

Background

For a behavioural communication plan to be effective, its design and implementation must tap a deep understanding of the thinking of those for whom the communications are intended. When it comes to helping people better understand and manage risks, it is vital that strategies and communication content reflect people's priorities for action, risk perceptions, and information needs. Without this, communications are likely to fail, underperform or worse, create problems and issues where none exist today. Mental models research is a useful method for generating the requisite understanding for designing and implementing behavioural communications respectfully, empirically and without guesswork – communications that are intended to have a positive effect on people's judgments, decision making and behaviour.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

The purpose of this section is to:

- Present key considerations that underpin the mental models research process to be applied to the identified deciders, adopters and key stakeholders, and
- Outline the mental model hypothesis process used to assist in the design of direct enquiry protocols and source mine investigation plans.

Key considerations

1. **The essence of the mental models research method:** An explanation of the mental models research method and behavioural communication is provided in section 15.3, and a summary diagram of the behavioural elements embedded in the adoption process is presented in section 3.1. Key points of particular relevance to the research method are as follows:
 - A person's "mental model" can be thought of as a complex web of deeply held beliefs – often operating below the conscious level – which affect how an individual defines a problem, reacts to issues, and makes decisions about messages and options concerning topics that come to his or her attention through communications. It is well established in the scientific literature that nobody can accurately describe people's mental models without the empirical insights needed to do so. Also, people's mental models about an issue may vary in important but often unpredictable ways.
 - In broad terms, mental models research undertaken for the purpose of designing and implementing behavioural communications seeks to establish:

- What people know now about a situation or risks that is correct and essential to making an informed decision;
- What people may misunderstand that is consequential;
- What they do not know that is consequential;
- What they want to know that is important to them; and
- What criteria they use to judge the trustworthiness and competence of people, organizations, and communications.

Implicit to the above is the need to have a truly accurate understanding of the risk situation. Insights on these topics are then used as the basis for design and implementation of precisely targeted behavioural communication strategies and messages.

- The mental models research method involves individual, confidential, one-on-one interviews, in which participants are guided through a semi-structured agenda of topics framed by the expert understanding referred to above. In the adoption system this expert understanding of the “truth” is captured in the causal chain expert risk model / summary table described in section [3.5](#).
- The nature of the questions that guide the interview and the overall tone of the interviewer encourage free discussion and allow for people to express their beliefs, and the underlying rationale for them, in their own terms. During the interview, as the participant is led by the interviewer through the questions and topics, he or she is encouraged to elaborate on ideas, issues or topics that come to their mind in the course of the conversation.
- Importantly, each participant is given the opportunity to share his or her thoughts openly and completely. Interviewees can thus readily raise topics that most interest them, but which may be outside of specific questions.
- Significantly, the process of conducting mental models research is often deemed by Interviewees as being a respectful one. Experience has shown that even Interviewees who are critical of a company, industry or agency will often express satisfaction with a communication process, such as mental models research, that allows both parties the opportunity to hear each other out fully and fairly.
- When interviews are done well, interviewers and researchers can identify from a simple analysis of the research results what people believe about the risk situation, and more significantly, why they believe it. They are also able to compare analyses over time and provide insights into why such beliefs may have changed.

2. The three critically important phases of mental models research: They are as follows:

- *Design - Carefully designed, high-quality interview scripts, called “protocols”:* Interview scripts (or protocols) must be carefully crafted so that questions will have their intended effect on stimulating the thinking of Interviewees, thereby enabling generation of insight that is rich and relevant to design and implementation goals. This is covered below and in section [5.7](#).

- *Implementation - Interviews conducted by appropriately qualified interviewers:* A well-conducted interview will stimulate people to share their beliefs and their underlying rationale. Inept or inexperienced interviewers can spoil the interview in various ways including inadvertently or unduly shaping, suppressing or distorting the Interviewee's responses during the interview. See section [5.7](#).
- *Analysis - Data from interviews carefully coded, analyzed and reported:* Gaining meaningful insight from the data generated in interviews requires effective integration and systematic analysis. Coding is the process of organizing interview responses into meaningful segments that can be integrated and analyzed. Analysis is the process of examining coding segments of interview responses in order to identify key factors in interview responses and assess the key gaps and alignments. Analysis is dealt with in section [5.8](#).

3. Review and finalization of an in-depth understanding of the risk situation: From the above it should be evident that the first step in the mental models research method is the development of an in-depth understanding of the risk situation. This is required to provide the context for framing the key questions of the direct enquiry process, and the datum for analyzing mental models research results. As mentioned earlier, the causal chain expert risk model / summary table that has already been developed, as described in section [3.5](#), is intended to provide such an understanding. Accordingly, at this stage only the following need be done:

- The causal chain expert risk model / summary table prepared by the adoption team should be reviewed to ensure that aspects particularly relevant to the selected leading practice are adequately covered. A summary of the particular risks addressed by the selected leading practice should have been already prepared at the time the practice was selected, as described in section [4.8](#).
- This is necessary because the leading practice may address only certain of the risks covered in the expert risk model / summary table. In cases where the risks addressed are a small set of the spectrum of risks covered in the expert risk model / summary table, the preparation of a smaller but more focused and detailed model / table may be warranted. However, provided that the elements of the risk addressed by the leading practice are fully covered, it is likely that the broader risk description will in most cases be both appropriate and indeed helpful.

4. Preparation of hypothesized mental models for the identified deciders, adopters and key stakeholders: An important step in the design of a high-quality protocol for use in the interview process is the development of substantiated views about key elements of the mental models that deciders, adopters and stakeholders are likely to have. This is achieved through a rigorous process of hypothesis.

- The hypothesis process is conducted in order to:
 - Reveal possible issues, interests, priorities and opportunities related not only to the key risks, but also to adoption of leading practice by the individuals and groups who will be primarily responsible for deciding upon and then successfully adopting the selected leading practice.

- Identify and appreciate the possible influence of cultural, economic and social factors on the thinking and behavior of adopters and stakeholders.
 - Enable the adoption team to anticipate and act to prevent potential miscommunication that could inadvertently set up barriers to adoption of the leading practice.
 - Define what information needs to be collected, and from whom, through mental models research and other methods of inquiry. This also helps ensure that only the most essential information is collected.
 - Serve as an analytical and reporting framework for interpreting research results.
- Hypotheses are written by the adoption team as statements of what they believe to be the case. Importantly, each hypothesis needs to be followed by a clear statement of the reasons for believing the hypothesis to be the case. They are not intuitive guesses by the adoption team, nor can they take the place of the direct enquiry process. This point is clearly illustrated by the example of a hypothesis and its supporting rationale statements, which are provided in the side-box.
 - Hypotheses should be stated in simple language, at a lay level, with minimal or no use of technical terms or jargon. They should represent the best thoughts of Adoption Team members about what is true and why it is true. Also, care should be taken to write hypotheses precisely. The more precisely written the hypotheses, the higher the likelihood of identifying crucial information, not just background or interesting information.
 - The preparation of hypotheses should draw on the insights of the adoption team members and relevant subject matter experts, but also on documented case studies, scholarly literature and similar experience.
 - Hypotheses should be prepared for each of the deciders, adopters and key stakeholders identified in Worksheet Doc #18. For each grouping, an hypothesis statement, complete with its supporting rationale, should be prepared for each of the following questions:
 - What do the key deciders adopters and stakeholders know about the key risks, their management today and the selected leading practice?
 - What is it that they may not know or misunderstand that could be consequential for their decision making (i.e. if they did know these facts, they would be able to make an appropriately well-informed decision about the risk, its management and the selected leading practice)?
 - What might be deciders', adopters' and stakeholders' key values that could affect their understanding and decision making about the key risks, their management and the selected leading practice?

Example of an hypothesis statement

Belief statement:

Employees have an unmet need for their supervisors to frequently conduct dialogue about safety and health improvement opportunities in ways that are meaningful to employees.

Rationale statements – this is true because:

- The efforts of supervisors to learn directly from their subordinates through dialogue have a positive correlation over time to improved occupational safety and health performance.
- Indirect communication from supervisors often provides less evidence of personal commitment to safety or health performance than they may espouse and, therefore, may erode the confidence of subordinates in their supervisors.
- When supervisors speak with people face-to-face, they can provide immediate, positive reinforcement of the desirable personal safety or health behaviours that otherwise cannot be as powerfully reinforced.

- What factors might deciders, adopters and stakeholders consider to be most important when making judgments or decisions related to the key risk and its management, and the selected leading practice?
 - Who do deciders, adopters and stakeholders most trust to manage and communicate about the key risks, their management and the selected leading practice?
 - What might deciders, adopters and stakeholders want to know about the key risks and their management, and the selected leading practice?
 - What type of communications might deciders, adopters and stakeholders prefer?
 - The hypotheses and rationale statements should be recorded in Worksheet Doc #21 for each of the decider, adopter and stakeholder groupings identified in Worksheet Doc #18. An important aspect of the process is that
 - Based on Worksheet Doc #21, a brief summary of the key aspects of the hypothesis can then be added to Worksheet Doc #18 to create a more complete description of the priority adopters and stakeholders identified by the adoption team.
5. **Identify and record the implications of the hypothesis statements:** The final and most important aspect of the hypothesis process is that of identifying and recording the implications of the hypotheses that need to be taken into account:
- The implications of each hypothesis should be identified and recorded in the column provided in Worksheet Doc #21 for that purpose.
 - In thinking about the implications of each hypothesis consideration should be given to identifying and recording:
 - Aspects that should be included in the interview protocol being developed.
 - Points that should be explored during the source mine investigations
 - Any other action that may or should be taken by the adoption team in implementing the selected leading practice.

Concluding comment

Completion of Worksheet Doc #21 will ensure that the adoption team has a good appreciation of the key people related issues that require investigation, and that it is well-placed to design not only a high quality direct enquiry protocol, but also to begin the process of designing the people related aspects of the source mine investigations.

Section 5.6

Develop hypotheses of key leadership behaviours

Key outcomes

- A framework for identifying desired leadership behaviours for adoption and operation of the leading practice
- The key leadership levels responsible for implementing, managing and operating the leading practice at the source mine
- A set of desired leadership behaviours considered essential for successful adoption of the leading practice
- A preliminary set of key points to guide investigations at the source mine
- A set of key points to assist in the preparation of the direct enquiry protocol
- A description the value derived from implementation of desired leadership behaviours at an adoption mine
- Enhanced understanding of the key elements (ABC) of leadership behaviour

(Doc #32)

Background

It is important to recognise that what a person does or does not do, or says or does not say, is an expression of that person's behaviour. Leaders are thus in effect always acting, even when they are silent and seemingly doing nothing. Leader's behaviour across the full range of their activity is being watched and interpreted continuously and carefully by people, who inevitably identify signals of relevance to their activities in the workplace. Unsurprisingly, research and experience bear out that leaders' behaviour has a profound impact, positive and negative, on the behaviour of others, and this is true also in the mining industry.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose:

The purpose of this section is to:

- Provide a framework for the identification of desired leadership behaviour, and
- Provide a basis for investigating and identifying the critical leadership behaviours in place at the mine that is the source of the leading practice.

Key points for consideration

1. **Construct a framework for the identification of desired leadership behaviours:** The approach to leadership behaviour that forms part of the adoption system is explained in section 15.4, which also points to the framework that needs to be constructed in the present instance:

- In the first instance section 15.4 points to the use of the ABC model (**A**ntecedents, **B**ehaviour and **C**onsequences) in the identification of the desired leadership behaviours. An explanation of these terms is provided in that section and in summary form in the box below.

ABC: Antecedents, Behaviours and Consequences

Antecedents are one or more things that precede or prompt behaviour. Antecedents have short-term influence on behaviour and less impact on sustaining behaviour than consequences. Examples of antecedents that are relevant to adoption of leading practice include: training; job aids; proper equipment; including crew members in the design of procedures; individual abilities; and past events.

Behaviour is anything a person says or does, good or bad. It is also what a person does not say or do. Identified behaviours should **Not** be subject to interpretation, they should be **O**bservable and **R**epeatable, and they should be **M**easurable and **S**pecific. They should meet these requirements which together constitute the NORMS framework.

Consequences are events that follow behaviour that serve to increase, maintain or decrease behaviour. They have great influence on whether behaviour is likely to be repeated. Positive consequences are more desirable than negative consequences. Examples of consequences include: positive feedback from supervisors and congratulating or celebrating crew member efforts with small or symbolic rewards.

However, for the purpose of identifying the desired leadership behaviours of individuals, the focus needs to be more tightly linked to the individuals in question. Accordingly, at this stage the framework needs to focus on what people at various levels need to know and do in order to implement or operate the selected leading practice (antecedents), what they need to say and do in actually implementing the practice (behaviour), and the nature of feedback they should provide to those they supervise to aid adoption of the leading practice (consequences). This is captured in the framework provided below for recording not only the identified desired leadership behaviours, but also the undesirable leadership behaviours that are possible:

Possible leadership behaviours in implementing the selected leading practice			
Details of relevant levels of leadership	Antecedent What the leader needs to know or do in order to implementing the leading practice	Behaviour What the leader needs to say or do in actually implementing or operating the practice	Consequences The feedback and consequences the leader needs to provide to encourage or discourage others behaviour.
Operator / technician			
Informal peer group leader		In each of the cells associated with a particular level of leadership a number of entries are expected. Each entry should be numbered with each column having its own set of numbers since the antecedents, behaviours and consequences may not have a one-on-one alignment. Details should be provided in respect of each of the operational / leadership levels identified as being relevant to adoption of the leading practice in question	
First line supervisor			
Second line supervisor			
Third level supervisor			
Fourth level supervisor			
Other			

The above table needs to be populated by means of hypotheses developed by the adoption team. Worksheet Doc #32 is provided to assist in the process of developing hypotheses of desired leadership behaviour. Importantly, it will provide input into preparation of the direct enquiry protocol considered in section 5.7, and guide the investigation of leadership behaviour at the source mine. More specifically, the hypotheses are developed with a view to:

- o Indicate the nature and content of questions that should be included in the direct enquiry protocols
- o Clarifying the nature of the information that needs to be collected at the source mine,
- o Provide a basis for differentiating essential information that is needed from interesting information, while assuring other key elements are covered, and
- o Establishing a framework for interpreting and reporting the investigations at the source mine.

As explained in developing the protocol for use in mental models research, hypotheses are written statements of belief about what could be true about the situation, followed by statements of underlying rationale for the beliefs that explain why a belief is considered to

Examples of hypotheses

- The behaviour represented by a supervisor personally working in a consistently safe and orderly manner, compliant with all requirements for use of personal protective equipment, is a positive influence on adoption of leading practice because:
 - subordinates can see the appropriate safety behaviour being practiced in the workplace by an experienced individual; and
 - there is no difference between what safety actions the supervisor requires of subordinates and the actions practiced by the supervisor.
- Harsh negative criticism of people by a supervisor has a discouraging effect on consistent, correct safety behaviour by employees because:
 - people may believe the supervisor is only interested in achieving production, if necessary at the expense of safety, and will punish people to do so; and
 - people may believe that supervisors who harshly criticize others are not interested in treating people fairly and so do not deserve to be trusted.

be true. Hypotheses are thus well-reasoned statements and not just intuitive guesses. Two examples of hypotheses are provided in the side-box to illustrate what is envisaged in preparing hypotheses.

2. Identify and order the hierarchy of leaders in the leading practice at the source mine:

This first step of identifying the levels of leadership for Worksheet Doc #32 should have been undertaken in gathering information during the preliminary investigations described in section 5.1. Accordingly:

- Based on data collected at the source mine, the adoption team should enter into Worksheet Doc #32 the levels of leadership involved in implementing, operating and managing the leading practice at the source mine. Importantly, the hierarchy of leaders should not be hypothesised, as it is a key aspect of the leading practice at the source mine that is to be documented by the adoption team for adoption by other mines.
- As indicated in Worksheet Doc #32, it should start with the persons directly responsible for operating the leading practice, progressing then to each supervisory and management level key to adoption, management and operation of the leading practice. As previously indicated, depending on the nature of the leading practice, in some special cases it might even be necessary to extend the identification and description of the hierarchy to include senior leaders at the mine and perhaps even persons within the Group Head Office structure, although the latter would be unusual.

3. Identify possible positive and negative behaviours for each level in the framework:

The adoption team needs to discuss and use the best information available to identify the positive behaviours that are desirable, and the negative behaviours that are possible:

- Using their accumulated experience and any other input and information that is available to them, the adoption team should develop a set of hypotheses of positive and negative behaviours. The identified behaviours should be included in the table in a way that clearly distinguishes between positive and negative behaviours.
- As a prompt in the process of the adoption team developing their hypotheses, consideration should be given to the list of possible desired behaviours provided in the table presented at the end of this section.

4. Prepare a preliminary set of key points to guide the investigations at the source mine:

The adoption team should review the identified possible positive and negative behaviours to determine a set of key points for consideration later when designing the detailed investigations to be conducted at the source mine. At that time they will also be in a position to take into account the findings from the direct enquiry process. In particular:

- For each level of leadership that has been identified, the adoption team should prepare a brief description of on-site observations that they consider to be appropriate, as well as the questions that they should raise during the course of their investigations.

- The adoption team must seek to ensure that their guidance notes will insightfully assist them identify the key leadership behaviours in place at the source mine. It is these behaviours that are an integral and essential part of the leading practice.

5. Identify the specific set of leadership behaviours considered essential for successful adoption: Having completed Worksheet Doc #32, the adoption team needs to distill their detailed thinking into a draft plan of key leadership behaviours, as follows:

- The data presented in Worksheet Doc #32 should be critically reviewed to identify the adoption team's best assessment of the leadership behaviours they consider to be *essential* to facilitate successful adoption and operation of the leading practice. These behaviours should satisfy the NORMS framework explained in section 15.4.
- In doing this, for each leadership level the adoption team should particularly focus on identifying behaviours that will enable and encourage appropriate behaviour in the persons being supervised by the leadership level in question.
- This should be done by highlighting the identified essential leadership behaviours in Worksheet Doc #32. Alternatively, a new worksheet containing only the identified essential behaviours should be prepared.

6. Describe the anticipated value to be derived from implementation of desired leader behaviours: These descriptions should be developed by the adoption team to create a deeper understanding of the potential impact that implementation of the identified leadership behaviours is expected to have, and to position the team to be able to explain to others both the value of the process and its potential benefit.

- The description should set out the effects that desired leadership behaviours may have on subordinates and others in the workplace. The question to be addressed is: What are the benefits of implementing the desired behaviours in the workplace?
- Where possible the expected benefits should be stated either quantitatively or qualitatively. Examples of quantifiable sources of value are a possible reduction in absenteeism, or a percentage improvement in the observation of safety rules. Examples of qualitative sources of value are improved confidence of workers in supervisors, or improved compliance with leader directions.
- In order to preserve the link between these descriptions and the specific leadership behaviours, these descriptions should be captured beneath the table of desired key leadership behaviours. A space is provided for this purpose. They are expected to be directly relevant to preparation of the value case described in section 5.13, and in development of the direct enquiry protocol.

7. Prepare a set of key points for consideration in the direct enquiry protocol: An important reason for developing the framework of hypothesized key leadership behaviours is that it should yield insights helpful to the development of an effective direct enquiry protocol. In this context the adoption team should:

- Review the identified possible positive and negative behaviours, as well as the value to be derived from implementation of the identified key desired behaviours.
- Prepare a set of key points that warrant being appropriately explored through questions and follow-up probes in the direct enquiry process. A space is provided below the main table for this purpose.

Concluding comment

On completion of the work outlined in this section the adoption team should be well equipped to address the challenge of identifying the leadership behaviours embedded in the leading practice at the source mine. It should also be well equipped to address the challenge of preparing a high-quality protocol for use in the direct enquiry process described in the sections that follow.

Examples of possible desired leadership behaviours			
Leadership	Does (Knowledge and actions)	Says (Communicates)	Consequences (Feedback on observed behaviour)
Tier One: (Operator)	- Knows and complies with all applicable safety / health policies - Works and maintains workplace in compliance with procedures, standards and policies - Personally works in a safe, compliant and orderly manner - Asks for assistance when perceived assistance is useful or required - Identifies hazards and near hits and assists in resolving both	- Reports all new hazards and near hits - Reports all unsafe / non-compliant behaviours and conditions - Reports all injuries, regardless of nature or severity, illnesses, or health related symptoms - Readily volunteers suggestions for improving occupational health and safety performance	- Intervenes and takes action immediately when risky or non-compliant actions are observed - Provides pinpoint constructive feedback in a positive manner (not punishing) to help others to work in a safe and compliant manner - Encourages others to participate in occupational health and safety improvement efforts such as near hit reporting
Tier Two: (Team Leader)	- Conducts daily work area inspections to identify new hazards and safety or compliance issues and opportunities for action and positive feedback - Ensures thorough reporting of injury / illness / incidents - Participates in appropriate investigations, such as accident or near hit reconstruction and analysis - Ensures employees are equipped (have and are appropriately using safety equipment) to perform work safely and have completed all training	- Regularly dialogues with employees on safety / health issues and opportunities - Regularly dialogues on hazard and risk identification and estimation - Makes assignments based on priorities, clearly indicating responsibilities and due dates	- Positively enforces / reinforces occupational health and safety compliance and employee adherence to relevant policies and procedures - Provides regular, specific and constructive feedback and holds employees accountable for safety / health performance and compliance
Intermediate Tiers: (Shift Boss / Mine Overseer)	- Conducts weekly work area inspections to view and obtain direct feedback on operational issues - Investigates reported injury / illness / incidents - Reviews performance against agreed targets and manages closure of identified gaps - Escalates persistent critical issues to enable fast resolution	- Communicates OHS issues, goals and requirements - Incorporates relevant OHS messages into regular communications - Uses dialogue skills to highlight key OHS issues - Outlines actions to be taken to close performance gaps	- Reviews status of OHS projects and performance, provides regular, specific and constructive feedback - Holds team leaders and teams accountable for OHS performance
Senior Tier: (Production / Engineering Manager)	- Ensures full reporting on injury / illness / incidents and reviews investigation outcomes - Ensures employees are equipped and trained to perform work safely - Ensures that identified critical issues are resolved without delay - Supports achievement of performance targets by conducting formal documented monthly inspections - Ensures adequate staffing levels to achieve agreed actions and performance levels - Reviews OHS scorecard and ensures that gaps are closed	- Provides visible leadership through regular communication of incidents and corrective actions, OHS goals and improvement opportunities - Incorporates relevant OHS messages into regular communications - Uses dialogue skills to highlight key OHS issues	- Provides regular, specific and constructive feedback from a monthly review of OHS scorecard - Recognises and celebrates OHS accomplishments - Holds managers accountable for progress and delivery of expected results on time
Top Tier: (Chief Executive Officer)	- Provides visible sponsorship / endorsement of safety / health strategies - Ensures adequate resources for deployment of safety / health strategies - Leads documentation and reporting of performance against goals and implementation of improvement opportunities - Reviews all significant injuries and incidents and appropriate corrective actions against 'scorecard' goals on a monthly basis - Reviews all near hit reports and corrective actions	- Regularly communicates safety / health goals and performance improvement opportunities - Provides personal leadership – acts as a role model - Takes regular opportunities to review safety / health conditions and performance with site visits and employee meetings	- Holds direct reports accountable for meeting safety / health goals - Provides pinpoint feedback and correction on use of punishment to achieve performance when appropriate

Section 5.7

Develop and implement behavioural communication interview protocols

Key outcomes

- Enhanced understanding of mental models research methods
- Knowledge of how to go about preparing interview protocols for the direct enquiry process
- An appreciation of the use of the expert risk model hypotheses in the preparation of direct enquiry interview protocols
- Guidance on the key aspects that should be covered in the interview protocols
- Guidance on the design of mental models research questions for inclusion in the interview protocols
- Guidance on selecting the persons to be interviewed
- Awareness of the need and process for pre-testing and refining the interview protocols
- Guidance on conducting and documenting direct enquiry interviews

(Docs [#22](#), [#23](#), [#24](#), [#25](#))

Background

For a behavioural communication plan to be effective, its design and implementation must tap a deep understanding of the thinking of those for whom the communications are intended. When it comes to helping people better understand and manage risks, it is vital that strategies and communication content reflect people's priorities for action, risk perceptions, and information needs. Without this, communications are likely to fail, underperform, or worse, create problems and issues where none exist today. Mental models research is a useful method for generating the requisite understanding for designing and implementing behavioural communications – respectfully, empirically and without guesswork – that are more likely to have their intended positive affect on people's judgments, decision making and behaviour.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on developing the interview protocol, selecting the survey sample and conducting the interviews.

Key considerations

At this point the adoption team should have completed all of the preparatory work necessary for the development of a high quality direct enquiry protocol. Based on the understanding developed through sections [5.5](#) and [5.6](#), and drawing on this work as necessary, the key points for consideration now are as follows:

- 1. Select the persons to be interviewed:** The selection of these people should take account of the following:
 - In broad terms the decider, adopter and other key stakeholder groupings will already have been identified in completing Worksheet Doc [#18](#) in section [5.4](#). Attention now needs to be given to selecting the people who are to be interviewed to determine the mental models and communication needs of these groupings. It has been found that between 25 and 30 direct enquiry interviews is usually adequate for this purpose.
 - However, given the importance developing a behavioural communication plan for deciders, the adoption team should ensure that the interview sample contains an

adequate number of deciders. Experience will in due course help to establish what this number should be, but at this stage it is envisaged that about 20 interviews should be enough.

- Similarly, in the case where the spectrum of potential adoption mines covers more than one mining sector, for example coal and gold, then the number of interviewees should be increased, so that each sector has not less than about 20 interviewees.
- The people selected should range across the various decider, adopter and stakeholder groupings in such a way as to ensure good representation of those expected to be most involved in deciding and accomplishing adoption of the leading practice. The persons selected should be drawn from across the various mines identified as potential adoption. Each of the groupings should be adequately represented in the final selection of persons to be interviewed.
- In the first instance the adoption team should assess whether their sampling needs can be adequately met using the home mines of the adoption team's industry members. The balance of the sample requirements, and the envisaged direct enquiry process should be discussed with, and then accessed through the key persons identified at potential adoption mines.
- In selecting the interviewees a balance will need to be struck between the spreading the sample across the full spectrum of mines and keeping the number of mines down to a manageable number. The selection should at least seek to ensure that the spread includes mines of the major mining companies. A matrix of the groupings against potential adoption mines should be constructed to illustrate the spread of selected interviewees across the spectrum of mines, mining companies and mining sectors.
- The names, positions and contact details of the selected interviewees should be obtained and listed, as should the details of the person at the mine who is to serve as the key contact in setting up the interviews and interview venues at the mine in question.

Size of interview sample – on-going review

In qualitative research the size of the interview sample is often determined as the point where no significantly new information is being gained from further interviews. The sample sizes indicated here are based on long experience with mental models research, but in somewhat different circumstances. As experience accumulates, the guideline numbers provided here should thus be reviewed and adjusted should that be found necessary. This on-going review of experience being accumulated by the adoption teams should be undertaken by the Behaviour Specialist

2. Prepare an interview programme tailored to the persons to be interviewed:

Preparation of the interview programme should take account of the following:

- Mental models interviews should be designed keeping in mind the length of time that the adopters and stakeholders can realistically afford, but also taking into account that interviews that are too short run the risk of not fully exploring important topics, while interviews that are too long risk overburdening the Interviewee. Typical interview lengths are between 30 and 45 minutes.
- Generally, in a well-executed mental models interview, main topics for discussion require 5-10 minutes to be fully explored.
- Interviews should always be conducted individually, in person, or over the phone. The research should not be conducted as a written survey, nor should any written documents be distributed beforehand, as the purpose of the research is to get at people's unbiased thinking.

- The interview programme should be captured in a schedule giving at least the names of the interviewees and interviewers, the venue, the name of the contact person at the mine, and the planned interview dates.

3. **Prepare an appropriate outline for the interview protocol:** The process of preparing the interview protocol should start with the preparation of an interview outline:

- An important reason for preparing an outline of the interview protocol is to ensure that the protocol is carefully crafted so that the interview process produces insights into people's mental models that are rich and relevant for behavioural communication design purposes. Poorly focused and formulated protocols will result in an interview that is clumsy and inefficient for the interviewer and is confusing and annoying to the Interviewee. Essentially useless interview results are likely to ensue.
- A particularly important challenge facing the Adoption Team will be that of designing a protocol that meets the above requirements on two counts. First, it must address issues related to the initial strategic decision to adopt the leading practice. And second, it must address the issues related to operationally achieving successful adoption. In practice this points to the need for some questions to be focused only of the decider group, with the other questions being relevant to the full spectrum of persons involved in the adoption process.
- The Adoption Team, with the detailed assistance of the Behaviour and Adoption Specialists, should develop the necessary interview outline, which should describe the goals and objectives of the research interview, the main topics for discussion and a detailed description of the sub-topics.
- Topic and sub-topic selection should draw from the expert risk summary and reflect the Team's thinking (hypotheses) developed in sections 5.5 and 5.6 on what should be addressed concerning risks and their management, and adoption of the leading practice in question. In this regard it should deal with:
 - specific priorities and points of interest related to the risk situation, as well as issues that can be expected to arise with the introduction of the leading practice,
 - identification of key enabling leadership behaviours as well as leadership problems, and,
 - identification of perceived benefits and value that might be derived from adoption of the leading practice in question.
 - Identification of likely resistance to conducting direct enquiries and implementing the customised behavioural plans that underpin and enable the adoption process.

Possible resistance to MOSH behavioural processes

When the adoption system was first implemented, the need to include a description of the MOSH behavioural processes as part of the leading practice was not recognised. Experience warns that some mines resist implementation of the behavioural processes by taking short cuts or simply deciding to omit them. This is counter-productive to achieving long-term adoption of the leading practice. It is therefore essential that in describing the leading practice the interview protocol includes a description of the behavioural processes. The interview process must then include questions that test for possible resistance to implementation of these processes, and more importantly, the reasons for this resistance. This will enable the preparation of behavioural communication plans (for deciders) that appropriately address any misconceptions or prejudices.

These are areas that should be explored in the course of the interview.

- In practice, and in the light of experience gained in developing and using interview protocols such as that presented in Reference Doc #22, Adoption Teams might be tempted to skip the preparation of an interview outline. However, doing so is likely to

cut across the insights gained through much of the preparatory work, to the disadvantage of the process.

- The interview protocol provides the interviewer with the structure, questions and guidance needed to lead the Interviewee through the interview without missing topics posed or that arise spontaneously. It therefore facilitates capturing of all the data generated in an organized way, and provides the interviewer with all the language and tools needed to fully engage an Interviewee in the interview conversation.
- The next step is writing a detailed interview script, which is referred to as a “protocol”. It comprises of an appropriate opening to set the context, which is followed by the questions that need to be asked. An example protocol is provided in Reference Doc #22.

4. Design the interview opening: A high-quality protocol typically begins with an *Interview Opening* that includes the following elements:

- An introduction to the mental models research, clearly describing who is conducting the research and why, and of how the Interviewee’s participation will add value to the research. It is important that Interviewees are acknowledged and thanked for their time and insight.
- A statement on confidentiality. Out of respect for the Interviewee and so as not to bias the responses received, it is important that Interviewees understand that the information they provide will be used respectfully and that it will not be attributed to them personally. This confidentiality statement should be carefully thought through and then rigorously implemented. It should never be skipped in the process of the interview.
- A summary of the main topics to be discussed. It is important that this summary provide enough direction to make the Interviewee feel comfortable about engaging in the conversation, but not too much information to influence the Interviewees’ perceptions in any way.
- An opportunity for the Interviewee to ask any questions before beginning.
- An example of an interview opening is included in the example protocol that is provided In Reference Doc #22.

5. Design the research questions: Carefully crafted interview questions are essential for producing useful interview results:

- They should be written so as to ensure that all main topics for discussion are addressed while providing an opportunity for exploration of these topics in greater depth and for new topics to be raised. An interview question generally has two elements. The first is the primary question, which derives from the topics identified in the interview outline.
- Examples of primary questions may include:
 - Please describe your role and responsibilities at the mine.
 - Please describe [the risk/hazard] in your own words.
 - What happens as a result of [the risk/hazard]?

- How important do you think it is to find a way to better protect people from [the risk/hazard]? Why do you say that?
- What do you think could be done to better protect people from [the risk/hazard]? Why?
- What should leaders and supervisors in the mine do to help make sure that the leading practice is successful?
- What should leaders not do in order to make sure that the leading practice is successful?
- What other kinds of things might stand in the way of the leading practice being successful at this mine?
- What would be of greatest value if the leading practice is successfully adopted at this mine?
- What information would be important for people like you to know about how people can be affected by the risk and what is being done to protect them?
- What is the best way for people like you to receive this information?
- The second element of a mental models research question is the follow-up questions, such as prompting (asking the Interviewee to think about particular topics not yet addressed) and probing (asking the Interviewee to provide more detail into their thinking). Inadequate prompting and probing can result in failure to engage people's thinking in-depth. It is a very important aspect of a successful interview.
- Standard probing questions may include:
 - Why do you say this?
 - Can you describe what you mean by this?
 - Can you tell me more about this?
 - Does anything else come to mind when you think about this?
- Prompting questions are used to ensure that all main topics and important sub-topics are fully explored. However, they should be used sparingly as they risk introducing new topics or otherwise influencing the Interviewee's thinking on the topic. They should only be used if the primary question has not been fully answered or if one or more important sub-topics are identified in the interview outline as important for all Interviewees to discuss.
- Standard prompting questions may include:
 - If mine leadership is not mentioned: You didn't mention any thoughts on the importance of mine leadership to successful adoption. Do you have any thoughts on this?
 - If functional requirements are not mentioned: What functional requirements would be most important? By that I mean the equipment or the people needed to implement and operate the leading practice.
- Interview questions should be written clearly and concisely. Poor wording can leave the Interviewee confused as to what thinking he or she is being asked to provide. Ambiguity can also affect the ability to analyse the research data. Interview questions should be written out fully and framed in the second person, using "you" and "your".
- An example protocol with sample interview questions is provided in Reference Doc #22. This example should be regarded as a guiding framework for the development process outlined above. In practice it likely that only minor adjustments may be

necessary for the example protocol to be customized to suit most leading practices, but in each case the development of the protocol should be initiated afresh.

6. Prepare the interview response worksheets: Response worksheets should be drafted for consistently implementing the interviews and capturing interviewing responses in a way that is meaningful for coding and analysis against the analysis framework. This worksheet, usually in tabular format, should line up directly with the interview scripts, and should be linked to the question numbering. They should also allow sufficient room for the interviewer or supporting note taker to adequately capture responses, and for the interview analyst to code the responses. An example worksheet is provided after the example protocol in Reference Doc [#23](#).

7. Select and brief the interviewers: Interviews should always be conducted by appropriately qualified and trained interviewers:

- Given that the interviews are to be conducted at a number of different mines, the adoption team will need to identify a small group of qualified and experienced interviewers, perhaps 5 or 6. Importantly, they should be credible persons in the eyes of the interviewee, and they should be able to conduct the interviews in the language of the Interviewee.
- Ideally, it should be possible to source the required interviewers from a pool of trained interviewers, by liaising with the Adoption Coordinators appointed by each of the major mining groups who are members of the Chamber of Mines of South Africa. These Coordinators are expected to ensure that a sufficient number of trained interviewers are available for conducting interviews within their Group's mines. They are also expected to have established collaborative arrangements with colleagues in other Groups so that interviewers may be accessed from other Groups when necessary. Within such a collaborative framework the interviewers could thus be drawn from the mines that have been identified for the purpose of providing the required number of Interviewees.
- Should the arrangement outlined immediately above not yield the required interviewers, the Adoption Team will need to identify and arrange access to the required number of suitably trained interviewers. This may be possible through an external service provider or by identifying suitable persons accessible through the industry members of the Adoption Team. In the event that the latter option requires persons to be trained in interview skills, the Adoption Team Manager should arrange this through the Learning Hub's Behaviour Specialist.
- Interviews should not be conducted by the adoption team managers or expert team members, nor should they be conducted by direct supervisors or co-workers. Interviews should be conducted one-on-one and without the presence of any other person, with the possible exception of a designated note-taker whose role would be only that of taking accurate detailed notes of the Interviewee's responses.
- The Learning Hub should explore the possibility of establishing an arrangement with a suitable service provider for the purpose of out-sourcing the interviewers when the need arises. Such an arrangement would considerably reduce the logistical challenge

that would otherwise need to be addressed on such occasions. It would also help ensure the quality of the output achieved.

- In order to achieve consistency in the way that the interviews are conducted the selected interviewers should take part in an orientation meeting, led by the Adoption Team Manager and the Behaviour Specialist, on the objectives of the research, the types of people being interviewed and any notable issues or challenges. The risk summary and the interview protocol should be provided to the interviewers for study prior to this meeting.
- A particular challenge that should be addressed in this orientation meeting should be that of ensuring that the interviewers fully understand the causal chain expert risk model developed in section 3.5 and finalised in point 3 of that section. The Adoption Team Manager and the Behaviour Specialist should then carefully lead the interviewers through the risk model (story), and the protocol, drawing attention to the key questions and potential challenges. Experienced interviewers should be asked to provide feedback to identify any needed refinement of the interview script.
- Another point that should be explored during the briefing session is the importance of using probing questions to explore important points that might open up during the interview. In encouraging the interviewers to do this the difference between interesting and important issues must be explained. To explore interesting issues could take the interview off-course and needlessly run over time. Accordingly, the questions and issues that are particularly important should be pointed out during the briefing session.

8. Pre-test the interview protocol through initial interviews: Before any of the planned interviews are conducted, the interview script should be adequately pre-tested to ensure that the questions are purposeful and are correctly interpreted.

- Inadequate pre-testing of interview protocols may result in questions not being interpreted as intended, and interview results that do not provide the insight needed for the design of an effective behavioural communication plan.
- Pre-testing also ensures that the interviewers are properly oriented to the protocol. Each interviewer should thus conduct at least one pre-test interview. The results of the test interviews should then be reviewed and discussed by the interviewers, and the Adoption Team Leadership (Managers and Specialists). The test interviews should adequately cover the different levels of person (e.g. managers, supervisors and workers) that are to be interviewed.
- The protocol should be amended should this be indicated by the test results. Additional pre-tests may be warranted should it be necessary to make substantial changes to the protocol.

9. Conduct the interviews: A well-conducted research interview is critical to discovering people's thoughts and perceptions:

- Interviewers must understand the goals and structure of the protocol sufficiently to enable capturing of needed information through probing of beliefs expressed by Interviewees that are unexpected, or expressed in a manner that differs from those of

the expert risk summary provided by the adoption team. Such differences would qualify as being important as opposed to just interesting.

- Properly conducting a mental models interview involves more than simply reading a set of questions from a script. Mental models interviewers must be professional, well-prepared, respectful and responsive to the person being interviewed (the interviewee).
- The interviewer must be able to actively listen to the interviewee and be able to extract rich insight and relevant information – without unduly biasing or affecting the interviewees' responses in any way. They also need to exercise good judgment when the interviewee appears to be going off course, or when difficult situations arise.
- Interviews should always be conducted professionally and with the utmost respect for the Interviewee. A set of tips is provided in Reference Doc [#24](#) to help ensure that a proper mental models interview is conducted.

10. Prepare detailed notes of the interview immediately afterwards: The interview notes are a critically important element of the interview process. If possible, the interview should be recorded, but if not they should be prepared as follows:

- Notes should be taken at the time of the interview, as opposed to being prepared sometime after the interview. Interview responses must be carefully documented into the interview worksheets in detail and using the interviewee's own words.
- If a note taker is used, this should be possible during the course of the interview. If the interviewer is taking the notes then it will be necessary to take relatively brief notes during the course of the interview, but these notes should be expanded upon immediately after the interview to fully document the detail of the interviewee's responses. If a note taker is used the interviewer and the note taker should carefully review the notes taken, immediately after the interview to ensure their accuracy and quality. The interviewer and note taker should take care not to interpret or change in any way the meaning of the interviewee's response.
- In the event that the interviewee agrees that the interview may be recorded this should be done, preferably using a digital recorder to facilitate ready storage of the interview. The recording should then be used to complete the standard interview response sheet immediately after the interview.
- One interview worksheet should be completed for each interview conducted. An example of a completed worksheet is provided in Worksheet Doc [#25](#).

Conclusion

The execution of a well-designed and conducted interview process will provide the adoption team with the empirically derived data that serves as the fundamental input into the process of developing effective behavioural communication strategies and plans. The data obtained will also be useful in the development of the leadership behaviour plans, as well as the value case. The adoption teams should closely examine the guidance provided in this section with that in mind.

Section 5.8

Analysis and implications of survey data for behavioural plans

Key outcomes

- Enhanced understanding of mental models research methods
- Guidance on preparing an analysis framework and coding guide for use in analysing direct enquiry interview data
- Knowledge of how to analyse interview data and to prepare a mental models report
- A completed mental models report
- A summary of the key views and beliefs held by deciders, adopters and key stakeholders
- Insights necessary for the preparation of quality behavioural plans

(Docs [#25](#), [#26](#), [#27](#), [#28](#), [#29](#), [#30](#))

Background

In sections [15.3](#), [5.5](#) and [5.7](#) the essential requirement that behavioural communication be based on empirical data obtained through a process of direct enquiry involving a sample of the people who are the intended audience has been explained. And in section [5.6](#) the scope for using the direct enquiry process to identify key leadership behaviours was brought out. Sections [5.4](#), [5.5](#), [5.6](#) and [5.7](#) also provide guidance on the identification of deciders, adopters and stakeholders as the intended recipients, as well as on the process of developing and conducting the direct enquiries to acquire the needed empirical data. However, insightful use of the survey data generated in interviews requires systematic integration and analysis. This insight is necessary for the development of:

- A behavioural communication plan for deciders, for use by the MOSH Adoption Team to facilitate well informed decisions by mine management concerning adoption of the leading practice at their mine,
- A behavioural communication plan for use by the Mine Adoption Team to facilitate eager adoption of the leading practice at their mine,
- An updated statement of desired leadership behaviour for successful adoption of the leading practice, and
- Updated guidance notes for use in planning and conducting the investigations at the source mine

The important difference in the content and application of the above two behavioural communication plans should be immediately apparent.

Purpose

The purpose of this section is to provide guidance on:

- Analysis of the results from the direct enquiries,
- Preparation of the mental models report, and
- Identifications of key beliefs and their implications for the required behavioural plans.

Key considerations

Development of the mental models report involves *coding* and *analysis* spread over a number of steps. *Coding* is the process of organizing interview responses into meaningful segments that can be integrated and analyzed. *Analysis* is the process of examining coded interview responses in order to identify key themes and assess the key gaps and alignments in interviewees thinking on the topic. It extends to identifying the key beliefs held by the interviewees on the various topics (the deeply held views that they have expressed), and the

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

implications of these beliefs in respect of behavioural plans being developed. The various steps are as follows:

1. **Prepare an appropriate analytical framework for analyzing the interview results:** An appropriate analysis framework is needed to enable effective and efficient evaluation of mental models research results in a way that is most meaningful for designing behavioural communication and leadership behaviour plans.

- *Analysis framework:* The analysis framework involves organizing interview responses into meaningful segments for integration and analysis. Organizing the interview responses into these meaningful segments is most effectively achieved through a process of coding the interview responses.
- *Coding guide:* A *Coding Guide* provides a key for assigning a code, or multiple codes, to the interview responses in the Interview Response Sheet completed at the time of the interview. A sample *Coding Guide* is presented in Reference Doc #26. It can be adapted to any mental models study whose goals are to identify people's thinking about the key causes of hazard, the negative outcomes that can result from exposure to the hazard, and the primary barriers and aids to reducing the risks associated with the hazard through adoption of a specially identified leading practice.
- *Themes:* The *Major Themes* of relevance to the development of the mental model and behavioural plans are identified in Reference Doc #26 (Cause, Impact, Need, Outcomes and Barriers & Aids). Also identified and described are Sub-themes for each of these major themes. In the case of barriers and aids the sub-themes can be identified in the interview responses as either a barrier to effectively manage the risk (for example, "Workers currently do not have adequate training." or as an aid to ensuring effective risk management (for example, "Improved worker training would provide the workers the information they need to effectively implement the identified leading practice." Importantly, the *Coding Guide* provides a Code for each sub-theme. For analysis purposes, this code should be assigned to those entries in the Interview Response Sheet, or parts of an entry that are aligned with the sub-theme. A space is provided in the response sheet for this purpose.
- *Preparation of the coding guide:* The Adoption Team, assisted by the Learning Hub Behaviour Specialist should tailor the Coding Guide to ensure that the major themes and sub-themes adequately capture the important themes of the expert risk summary and the interview protocol. Modifications and additions should be made as necessary, but in doing so it will be important to ensure that there are no missing themes and that no themes overlap in meaning, as this could cause confusion. Any new sub-themes must be clearly described. To assist in clarifying the description provided, an example of a response that might be heard from interviewees should be provided for each sub-theme.

2. **Assign appropriate codes to interview responses:** This task should be overseen by the Adoption Specialist, with assistance from the learning Hub Behaviour Specialist as necessary.

- The persons who are to undertake the coding task should preferably be independent of

the adoption team to minimise the risk of bias inadvertently creeping into the analysis. The Adoption Specialist should ensure that the coders are fully familiar with the Coding Guide developed for the particular project, and that they are able to reliably undertake the coding task.

- Coders should review the response to every question in the Interview Response Sheet and identify one or more codes that best describe the response. Complex responses may need to be sub-divided for analysis purposes. The appropriate code/s should be entered into the Code column of the Interview Response Sheet.
- If a particular response cannot be adequately described by the available codes, this should be indicated by entering NONE in the coding space, along with a very brief description of the response (using 1-3 keywords).

3. Analyse coded interviews: This should be undertaken by the Adoption Specialist with the assistance of the Learning Hub Behaviour Specialist as necessary. This is done by examining coding segments of interview responses in order to identify key factors across the interview responses and to assess the key gaps and alignments.

- The *Analysis Worksheet* is used to consolidate response data from multiple interviews into a common worksheet for analysis. The focus of the analysis could be either by question or by code, and an example of each of the two approaches is provided in Reference Docs [#27](#) and [#28](#).
- The example analysis worksheets can be adapted to any mental models study whose goal is to identify people's thinking about the key causes of hazard, the negative outcomes that can result from an occurrence of the hazard, and the primary barriers and aids to both risk management and adoption of the leading practice in question.
- Completing either form of this worksheet requires the analyst to review the Coding Guide and completed Interview Response Worksheets for each interview conducted.
- All of the results from the interview process should be consolidated into a single *Analysis Worksheet*. The notes entered into the worksheet should provide an adequate description of interview responses. They should also capture the range of results obtained from the interview responses. Common terms and example quotes should be included. The notes column must be rich enough in detail to provide the basis of the mental models report that needs to be produced.

4. Prepare the Mental Models Report: The Adoption Specialist should prepare the mental models report in close collaboration with the Learning Hub Behavioural Specialist.

- In preparing the mental models report it will be important to clearly bring out the communication requirements related to the initial strategic decision and those related to operational adoption. This is necessary so that separate behavioural communication plans can be developed to focus on these two very different aspects of successfully securing widespread adoption of the leading practice.
- The completed analysis worksheet needs to be reviewed to identify the particular findings that need to be included in the mental models report. In this regard it should

be recalled that the ultimate objective of the mental models report is to provide empirical findings that will aid the development of appropriate behaviour communications strategies and messages, as well as key leadership behaviours for successful adoption of the leading practice.

- In relation to the causal chain expert model, the following guiding questions should be used to identify the most relevant findings:
 - o *From the interview results, what correct understandings about the hazard and the leading practice should be emphasized in communications?*
 - o *What incorrect beliefs or mis-understandings about the hazard or the leading practice should be corrected through communications? What key messages should be emphasized to do so?*
 - o *What do people not know which is important for them to understand in order to fully appreciate the nature of the hazard and the leading practice, and to enable appropriate decisions on both. What key messages should be emphasized to do so?*
 - o *What information about the hazard and the leading practice do people most want to know, and which should therefore be emphasised in communications?*
 - o *What sorts of messages should be emphasized to help people judge the trustworthiness and competence of their fellow employees and leaders involved in addressing the hazard and deciding upon whether or not to adopt the leading practice?*
 - o *What beliefs about leadership behaviour need to be addressed in developing the behavioural communication and leadership behaviour plans?*
- As indicated above, the mental models report should be based on the analysis template. It should also refer back to specific research findings wherever appropriate. Any potential differences among different categories of people interviewed should be noted. An example of the format of a mental models report is provided in Reference Doc #29.

5. Identify implications of the mental model findings: The preparation by the adoption team of the two behavioural communication plans and the leadership behaviour plan is greatly facilitated by an insightful analysis of the mental model findings. The quality of these plans will be determined largely by the quality of this analysis:

- The first step in the process of analysing a mental models report is to examine the report to identify the key beliefs that are embedded in the mental models findings. In practice the key beliefs are the views that interviewees have expressed about key issues. This should be done for each of the major themes or topics identified in the report. Each belief should be entered into its own row, as shown in the example provided in Reference Doc #30. A particular theme or sub-theme may thus give rise to the identification of a number of beliefs.
- The second step is to provide brief comments that indicate the aspects in the mental models report that gave rise to the view or belief of the interviewees that has been identified. Relevant expert knowledge or relevant comment drawn from the causal chain expert risk model should be added to assist in identifying the key implications of these beliefs held by the deciders, adopters and key stakeholders. Once again, examples of this are provided in Reference Doc #30.
- The third step is to identify and record the implications of the identified beliefs. The

expert commentary should provide a helpful base for doing not only in respect of the two behavioural communication plans, but also the leadership behaviour plan. In particular the focus should be on identifying anything (action, communication, messages, etc) that should be taken into account or which should be included in one or other of the behavioural plans. Examples of this are provided Reference Doc #30.

- Consistent with point 4 above, Reference Doc #30 sets out a tabular format which clearly separates implications related to the initial strategic decision to adopt the leading practice at a mine, from those related to operational adoption of the practice at a mine following a positive adoption decision by the mine. Implications related to leadership behaviour are similarly kept separate.

6. Possible short-term action: The systematic process of analysis outlined above can lead to the identification of a need for short-term urgent action:

- With a view to maximising the benefits to be derived from the mental models research, the adoption team should be on the lookout for any beliefs or misunderstandings not addressed by the leading practice that might need to be addressed urgently. Such insights should be highlighted and addressed separately.
- In the event that such an insight emerges, the adoption team should develop an appropriate communication brief for distribution to members of the MOSH Task Force. The matter should then be considered by the Task Force with a view to deciding any short-term action considered necessary.

Concluding comment

On completing the systematic process of analysis outlined above the adoption team will be well-positioned to develop first drafts of the two behavioural communication plans, as well as to update the initial statement of desired leadership behaviour for successful implementation of the selected leading practice. The insights gained should also be useful for updating the guidance notes for use in conducting the source mine investigations.

Section 5.9

Preparation of generic behavioural communication plans

Key outcomes

- Guidance and examples on how to prepare a behavioural communication plan
- Awareness of possible active and passive communication modes
- Awareness of possible communication tools and means
- A behavioural communication plan to facilitate appropriate adoption decisions at potential adoption mines
- A generic behavioural communication plans for facilitating adoption at mines that decide to adopt the leading practice

(Docs #18, #30, #31, #48)

Background

In section 5.8 consideration was given to identifying the beliefs of the key persons involved in deciding upon and adopting the leading practice, and to the implications of those beliefs in respect of both behavioural communication and leadership behaviour planning and content. In this section these insights provide the basis for developing the two behavioural communication plans outlined in section 5.8.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

The purpose of this section is to provide guidance on preparation of:

- A communication plan for use by the MOSH Adoption Team to facilitate well-informed decisions by mine management in respect of adoption of the leading practice at their mines, and
- A communication plan for use at Adoption Mines to facilitate eager adoption of the leading practice at those mines that decide to do so.

Key points

Development of the required two behavioural communication plans involves conversion of the insights gained through the analysis explained section 5.8 into the required two plans. The key steps in this process are as follows:

1. Prepare the two behavioural plan frameworks:

- The first step is to prepare separate tables that set out a logical framework for presenting the behavioural communication plans for each of the two communication challenges outlined above. Examples of such tables, in completed form, are shown in Reference Doc #31. However, the essence of the logical framework for each of the two tables is captured below for the first of the two plans:

Logical format of a behavioural communication plan

Plan A: Behavioural communication to facilitate informed decisions about adoption at potential adoption mines									
No	Recipient (Decider, adopter, other stakeholder)	Belief or Issue addressed & Desired behaviour	Messages / communication content	Mode	Tools / Means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure

Note: An alternative layout starting with the Belief / Issue column positioned ahead of the Recipient column is shown in Doc #31.1

- The key point about this tabular framework is that it preserves the logical connection between the mental model derived purpose of the communication and the message / content of the planned communication. It is important to preserve this connection so that the plan is tightly structured to address the identified needs. Developing a behavioural communication plan based on existing operational meetings / interactions as the starting point can inadvertently and inappropriately constrain development of the plan, and thus limit its effectiveness. Worksheet Doc [#48](#) is provided to facilitate preparation of the required plan.

2. Identification of recipients and relevant beliefs / issues for each plan:

- The potential recipients of behavioural communication identified in Worksheet Doc [#18](#) should initially be inserted, as appropriate, into the two behavioural communication templates discussed above. Development of the plan should thus start with identification of the recipients of the intended communications. The behavioural communication implications derived from the mental models analysis, which were recorded in Worksheet Doc [#30](#), should then be examined to identify which of the various beliefs and implications are applicable to each of the listed recipients. It is likely that a number of beliefs / issues will be applicable to each recipient. Where this is predominantly the case the alternative structure of the behavioural communication plan shown Reference Doc [#31.1](#) may be more practical, and the comments presented below should be adapted accordingly.
- For each of the identified recipients in each of the two plans, all of the applicable beliefs and implications should be grouped and consolidated into the particular set of beliefs / issues for that recipient. This grouping is likely identify a set of beliefs, information gaps, misperceptions, a key activities or other things that need to be addressed to enable / facilitate adoption of the leading practice.
- For each of the issues that need to be addressed, the particular behavioural outcome that is desired from the communication should also be identified. Both should then be appropriately summarised and included in the issue addressed / desired behaviour column of the behavioural communications plan.
- Lastly, the causal chain expert model / summary table and the mental models report should be critically examined to check whether there are any other issues that need to be addressed through behavioural communication. Any new issues should be added to the two behavioural plans, as appropriate.
- The example behavioural communication plan presented in Reference Doc [#31](#) illustrates the sort of outcome that is expected.

3. Identification of behavioural communication message content: The next step is to identify the message content of the behavioural communication messages using the insights embedded in the causal chain expert model and the implications determined from an assessment of stakeholder beliefs identified from the mental models report:

- A brief outline for each of the essential messages that need to be communicated to the recipient to address the issue / desired behaviour in question should be prepared. For each issue / desired behaviour a number of key messages may be necessary. Each key message and its essential content should be entered on a separate row as different modes and tools / means for communicating the messages may be necessary. Worksheet Doc #31 illustrates what is envisaged.
- One of the important messages that should be part of the behavioural communication plan is that the decision by the mine to adopt a leading practice must be seen as voluntary. A feeling of enforced adoption will inevitably lead to counter-productive feelings of reluctance compliance.
- This crucially important process should then be systematically applied to each of the recipients identified in each of the two plans. When done, the adoption team will be in a good position to assess the modes and means that would be most appropriate and practical in delivering the various messages in each of the two plans.

4. Identification of effective modes and tools / means: In selecting the most effective modes (occasion / approach) and tools and means for delivering the identified messages, a balance needs to be struck between what might be ideal and what is most readily implemented:

- **Mode (occasion / approach):** It will be important to decide the most appropriate mode that should be adopted in delivering the various communications to the intended recipients. There are many different modes that are possible and a list of the modes that should be considered is presented in the side-box. Most, if not all of these are already in use within the South African mining industry, and the modes that would be most effective in delivering the various communications should be selected. The input of the Behaviour Specialist should be sought in making these selections, and in arriving at the optimum selection for the two behavioural plans being prepared. Clearly, the number of modes selected should be neither too many nor too difficult to implement.
- **Tools and means:** The tools and means for delivering the communications are linked to the mode of communication, in that a particular mode of communication might lend itself to the use of a particular

Voluntary adoption

Unfortunately, reporting required by the Mining Charter has the potential to cause mines to feel that adoption of MOSH Leading Practices is compulsory. It is important to ensure that mines understand that the Mine Health and Safety Act *implicitly* requires that mines investigate an available leading practice as a potential means of reducing risk. This follows from the requirement that, *as far as reasonably practicable every employer must provide and maintain a working environment that is safe and without risk to the health of employees*. It is clearly not reasonable to ignore an available leading practice. Equally clearly, it is not reasonable to expect the mine to adopt a practice that would be of no real benefit to the mine. The decision by a mine to adopt a MOSH leading practice should thus always be both rational and voluntary.

Example communication modes

Active Modes

- Meetings of the Project Team
- Facilitated Crew Meetings
- Briefing of Trainers
- Training (of Crews)
- Dialogue from Observation of Key Behaviours
- Crew Meetings in the Workplace Seeking Improvement & Input on Adoption of Leading Practice
- Make Safe Certifications
- Crew "Values" Meetings
- Crew Member Meetings with Safety Representatives
- Adoption Team Member Briefings of Management & Workers Involved in Implementing Leading Practice
- Visitors / VIP Meetings
- Visiting Crew Meetings
- Waiting Place Meetings
- Daily Discussion with Supervisors
- Monthly Meetings
- Health & Safety Committee Meetings
- Labour Representatives
- Adoption Team Leader Dialogue with Demonstration Project Team Members
- Special Events

Passive Modes

- Waiting Place Materials
- Crush Information
- Industrial Theatre
- Notices at Mine Offices and Hospitals
- Management Briefs
- Newsletters
- Notice Boards
- Comic Strips / Books
- Videos on Television
- Ad-hoc Functions and Pick-a-Box Shows
- Telephone Hotline

tool or means. Typical tools and means for delivering communications are presented in the second side-box, which is provided on the next page. The adoption team should consider the tools and means listed in this box, as well as any others that they may identify in considering the most effective way of delivering the communication. The input of the Behaviour Specialist should again be sought in arriving at an optimum selection.

5. Preparation of communication materials: It should be immediately apparent from a brief examination of the two side-boxes that much work will need to be done in preparing the communication material needed for implementation of the plan.

- In the first instance it will be necessary to convert the essential message statement given in the plan into a fully developed product according to the mode and tools / means that have been selected. This is not a trivial exercise. To-date, this has to a large extent been undertaken at operating mines using their resources available at the mine, or traditionally used by the mine, but experience has not been good.
- Adoption teams will need to give special consideration to this point. As indicated below, to a large extent development of the necessary material may need to be undertaken by the adoption team, or at least supervised by the team using external specialists as necessary. This consideration should be addressed in consultation with the Behaviour Specialist.
- In respect of the behavioural communication plan for deciders that the Adoption Team is responsible for implementing, the appropriate communication materials will indeed need to be produced by the adoption team, without delay, so that the plan can be implemented in good time.
- In respect of the behavioural communication plan that is to be implemented at adoption mines, by the mine's own adoption team, the example communication materials included in the Leading Practice Adoption Guide should serve as good examples, as opposed to "prescribed" communication material. The production of fully developed communication materials is not justified since the communication materials may need to change when the behavioural communication plan is customised to take account of mine specific circumstances. However, in producing example material, it must be recognised that the quality of the communication materials produced at the mine is likely to be determined largely by the quality of the example material supplied by the adoption team with their Leading Practice Adoption Guide.

Example tools and means

- Presentations
- Dialogue
- Scripts
- Talking Points
- Evaluation Forms
- Interview Protocols
- Facilitator's Guides
- Participant Ground Rules
- Training Outlines
- Action Checklists
- Key Behaviours
- Tools / Equipment
- Notebooks for Note Taking
- "Certification" Procedure (Ritual)
- Points for Distribution
- Notes on Key Observations
- Printed Information on Workplace Standards, Procedures and Documentation e.g. Posters
- Public Address System Messages
- Banners
- Role Plays or Demonstration Scenarios
- Monthly multiple-item publications
- Use of graphics / pictures to depict workplace experiences
- Packaged "programs" for broadcasting via in-house television
- Industrial theatre
- Recorded telephone line to receive reports on unsafe conditions, questions or 'advice' to management
- Pre-recorded messages relevant to adoption of Leading Practice

6. Management: Inevitably, realisation of a sound behavioural communication plan will depend on effective management of its implementation:

- The inclusion of detail indicating when each communication is to be delivered, who is to be responsible for delivering it, who is to ensure that it has been delivered, and of how the effectiveness of the delivery is to be evaluated is thus most important in preparing a complete behavioural communication plan. Accordingly, inclusion of this detail in the framework is an important requirement in developing the two behavioural plans in question.
- This is illustrated in the example behavioural communication plan presented in Reference Doc #31.

7. Implementation of Behavioural Communication plan for Deciders: Point 6 above makes it clear that a behavioural communication plan must include a detailed outline of all necessary implementation actions. Key points concerning implementation of the behavioural communication plan for deciders are as follows:

- Not all of the needed information is likely to be available at the time of initially developing the plan. The plan will need to take account of this. This comment refers in particular to the value case, which sets out the value and benefits of adopting the leading practice in question. This realisation should serve to emphasise the importance of completing the value case as soon as possible.
- Much of the needed communication should however be available, such as the value of the behavioural processes that will be an integral part of the adoption process, as well the issues emerging out of the mental models determined from direct enquiry process.
- Implementation of the behavioural communication plan for deciders must thus be initiated by the MOSH Adoption Team at the earliest opportunity possible, updated as new information becomes available, and its implementation continued through to its conclusion.

Poor experience to date

Regrettably, the experience to date has not been good. Strangely, until recently the need for, and importance of developing and implementing a behavioural communication plan for deciders was not recognised. Indeed, it took the reluctance of some operational mine managers to embrace the MOSH behavioural processes, and their poor understanding of what they involved, to bring to light both the need for and importance of developing and implementing such plans.

Given the lesson learned from this poor experience, it is clear that all MOSH Adoption Teams must ensure that they devote the required time and effort to developing and properly implementing as soon as possible an effective behavioural communication plan for deciders.

Concluding comment

On completion of the two behavioural communication plans the MOSH adoption team will be well-positioned to identify relevant behavioural communication material that may have been developed and used in implementing the leading practice the source mine. The use of such material will clearly reduce the task of preparing such material for use at adoption mines. More broadly, the adoption team will be well-positioned to develop the scope and detail of its behavioural communications at the source mine.

Section 5.10

Preparation of generic leadership behaviour plan

Key outcomes

- Guidance on how to prepare a generic leadership behaviour plan
- A generic leadership behaviour plan to guide investigations at the source mine
- A generic leadership behaviour plan indicating appropriate leadership for adoption of the leading practice

(Docs [#30](#), [#32](#), [#49](#))

Background

In section [5.6](#) consideration was given to the determination of a set of desired leadership behaviours considered essential for successful adoption of the leading practice. This set of behaviours was captured in Worksheet Doc [#32](#), which also captured implications of the desired behaviours for the source mine investigations, the value case and the direct enquiry protocol. Having conducted the direct enquiries and analysed the implications of the responses, the adoption team is now in a position to review the table of desired leadership behaviours in the light of the mental model research findings, and to then prepare an initial draft of the leadership behaviour plan.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to provide guidance on preparation of:

- An empirically validated generic leadership behaviour plan for use in adopting the leading practice in question.

Key points

It is important that the leadership behaviour plan is based on sound empirical evidence. The key steps in using the results of the direct enquiry process to achieve this are as follows:

1. Identify empirically endorsed leadership behaviours:

- The first step is to critically review each of the identified implications of the mental model findings recorded in respect of leadership behaviour in Worksheet Doc [#30](#), against each of the essential leadership behaviours recorded in Worksheet Doc [#32](#).
- In each case where the identified leadership behaviour is endorsed by the mental model findings the behaviour should be updated if considered necessary and appropriately recorded in Worksheet Doc [#49](#), which sets out the initial draft of the generic leadership behaviour plan.
- In each such case the adoption team should carefully check to ensure that the endorsement is not simply due to a poorly phrased or rhetorical question in the direct enquiry protocol. Should this be the case the leadership behaviour statement in question should not be regarded as having being empirically endorsed.

2. Include any new empirically identified leadership behaviours:

- The second step is to appropriately include in Worksheet Doc [#49](#) any desired leadership behaviours newly identified by the mental models findings.

- Each of these behaviours should be examined to identify any implications they may have in respect of the value case for the leading practice, or for the investigations to be conducted at the source mine. These implications should be appropriately added to similar entries already recorded in Worksheet Doc #32.

3. Critically review desired leadership behaviours not empirically endorsed

- The third and final step is to critically review the relevance of the desired leadership behaviours in Worksheet Doc #32 that were not endorsed by the empirical findings. Once their relevance has been confirmed they should be appropriately included in the generic leadership behaviour plan of Worksheet Doc #49.
- It will be evident that particular attention should be focused on checking whether the investigations at the source mine are able to empirically endorse any of the behaviours not yet empirically endorsed.

Concluding comment

Worksheet Doc #49 represents the first complete statement of the generic leadership behaviour plan, in that it has been derived for the full range of leadership levels across the full spectrum of identified potential adoption mines. The last important step in its preparation is that of updating it to include the elements of leadership behaviour observed at the source mine. The adoption team should now be well-positioned to plan and conduct those investigations.

Section 5.11

Plan and conduct detailed investigations at the source mine

Key outcomes

- Guidance in setting up the arrangements for the investigations at the source mine
- Guidance on key issues in planning and undertaking any preliminary testing and refinement of the leading practice
- A systematic approach to reviewing and documenting the key elements of the leading practice
- A clear outline of behavioural communication and leadership behaviour elements used at the source mine
- An accurate and adequately detailed outline of the leading practice that is to be advocated for widespread adoption
- Guidance on the preparation of a comprehensive report on the investigations carried out at the source mine

(Docs [#31](#), [#32](#), [#33](#), [#34](#), [#35](#), [#48](#), [#49](#))

Background

Having previously conducted preliminary investigations at the source mine, and with much thought and work already having been undertaken on behaviour communication and leadership behaviour, the adoption team should be well-positioned to plan and conduct the detailed investigations outlined in this section. The challenge will be to ensure that all the key aspects of the practice important to the adoption process are systematically identified and accurately documented in sufficient detail to facilitate its widespread adoption. It is also possible that the adoption team may need to acquire more definitive performance data on the practice, or to introduce one or other refinement to the practice. Either or both requirements may have been identified during the process of selecting the leading practice. The latter requirement may also emerge during the course of the investigations. As outlined below, the investigations therefore need to be carefully planned.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

The purpose of this section is to:

- Outline the key considerations that need to be taken into account in documenting the practice,
- Provide guidance on planning and implementing the investigations at the source mine, and
- Provide guidance on documenting the practice investigated.

Initiating investigations at the source mine

The first important consideration is that of setting up the necessary arrangements at the source mine. These arrangements should already have been made as described in section [5.1](#). Nevertheless, following on from this previous interaction, the adoption team manager should:

1. **Ensure CEO-level support:** Hold discussions with the chief executive officer at the mine to recap and confirm the process of investigation that was agreed to. In the event that circumstances or requirements of either the mine or the adoption team have changed, these should be discussed and agreed to. In particular, an arrangement for keeping the CEO informed of progress should be agreed to. This must be treated as an essential requirement.
2. **Consult with the key person responsible for the leading practice at the mine:** Meet with the identified key operational person at the mine, the “practice expert”, to broadly

review the envisaged investigations and to initiate the process of planning the details of the investigations. In particular, this should include an explanation, in broad terms, of the leadership behaviour and behavioural communication aspects that are to be investigated at the mine. In doing so the concept of a leading practice comprising of three legs for sustainable adoption should be brought out, as illustrated in the simple diagram below:



3. **Compile preliminary list of key elements to be investigated:** Against this background, the description of the leading practice previously developed, see section [5.1](#), should be reviewed and updated, with particular attention being given to compiling a list of all key elements of the practice that need to be documented for successful adoption by others.
4. **Explain any envisaged test work or refinements to the practice:** In the event that any test work, or refinement of the leading practice is envisaged, this should also be explained.
5. **Clarify procedural requirements at the mine:** Arrangements for consulting with key people at the mine in planning the details of the investigation should be considered and agreed upon, particularly those concerned with training, communications and performance monitoring. Any particular protocols that need to be followed in interviewing operational mine staff should also be clarified and agreed.

Following on from these two meetings, the process of planning and undertaking the various investigations work outlined below should then be undertaken with the enabling assistance of this key person. Worksheet Doc [#33](#) is provided to facilitate the planning process, and Worksheet Docs [#34](#) and [#35](#) to facilitate the process of documenting the practice.

Key points about preliminary testing or refinement of a leading practice

In some cases the need for preliminary testing or refinement of the identified practice may be identified at the time of selecting the practice, while in others it may only emerge during the process of discussing and documenting the practice at the source mine. In this regard, the following points should be taken into account:

6. Testing or refinement must be completed at the source mine:

If any preliminary testing or refinement of the practice is necessary this should be undertaken at the source mine. The testing or refinement should be fully implemented at the source mine. In the event that the adoption team intends to demonstrate the refined practice at a demonstration mine, the team must never include the refinement process into the demonstration project. At the conclusion of the source mine investigations all aspects of the



Test work was required to clarify the performance of the fogger system for suppressing respirable silica dust

leading practice must have been investigated and fully documented.

7. **Cost of testing should be borne by source mine:** Testing should only be necessary if the source mine does not have reliable data about the practice, as was the case for the fogger system shown here. As in this case, the source mine should be prepared to cover the cost of undertaking the test work.
8. **Test results must be credible:** The procedures for acquiring the test data should be systematic and of high quality to ensure the credibility of the performance data. The test procedures and the results achieved should be written up in a brief stand-alone document that is useful to the source mine and capable of credibly communicating the performance data to potential adoption mines.
9. **Test programme must impact on other investigations:** The test programme should be designed in close collaboration with the source mine and it should preferably be undertaken prior to the process of documenting the details of the practice, although with careful planning it might be possible to undertake the two processes in parallel. This would be acceptable provided the test work does not impact on the operational details of the practice.
10. **Cost of any refinement to be borne by source mine:** In regard to any intended refinement of the practice, since this must have the objective of improving the practice, it should be possible to get the source mine to cover the cost of a pilot study to implement and evaluate the improvement. In the event that they are not prepared to do so, the adoption team should either abandon its proposal or put it forward as a research and development proposal for inclusion in the SIMRAC programme. The mine's reluctance to fund the work should be regarded as an important indicator about either the value of the refinement, or the risk that it involves.
11. **Refinement process must follow investigations:** Even in the case where the need to refine the practice was identified at the time of the adoption team's planning workshop (see Section 4), the proposed pilot study to implement and evaluate any proposed refinement should only be considered after the existing practice has been investigated and documented. This sequence should be adhered to, as the process of discussing and documenting the source practice may also bring out worthwhile refinements which could then be taken into account in a single refinement study. At that time the mine is also more likely to be agreeable to cover the cost of such a piloting study.

Refining the practice: Key considerations

There are a number of issues that must be carefully considered in the process of planning and implementing a refinement to an existing practice:

- **The adoption process provides a good opportunity to implement worthwhile refinements to an existing practice:** This opportunity should be grasped but only if the following points can be adequately addressed.
- **Minor changes can have major impacts:** Experience warns that seemingly small improvements can give rise to major changes, including major negative changes. The identification of unintended negative impacts that may only become significant in the long-term must be a major focus of the pilot studies undertaken to evaluate the refinements.
- **The time required to evaluate changes can be long:** In some cases there may be long delays between the implementation of an improvement and the acquisition of sufficient data to draw any meaningful conclusion. A proper evaluation of this time requirement should be made and be considered acceptable before embarking upon a pilot study.
- **Establishing the cost implications of introducing a new component can be problematical:** The determination of reliable cost data may be particularly difficult to evaluate, because of the time required to establish the life of components, and because of the reductions in cost that become possible once components are being commercially produced in large numbers.
- **Supplier input should be sought in the case of refinements that involve equipment development:** Equipment development is fraught with difficulties and the experience of the suppliers of such equipment should be sought in the refinement process.
- **The ready availability of the refined technology or equipment must be assured:** In the absence of this the adoption process can end in frustration, abandonment and a loss of credibility for the adoption system.
- **The refinement must be properly tested and documented for adoption:** In order to preserve the integrity of the adoption process it is essential that adoption of the practice at the first adopter mine (or demonstration mines) does not become a field evaluation of equipment under development. The testing must be fully complete before being implemented at an adopter or demonstration mine.
- **The development of technology (equipment) requires specialist skills:** Many of the above points may appear trivial to those unaware of the potential problems that can arise, and the adoption teams should look into these matters carefully with the input of specialists where possible. The importance of this point must not be underestimated.

12. **Refinements must be relatively limited in scope:** The pilot study to implement a refinement of the practice should involve only relatively minor equipment, procedural or process improvements that can be accomplished in less than about 8 weeks. Care should be taken to not exceed this constraint as the refinement could easily become a lengthy and costly R&D programme. The refinement programme should thus be tightly planned with a clear completion date.
13. **Refinements to be separately written up:** As with the test work undertaken to clarify particular performance characteristics of the practice, the refinement process should be systematically planned and written up in a concise stand-alone document, as a basis for credibly communicating the refinements that have taken place.
14. **Final outline of practice to include refinements:** On completion of either the test work or the refinement, or both, the documented record of the practice should be updated to accurately reflect the refined practice, provided that it has been adopted at the source mine. It should be possible for teams from other mines who elect to adopt the practice to visit the source mine to observe the practice.
15. **Ensure full understanding of refinement issues:** Other possibilities and important points that need to be taken into account in proposing refinements to an existing leading practice are presented in the side-box covering these considerations.

Key steps in identifying and documenting the leading practice

Although the above indicates that testing of the practice may in some cases overlap with the process of reviewing and documenting the practice, it is essential that the process of reviewing and documenting the existing practice is systematically and accurately undertaken, as outlined below:

16. **Prepare notes to guide planning of the investigations:** Based on the notes made during the various discussions and investigations to-date, the adoption team leadership should prepare notes to help and guide the planning and execution of their investigative work.
17. **Review and confirm the key leadership levels:** The hierarchy previously identified in preparing Worksheet Docs #32 and #49 should be reviewed and confirmed with the key person having oversight responsibility. The “official” key responsibilities and performance requirements should then also be established and recorded. It is unlikely that this detail will have been acquired in the opening discussions referred to in point 2. The statement of these responsibilities and performance requirements should be phrased in terms used at the source mine, as opposed to the specially identified leadership behaviours considered later. It is important to document both for appropriate use in presenting the leading practice.
18. **List the key elements to be investigated:** The key elements of the practice identified in the initial meetings with the “practice expert” should be taken as the starting point. All other information gathered to-date should be then systematically reviewed and consolidated into a comprehensive list of all key elements that appear to warrant investigation. With the assistance of the practice expert, the adoption team will need to judge which elements are key and which may be omitted on the grounds of being non-essential for successfully transferring the practice to another mine.

19. Group the key elements into logical areas for investigation: The list of identified key elements should be grouped into logical areas of investigation and documentation. An indicative list of areas is presented in the side-box to guide the adoption team on this point. Importantly, the list should not be regarded as exhaustive, as the particular nature of the practice being considered may give rise to other more useful classifications, or other key areas. During the investigations it is also possible that the need to investigate and describe other areas or key elements may emerge. It is however indicative of the level of detail that should be covered.

20. Identify whether any specific change management procedures were used: The adoption team should identify whether any other specific change management procedures were used by the mine. If so, this should become a specific area for investigation and documenting.

21. Identify whether access to intellectual property needs to be arranged: Any proprietary knowledge or technology that is necessary for implementation of the practice must be identified and documented. Practical arrangements for access to such intellectual property should be secured and clearly described as one of the key elements of the practice.

22. Note that many of the areas listed in the side-box cover all three legs of a MOSH Leading Practice: This is appropriate as many elements of behavioural communication and leadership behaviour should indeed have been integrated into the operational system. Areas expected to include behavioural aspects are identified in the side-box. In each of these areas it is important to specifically identify these behavioural elements when documenting the system, and procedures to assist in doing this are outlined below.

Key areas to be documented (Point 20)

- Management structure
- Roles responsibilities and required expertise*
- Operational procedures
- Incentive arrangements*
- Training content and procedures*
- Instruction Documentation*
- Signage used*
- Change management procedures*
- Required equipment
- Required supporting physical infrastructure
- Installation of equipment
- Equipment maintenance
- Risk assessment and management
- Relevant mine standards
- Monitoring and reporting arrangements*
- Key performance measures*
- Proprietary knowledge or technology
- Key leadership behaviours*
- Key behavioural communication messages & materials*

* Expected to include behavioural elements

Investigating and documenting leadership behaviour

23. Review the requirements of the NORMS framework: Review the NORMS framework of criteria for use in identifying and describing the behaviour elements of the ABC framework developed in section 5.6. Use of these criteria will help ensure that others seeking to adopt the practice better understand exactly what they need to do and to recognize the achievement of key behaviours when they occur. A detailed description of the NORMS framework is provided in section 15.4, where:

N – Not an interpretation

O – Observable

R – Reliable

M – Measurable

S – Specific

24. **Identify leadership persons to be interviewed:** The names of persons to be observed or interviewed should be identified and agreed and their contact details established. This should be a small selection of individuals from each level responsible for adoption and routine operation of the practice.
25. **Prepare an investigation version of the leadership behaviour framework:** An appropriate version of Worksheet Doc #49 should be prepared for use by the members of the adoption team who are to undertake the investigations. Drawing on the completed Worksheets Doc #32 and #49, it should include notes to guide the various discussions and observations and allow for the results of the investigations to be conveniently captured. No particular format is suggested as requirements and preferences are likely to vary between practices and adoption teams.
26. **Prepare for the one-on-one discussions:** Taking the NORMS framework into account, review the points questions and insights developed following the guidance provided in earlier sections. The team should then develop a set of questions to guide the discussions with the various leadership levels identified the framework table that has been prepared.
27. **Hold one-on-one discussions to identify the ABC elements:** These discussions should take account of the following:
 - The primary purpose of the one-on-one discussion should be to obtain direct input and to gain a perspective on the behaviours that the various levels consider to be essential for the successful operation of the practice, particularly at their own level, but also one level on either side of that where appropriate.
 - The focus should be on identifying the truly key behaviours. These are behaviours that are so essential to the practice that, if they were not done well consistently, the result would be a practice “failure” or a serious shortfall in performance. Typically, key behaviours are few in number. By identifying these key behaviours, one can then “translate” the leading practice into observable and objectively measurable terms.
 - The set of questions designed to elicit the detail required should be used with the interviewer ensuring that each element is objectively described in terms of the NORMS criteria.
 - The interviews must appropriately identify and document the key behaviours that the first operational must perform consistently well in order to adopt the leading practice, and achieve the target results set by the source mine. (The B elements of the ABC framework.)
 - Leaders supervising the operational level of adopters should then be interviewed using a similar set of questions to identify each element in detail. This should be followed by interviews with the next level in the framework table, and so on up until all the identified levels have been interviewed.
 - In each case, identification of the key behaviours should be followed by the identification of the other essential elements of the ABC framework. (The A and C elements.)

- In identifying the antecedents the focus of attention should be on the direction, knowledge, skills and experience, and resources required for each level to be enabled to accomplish the identified key behaviours.
- In identifying the consequences (the C elements) the focus should be on the positive motivational elements required to reinforce desired behaviour and to redirect unwanted or otherwise counter-productive behaviour.
- In documenting these elements it must be remembered that the leaders are in effect the source or control of all of the elements identified.
- The one-on-one discussions should be followed by close observation of a selection of individuals or teams performing key aspects of the leading practice, and in some cases, perhaps even all aspects of the practice. The identified and documented elements of the ABC framework should be updated as appropriate to take account of information and insights provided by the observations.
- During the course of these investigations the need to update the previously determined “official” descriptions of responsibilities and performance requirements may be identified. Should this be the case these descriptions should be updated.

28. Screen the identified ABC elements against the NORMS criteria: This should be done by the adoption team as follows:

- Each of the elements identified during the discussions and observations should be evaluated and adjusted where possible to satisfy the NORMS criteria.
- The original table of findings from the investigations should be retained for reference and input purposes at the time of preparing a report on the investigations conducted at the source mine.

29. Prepare a summary table of the ABC elements considered essential to the leading practice: The adoption team should prepare the summary table as follows:

- The team should further review the ABC elements that satisfy the NORMS criteria to identify those elements that they consider to be essential, and that must be reproduced at future adopter mines for the practice to be successful. They are thus the behavioural core of the leading practice and they should be systematically presented in a summary table of essential ABC elements.

30. Validate the identified leadership behaviour framework: It is important to ensure that the identified leadership framework accurately reflects what the key people at the source mine consider to be the essential leadership elements of the leading practice.

- Validation interviews should be held with each of the persons interviewed to confirm that the summary table of essential ABC elements acceptably captures what they consider to be key to the practice, and important to replicate at future adopter mines.
- These validation interviews should be concluded with a final one-on-one validation interview with the “practice expert”, with a view to identifying any element that might need to be added, or perhaps refined. Elements confirmed as being essential by those already interviewed should not be removed at this last stage of the validation process.

- In all validation meetings, a dialogue should be conducted to reveal behaviours not being performed currently, that could be performed in order to better assure adoption of the leading practice at future adopter mines. These behaviours should be noted, along with a description of how each could affect adoption.
- The validated table of antecedents, behaviours and consequences is thus the essence of the leadership behaviour plan in force at the source mine, and which needs to be part of the leadership behaviour plan that is to be communicated to potential adoption mines.

Investigating and documenting behavioural communication

31. Establish an inventory of communication and modes used: An inventory of communications and communication modes used to achieve successful introduction and operation of the practice at the source mine should be established in discussion with the identified key person at the mine. The following approach should be adopted:

- With reference to section 15.3, explain the concept of behavioural communication to better orientate the person to be able to recall and identify the communications used initially by the mine in securing adoption of the practice, and subsequently to sustain effective operation of the practice. Draw attention to the fact that the type of communications typically used in a mine setting fall broadly into two categories: inter-active or two way communication and passive or one-way information.
- Conduct the discussion with a view to simply answering the questions:
 - o What communications were used in each of the inter-active and passive means of communication to secure and sustain adoption of the practice?
 - o What processes were used to prepare and implement these communications? and,
 - o What were the results of these communications in terms of introducing, supporting or reinforcing the leading practice at the source mine?
- In the first instance, establish an inventory of all of the interactive and passive communications that played a role in establishing and sustaining the leading practice. The example list of modes used in the mining industry provided in section 5.9 should be used to help facilitate identification of the modes and communications used by the mine.
- In the second instance, the sequence of steps taken to develop each broad type of communication in the identified inventory should be established. The various communications are likely to fall into a limited number of such categories and the use of simple block diagrams in identifying and illustrating these steps may be helpful. The people or functions that contributed to preparation and delivery of the communications should also be established and noted.

32. Assess the effectiveness of the identified communications: Arrangements should be made to conduct brief interviews with the mine staff who were most involved in preparing and conducting the identified communications.

- The interviews should be structured to determine:

- o What key messages the interviewers believed were most influential or effective in encouraging the behaviours required to establish and sustain the leading practice.
 - o What modes were most effective in communicating these messages, and why?
 - As indicated in section 15.3, the focus should cover communications directed at the spectrum of persons with the potential to be most influential in either facilitating or inhibiting adoption of the practice. A Worksheet suitable for recording the findings from the interviews is provided in Doc #34.
 - The information derived from the process thus far should be presented in a table similar in form to that used by the adoption team to prepare the behavioural communication plan outlined in section 5.9. Worksheet Doc #48 is provided for this purpose.
- 33. Identify perceived impact of the communications on the intended recipients:** The key consideration in any communication is the impact that it achieves. This assessment should be based on the perceptions of people who were the intended recipients, as follows:
- Prepare an interview protocol to guide discussions with managers, team members and other key stakeholders who were the intended recipients of the identified communications, as recorded in Worksheet Doc #34. The protocol should include a set of questions structured to elicit their perceptions on the communications that have been, or which currently are the most influential with respect to establishing and sustaining the leading practice.
 - Identify the list of the persons to be interviewed. Where the person to be interviewed is also to be interviewed for leadership behaviour purposes, as described above, unless there is good reason for not doing so, a single interview should be conducted to cover both leadership behaviour and behavioural communication aspects of the practice.
 - Prepare a simple plan for conducting the one-on-one interviews that takes the guidance of the previous point into account and then conduct the necessary interviews.
 - Analyse findings from the interviews to identify the most influential communications with respect to establishing and sustaining the leading practice. In doing so the adoption team should in effect address the following more specific question:
 - o Of all the communications conducted, what communications are considered to be critical or indispensable to establishing and sustaining the leading practice, and why?
 - These communications should be highlighted in the inventory of communications captured in the Worksheet Doc #34, with appropriate notes being added in the assessment column to summarise the reasons for them being considered critical or indispensable.
- 34. Review the findings and solicit possible improvements:** This should be done in discussions with the mine staff who were involved in the design and delivery of the communications, as follows:
- Arrange one-on-one meetings, or if considered more appropriate, small group meetings with the key people involved in developing and delivering the communications to review the findings and assessments made.

- Discuss any disagreement with the assessments made with a view to arriving at an agreed set of communications modes and messages considered to be most influential or effective in establishing and sustaining the leading practice.
- Encourage participants to reflect on their experience in changing behaviour through communications, and to share suggestions on what improvements could be made to the agreed set of communications activities and materials to support successful adoption of leading practice at other mines.
- Update the set of agreed communication modes and messages to include a list of suggestions worthy of further consideration by the adoption team in developing its behavioural communication plan.

Systematically conduct the required investigations

35. **Prepare a consolidated systematic investigation plan:** Having considered the above guidance, and having decided the scope and details of the required investigations, the adoption team should logically schedule all of the necessary investigative work. Worksheet Doc #33 has been prepared for this purpose, but it should be modified as necessary to meet any particular requirements of the adoption team. This consolidated plan should be discussed and finalised in consultation with the mine's "practice expert".
36. **Plan to investigate in pairs:** In planning the investigations the adoption team may need to spread the responsibility for determining the details of the various elements, but team members should never work alone. They should at least work as a pair. This is necessary to minimise loss of data or misinterpretation, and to ensure the credibility of the process.
37. **Outsource specialist investigative skills when necessary:** In the event that special skills are needed to fully identify and document certain aspects of the process, such as the training elements, the desired leadership behaviours and the behavioural communication practices used, these skills should be sourced and brought in by the adoption team.
38. **Conduct the investigations:** With the enabling assistance of the mine's practice expert, the adoption team should then implement the process of in-depth observation, discussion and review to determine and document the essential aspects of the practice at the source mine. Worksheet Doc #35 is provided for this purpose.

Preparation of a comprehensive outline of the leading practice to be demonstrated

Having completed investigative process outlined above, and any testing or refinement process that might have been necessary, the adoption team needs to prepare a report that comprehensively describes the practice that is to be put forward for widespread adoption. Key points are as follows:

39. **The document must serve its purpose:** The document must serve as a key reference and guide in implementing the practice at another mine. It is the source of key detail needed for preparation of the Leading Practice Adoption Guide. It therefore needs to be clear about what needs to be put in place to achieve satisfactory replication of the leading practice at an adoption mine. An outline of the envisaged contents of the document that needs to be prepared is provided in the accompanying side-box.

40. **Completion of the report must not be delayed:** The adoption team should ensure that preparation of the report proceeds in parallel with the investigations at the mine so that the report is completed as soon as possible after concluding the investigations. The Adoption Team Manager must ensure that the report is completed before embarking upon the process of arranging adoption of the practice at the first adopter mine, or demonstration mine if a demonstration step has been decided upon. Experience warns that the pressure and natural incentive to begin work at facilitating or demonstrating adoption can delay completion of the report and compromise the work of the team.
41. **The report must contextualise application of the leading practice:** The document needs to include supporting information that is important to fully describe the scope and application of the practice. In particular, the key dimensions of the problem that the practice seeks to address should be outlined briefly but clearly, and a summary of the upgraded generic value case for the practice should be included.
42. **The essence of the practice must be simply presented:** A one-page schematic representation of the practice should also be included as an aid to communicating the essence of the practice to persons central to adoption of the practice at future adoption mines.
43. **The behavioural elements of the practice must be clearly presented:** Using Worksheets Doc #48 and Doc #49 the framework descriptions of leadership behaviour and behavioural communication established at the source mine should be presented as comprehensive stand-alone tables similar to those described in sections 5.9 and 5.10.
44. **Answers to key potential adopter questions must be clear:** The detail provided should enable the adoption team to readily answer questions such as:
- How was performance measured and an in-depth analysis of the results achieved?
 - What has the experience been in implementing and operating the leading practice?
45. **Ensure that comments from key mine persons are sought and taken into account:** The source mine should be provided with a draft of the completed report for their comment and input sought. This should be obtained and agreed upon in a close-out meeting arranged to mark the end of the source mine investigations. The report should then be updated accordingly.

Concluding comment

The adoption team should critically review the content of the completed report to ensure that it adequately documents the key elements of the leading practice at an appropriate level of detail. This should include an internal peer group review to assist in ensuring an outcome of acceptable quality before the adoption team embarks upon the next steps of the MOSH adoption process.

Envisaged contents of Source Mine Report

- Introduction and context
- Brief description of the practice
- The problem that the practice addresses
- Generic value case for the practice
- Brief outline of methodology used to document the practice
- Schematic representation of the practice
- Description of the key elements of the practice
- Concluding comments

Appendices

- Framework of leadership behaviour
- Framework of behavioural communication
- Example documents, communications and signage used at the source mine
- Summary of test results achieved in determining performance aspects of the practice (if applicable)
- Summary of refinements introduced to the original existing practice (if applicable)

Section 5.12

Update generic behaviour-based plans using source mine findings

Key outcomes

- Recognition of the limitations of the behaviour-based plans determined prior to the source mine investigations
- Identification of elements determined at the source mine that must be included in the generic behaviour-based plans
- Guidance on the process for updating the behaviour-based plans determined prior to the source mine investigations
- Behaviour-based plans generically well-suited to being customised to meet the requirements of individual adoption mines

(Doc #31, #49)

Background

At this stage the behavioural communication plan developed to facilitate positive decisions by mine managers at potential adoption mines to adopt the practice should be ready for use by the MOSH Adoption Team. The adoption team should also have available the generic plans for behavioural communication and leadership behaviour that they developed prior to the investigations at the source mine, as well as the empirically determined equivalents from the source mine investigations. The two sets of plans should now also be in a form that facilitates a relatively straight forward comparative review of them, and thus also a relatively straight forward updating of the generic plans to include the key elements determined at the source mine.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

Purpose

The purpose of this section is to:

- Highlight the limitations of the present generic behaviour-based plans, and
- Outline the process for updating the present generic behaviour-based plans to include key elements determined at the source mine.

Limitations of the present generic behaviour-based plans

In section 15.3 it is explained that a sample of between 25 and 30 people is adequate for the purpose of empirically determining the mental model of the population from which the sample is drawn. However, there are clearly limitations in applying such generic findings to a particular individual or sub-sample. This applies also to the generic behavioural communication and leadership behaviour plans that have thus far been formulated in the form of Worksheets Doc #31, and #49.

1. In the first instance there can be significant differences between mines in respect of management style and the general operational approach and climate that are in place at such mines. This may be particularly marked between mines from different head office groups.
2. Although the behaviour-based plans may be broadly applicable to the identified set of potential adoption mines, they may thus fall short if they are not customised to take account of the particular circumstances in place at the mine in question. The process for doing this customisation is considered later in section 6.5.

3. A second key consideration is that an individual element of a behavioural communication plan and of a leadership behaviour plan in particular, can have a very significant impact on the effectiveness of the plan.
4. Given that the fundamental principle of the adoption process is the replication of a successful leading practice at other mines, it is thus necessary to ensure that the behaviour-based plans include the key elements determined at the source mine. Equally, it is necessary to ensure that the generic plans include the elements determined to be broadly applicable to the set of potential adoption mines.

The key role of investigations at the source mine

The investigations at the source mine enable the behaviour-based plans that have thus far been developed, to be further developed into plans generically well-suited to being customised to meet the requirements of individual adoption mines, as follows:



MOSH dust adoption team at the source mine

5. The detailed and systematic process followed in the investigations at the source mine should ensure that all key behavioural communication and leadership behaviour elements have been identified and clearly documented. This provides a sound empirical basis for ensuring that key behavioural aspects of the leading practice can be included in the plans that are to be put forward in the adoption process.
6. In addition to identifying key elements for inclusion in the behaviour-based plans, the investigations at the source mine also serve the purpose of confirming and emphasising the relevance of certain of the in the version of the behaviour-based plans generally applicable to the spectrum of potential adoption mines.
7. The investigations at the source mine thus enable the preparation of behaviour-based plans that include the elements derived at the source mine, as well as those applicable to the spectrum of potential adoption mines. They may thus be regarded as plans that are generically well-suited to being customised to meet the requirements of individual adoption mines. It is in this context that they are referred to as the generic behaviour-based plans

Preparation of updated generic behaviour-based plans

The following simple process should enable preparation of the required generic behaviour-based plans:

8. The two sets of behavioural communication and leadership behaviour plans should be critically reviewed to identify the elements in the source mine plans that are not effectively covered in the plans prepared before the source mine investigations. These elements should be appropriately introduced into the version of the generic plans prepared to date.
9. The review should also be focused on identifying elements in the current version of the generic plans that are also in the plans determined at the source mine. Confirmation of these elements by the findings at the source mine should be noted. Furthermore, any possible improvements of these elements indicated by the source mine findings should be introduced to produce the final version of the generic plans.

10. On completion of the above two steps the upgraded version of the generic plans should be reviewed by the adoption team to ensure both the completeness and quality of the upgrading process. This is the last step in finalising the generic behaviour-based plans.

Documenting the process of developing the behavioural plans

It is important to document development of the behavioural plans to record the process followed and to enable colleagues to review and benefit from it. The following is envisaged:

11. Having completed development of the behavioural communication plan for deciders, and the generic behavioural communication and leadership behaviour plans for use at adoption mines, the adoption team should consolidate their work into a single report. The envisaged contents of the report are presented in the side-box.
12. To a large extent the report should be little more than a compilation of completed worksheets, with brief introductory and explanatory comments. Particular attention should however be given to capturing and including any lessons learnt in undertaking the work. As shown in the side-box, it is envisaged that the completed worksheets could be presented in an appendix, with the brief introductory and explanatory material forming the body of the report.
13. On completion, the adoption team should request the Behaviour Specialist to critically review and comment on the report. The report should then be updated and finalised to take account of any comment received.

Report on development of behavioural plans (Envisaged content)

- Introduction
- Expert model
- Potential adoption mines and key persons
- Key stakeholders
- Hypothesised mental models
- Desired leadership behaviours
- Direct enquiry protocol
- Mental models report
- Implications of mental models findings
- Behavioural communication plan for deciders
- Preliminary generic behavioural communication plan
- Preliminary generic leadership behaviour plan
- Behavioural findings at the source mine
- Final generic behavioural communication plan
- Final generic leadership behaviour plan
- Conclusion

Appendices

- Completed worksheets
- Example communication materials

Concluding comments

The updated version of the generic behaviour-based plans should now be well-suited to being customised to meet the requirements of individual adoption mines. In assisting the first adopter or demonstration mine with this process, the adoption team will need to play an important role in ensuring the success of the customisation process, and in identifying and documenting any procedures that will enhance the process.

Section 5.13

Develop the generic value case for the selected leading practice

Key outcomes

- An understanding of the difference between a value case and a conventional business case
- Awareness of the key elements that should be considered and included in the value case to be prepared
- Guidance on how to go about preparing a credible value case for the leading practice being adopted
- A template for presenting a convincing one-page summary of the value case developed by the adoption team
- An appreciation of the sort of issues that should be considered in identifying the qualitative value of adopting the practice
- A sound basis for assisting managers of potential adoption mines to decide the merits of the leading practice for their mine

(Doc #19)

Background

There are a growing number of senior executives in industry who recognize that the organizational arrangements required to secure excellent occupational health and safety performance will also result in excellent business performance. Many senior executives also recognize that good health and safety performance is consistent with the fundamental value system associated with sustainable development and its triple bottom line. At this high level some may see this as sufficient justification of initiatives to improve occupational health and safety performance.

However, at the operational level, where it is necessary to decide upon specific safety initiatives, good managers must in principle consider and be convinced by sound arguments for making a particular investment, even if this is done implicitly. Given that the objective of an adoption team is to facilitate widespread adoption of a particular practice, involving many mines and managers, a fundamentally important facilitation task is the preparation of a well-stated case to justify such an investment for a typical mine. Importantly, the argument needs to reflect consideration of all issues that have significant business value, even if such issues are not readily quantifiable. Such an argument is appropriately termed a value case, to distinguish it from the more usual business case, which tends to focus only on issues that can be financially quantified.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on the preparation of the value case, and
- Outline procedures for critical review of the value case.

The nature of a value case

1. The challenge in developing and presenting the value case will be that of preventing it from being considered as an unnecessarily complicated business case by operational management. This will also be a challenge to the adoption team as their experience will most likely also cause their focus to naturally migrate to the more familiar aspects of a conventional business case. Importantly, the solution does not lie in excluding the quantitative elements of a good business case, but rather to include them only as elements of a sound value case, which addresses business value at a much higher strategic level.

2. A sound value case is thus anchored in values and ethics that are associated with the “right conduct” to achieve continuous improvement in occupational health and safety performance. This is the fundamental difference between a value case and a conventional business case, which focuses primarily on a cost-benefit assessment in hard financial terms.
3. It is the demonstration of these values and ethics in all aspects of a business that make a significant contribution to securing employee and societal support for the business in the long-term. Formulation and presentation of the value case must strongly bring out this important strategic dimension.

Key components of the value case

4. The following are considered to be the key components of the value case:
 - Occupational health and safety performance improvements
 - Financial benefit of occupational health and safety improvements
 - Initial cost to implement the new practice
 - Direct impact of the new practice on operational costs
 - Indirect operational impacts of the new practice
 - Major qualitative impacts of significant strategic value
5. Each one of these components should be considered and documented in detail in preparing the value case. However, a one-page table should be used to present a clear and concise summary of the primary considerations for each of the above components, with the supporting detail being provided in an appropriate document that provides the detail necessary to support the summary table. An example of such a table is provided later, with Worksheet Doc [#19](#) being provided for initial use during the planning workshop, and for later developing the envisaged one-page summary of the value case.

One-page summary of the Value Case

The one-page summary table presented in Worksheet Doc [#19](#) recognises that it should be possible to present the essence of any good case in relatively few points on a single page. Although the worksheet has the potential to capture a lot of information, the essence of the Value Case involves consideration of only six major considerations. The final version of the one-page summary should be tailored to ensure that attention is effectively focussed on these six points.

Scope of the value case

6. The value case needs to be prepared for a typical mine, but an indication of its impact at industry level should also be given. The adoption team should already have identified the list of mines that they consider to be potential adoption mines, and with the data assembled in dealing with sections [4.6](#) and [5.2](#), it should be possible to arrive at a reasonable assessment of the total number of mines and people that could potentially be affected.
7. Based on a consideration of the potential adoption mines, the relevant characteristics of the typical mine situation should be realistically and clearly stated. However, given that there may be significant differences between potential adoption mines, the value case should include consideration of expected variations on “either side” of the typical mine situation. Not only will such consideration serve as a sensitivity analysis, it will also provide a good basis for arriving at an assessment of the value case at an industry level. In practice the differences between mines may be associated with age of mine, depth of mine, type of mining, or some other key consideration. The relevant characteristics of the *typical, high-*

side and *low-side* scenarios are likely to depend on the leading practice being considered. The adoption teams will need to use their judgment in selecting these differentiators, which should be realistic and clearly stated.

8. The list of potential adoption mines should then also be subdivided and grouped according to these three scenarios, with a view to using the value cases for the three types of mine (groupings) to arrive at a reasonable estimate of the potential industry wide impact of adopting the practice in question. In the event that the practice is applicable across different commodity sectors, and depending on the practice, it may be necessary to prepare a separate value case for each commodity sector.

Expected occupational health and safety performance improvement

9. In preparing the value case the adoption team needs to provide a clear indication of the occupational health and safety performance improvement that can be realistically expected. Where this may differ between the three types of mine identified above, this should be indicated. In most cases it will probably be appropriate to provide the performance information on a per capita basis.
10. In identifying expected improvements, consideration should also be given to the enabling behavioural elements that the behavioural communication and leadership behaviour plans seek to put in place. Some of these may be measurable, while others may be of a more qualitative nature. Both types should be thought about when considering expected improvements, for inclusion as appropriate in the proposed framework for presenting the value case. Elements of the envisaged argument are presented in the side-box.
11. Examples of the parameters that should be considered are listed below:
 - Injury frequency
 - Fatality frequency
 - Illness incidence (all occupational health effects)
 - Behavioural parameters (understanding, relationships, compliance, etc)
 - Key lead indicators. This will be necessary in those cases where safety or health effects have long latency periods and cannot be reliably determined within the time frame of a demonstration project. In such cases it would be appropriate to provide the best available information for interpreting the expected long-term practical implications of such lead indicator measurements.

Sensitivity analysis

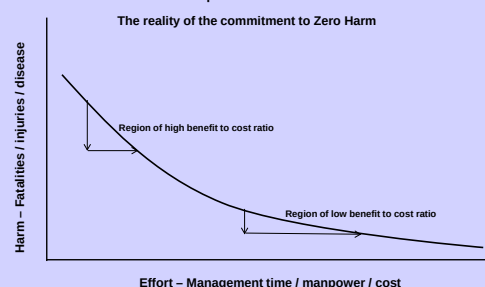
While a good sensitivity analysis will enhance the credibility of the value case, it should not be allowed to delay completion of the value case for the typical mine. Experience warns that Adoption teams should first complete the value case for a typical mine before devoting time to completing the sensitivity analysis outlined here as being part of the value case.

Improved management-worker relationships

A most important benefit of adopting a MOSH Leading Practice is that it includes customisation and implementation of behavioural communication and leadership behaviour plans. The process of engaging with key persons at the mine and then communicating effectively with workers and supervisors about Occupational Health and Safety issues that are important to them will contribute towards an improved management-worker relationship. This will then be built upon continuously by respectful leadership behaviour, which is itself focused on continuous improvement. The benefits of adopting a MOSH Leading Practice, as it extends progressively across the mine, are thus likely to be huge, and of incalculable value

The value of achieving zero harm

It follows that progress along the path to zero harm will be associated with a progressive increase in cost and effort for incremental improvements in OHS performance. This concept is illustrated schematically in the figure provided below. As performance nears low levels of harm, a serious commitment to achieve zero harm must therefore signify an intention by industry to invest in practices that have the potential to bring about only relatively small improvements. In principle therefore, provided the proposed improvement represents the most cost-effective improvement possible at that time, and provided the funds are available, the value case for its acceptance has been made.



12. It is important to recognize the fundamental value industry leaders implicitly associate with bringing about improved safety performance. In committing industry to the goal of achieving a zero harm working environment, industry leaders have ultimately placed the value of continued health and safety improvement above cost. This argument is illustrated graphically in the side-box.

Financial benefit of occupational health and safety improvements

13. Although the business value associated with improved occupational health and safety performance may qualitatively far outweigh the financial benefits of such improvements, it is nevertheless important to realistically identify the financial benefits that accrue from such improvements. Examples of elements that should be considered include the following:

- Hospitalization and other medical costs
- Time off work
- Risk premiums
- SIMRAC levies
- All forms of compensation
- Management time devoted to enquiries, reporting and other communication

Initial cost to implement the practice

14. The initial cost to implement the practice should be considered separately from the operational costs. Such costs may vary significantly between different types of mines, such as old or new mines, deep or shallow mines, and so on. These are differences that the adoption team should seek to expose when deciding upon the three types of mine (scenarios) to be evaluated. The extent to which such variations are realistically exposed will add to the credibility of both the value case and the industry wide assessment. The costs should be amortised so that the costs are consistent with the other annualised data.

15. Examples of elements that should be considered include the following:

- Capital costs of purchasing and installing new equipment
- Access to intellectual property (software and other)
- Creation of new infrastructure (buildings / training aids / etc.)
- Development of behavioural communication and leadership behaviour plans
- Behavioural communication publications, signage and other materials
- Initial training of management, supervisory staff and workers
- Use of consultants and advisors

Direct impact of the new practice on operational costs

16. A key question that will inevitably be considered by all responsible mine managements will be the direct impact of the new practice on operational costs. Once again, these are costs that may vary considerably between different types of mine, and in some cases the adoption team may even consider it necessary to introduce another layer of differentiation within the three scenarios. However, if at all possible this should not be done. Instead, in

Practical cost-benefit considerations

Experience has shown that adoption teams can flounder in their attempts to quantify the financial costs and benefits of adopting the leading practice. It is important to recognise that a balance needs to be struck between striving for absolute precision and a credible value case. A credible value case must clearly quantify the major costs and benefits, but not necessarily in great detail and numerical precision. The level of precision and detail provided under the various headings of the value case is thus clearly a matter of judgement. Experienced Adoption Team Managers should be well-placed to make these judgements, but where there is doubt, the Adoption Team Sponsor should be consulted. Importantly, the Adoption Team needs to ensure that a credible value case is available for review and distribution to potential adopters before completion of the behavioural communication plan for Deciders.

such cases it would be more appropriate to simply draw attention to the issues, while indicating that in the interests of clarity, such deeper analysis should be pursued at a later stage, as necessary.

17. Noting that the possible impact of the leading practice on productivity is considered to be an indirect impact, as considered under the next heading, examples of elements that should be considered under this heading include the following:

- Human resource costs
- Ongoing behavioural communication and leadership behaviour costs
- Routine training costs
- Equipment maintenance costs
- Materials and other consumables
- Outsourced service providers
- Power and water costs
- All other direct operational costs

Indirect operational impacts of the new practice

18. In many cases it is likely that the indirect operational impacts of the practice may be difficult to quantify, and yet provide the greatest business value in terms of benefits that might accrue. This is particularly true when consideration is given to the regulatory action that may be taken by the inspectorate in terms of section 54 of the Mine Health and Safety Act.
19. In considering the possibility and impact of a section 54 intervention by the inspectorate, it will be important to present such information in a manner that is both conservative and realistic in terms of risk. Using the mere existence of the possibility of such interventions to motivate unreasonable levels of expenditure on health and safety improvements would undermine the credibility of the value case.
20. The cost of a possible section 54 intervention should thus be reflected as a separate extraordinary consideration in an assessment of the quantifiable cost-benefit elements of the value case. This is illustrated in the tables presented later.
21. There are various other important indirect impacts that are also possible, both negative and positive, and data from the source mine should be used to assist in establishing these in quantitative terms. It follows from this that, in planning adoption of the practice at the first adopter mine, or demonstration mine, particular attention should be given to acquiring data that can be used to update and further increase the credibility of the value case.
22. Examples of elements that should be considered include the following;
- Productivity, both positive and negative effects
 - Absenteeism
 - Staff turnover
 - Cost of regulatory intervention, such as a section 54 requirement

Major qualitative impacts of strategic value

23. As with the indirect operational impacts considered above, improved occupational health and safety performance can create business impacts of great value. Although it may be difficult to attribute such impacts to the successful adoption of a particular practice, this difficulty should not result in such important impacts being overlooked, or underestimated. It

will be important for the adoption team to reflect these considerations in a well-reasoned way.

24. As a step in the direction of presenting well-reasoned arguments the adoption team should clarify and present the values and long-term objectives articulated by high-level leaders in the mining industry. In doing this the time scales and pay-back periods for various types of investment should be brought out, as well as the potential major benefit of avoided costs due to adoption of the leading practice.
25. An indication of the sort of impacts that persons in industry consider relevant is given in the two lists below: The first derives from the scenario identified by industry for the case where zero harm is achieved and the second from the case where business continues as usual. While the items listed reflect an industry-level focus many of them will in principle also be applicable at mine-level. As a guide and to stimulate thinking, those that may be particularly relevant at mine-level are given in italic print.

Zero harm scenario

- *MOSH milestones are achieved*
- Recurrences are prevented and excellent occupational health and safety performance is sustained
- A favourable comparison with developed (world class) countries
- *Improved stakeholder relationships internally and externally*
- *Reduced pressure to compel change by rule-makers and other key players*
- *Buy-in and collaboration from all stakeholders*
- Image of the industry transformed away from its present dangerous and dirty image
- SA mining industry is acceptable to ethical investment funds globally.
- *A more positive relationship between all operational levels on mines*
- *Reduction in the barriers to women joining the industry*
- SA taking a leadership position in mining health and safety systems worldwide
- *Mining companies more readily acquire licenses to mine*
- Emergence of a zero harm culture with zero tolerance for risk of harm and non-compliance to standards
- Compensation having to be paid for poor past practice.

Business as usual scenario

- Continued reputation as the pariah of the industry
- Prescriptive regulation that takes the destiny of the industry out of its own hands
- *Increased litigation*
- *Withdrawal of mining permits from poor performing mines*
- *High profile convictions*
- *SA mining becoming a sunset industry due to unpopularity with potential recruits and customers*
- *Destabilization of communities surrounding mines*
- *A much sicker workforce*
- *Increased stress and declining trust in industry among employees.*

26. It will be evident that, depending on the practice, many of the points in either of the above two lists may warrant being restated and included as important beneficial impacts on business that adoption of the practice could contribute to, at

A contribution to long term viability

It is increasingly being recognised that the management focus and discipline required for improved occupational health and safety performance inevitably extends to other operational aspects. This brings with it consequential cost and operational benefits. The combination of improved health and safety, improved operational performance, investor confidence and improved management-worker relationships will make a very real contribution to ensuring and extending the long-term viability of the mine. This will be of direct personal benefit to all mine employees and shareholders. It is thus of great strategic value

both industry and mine level. The above lists should be carefully considered by the adoption teams to identify those items that apply and that warrant being elaborated upon in the detailed presentation of the value case, and then listed in the summary table presented later as major strategic impacts of the practice. An example of such an argument is provided in the side-box.

27. The adoption teams should also seek to identify important business impacts not given in the two lists above. In this context the adoption team should review the principles and values articulated by management in considering the roadmap to zero harm. The team should also consider the objectives and content of their behavioural communication and leadership behaviour plans to identify potentially major positive business impacts.
28. Additionally, the team should recognise that some of the sources of value may only be realised over time. As an aid to thinking about and identifying such benefits the adoption team should conduct an exercise aimed at articulating the linkage between investment and return, through statements of the form:

“As we(Invest - take particular investment actions), we will (Realize - receive particular benefits).

Critical review of the value case

29. In order to ensure that the value case is credible and of high quality, the adoption team should identify at least two persons who are well-suited to critically review the credibility and acceptability of the value case. The selected reviewers should include a suitable technical expert and a senior mine manager, possibly drawn from one of the potential adoption mines.
30. The adoption team should advise the secretariat of the reviewers who have been identified and who have agreed to undertake the review. The secretariat should then arrange for the review to be undertaken. A high quality draft of the value case should be provided to the secretariat for this purpose.
31. The review should be undertaken prior to finalising the value case for use in behavioural communication plan involving the identified key deciders at potential adoption mines. The reviewed report should then be included in the in both the source investigations report and the leading practice adoption guide described sections [5.15](#) and [5.16](#) respectively.
32. Importantly, the value case should also be presented to the MOSH Task Force, not only with a view to obtaining useful feedback, but also with a view to informing them of progress and enlisting their support for positive adoption decisions at potential adoption mines.

Concluding comment

Some may argue that the preparation of a detailed value case should be unnecessary in an industry that has in principle accepted the urgent challenge of progressing toward the ultimate ideal of zero harm. Such arguments should be countered by pointing out that the preparation of a credible value case is a good example of the care and excellence that is required in practice to achieve superior occupational health and safety performance. It is this thoroughness, care and excellence that is expected to spread to other operational areas to bring about improved business performance across the entire organisation.

Summary Statement of the Value Case						
No	Details	Ref	Value assessments (Rands / rates / Qualitative)			
			Typical mine Scenario 1	High-side Scenario 2	Low-side Scenario 3	Industry
1	1- Improved OHS performance	Include no of relevant section in attached supporting document				
2	(Injury rate - fatality rate - illness incidence - key lead indicators)					
3						
4						
5						
6	2- Finanacial benefit of improved OHS performance					
7	Hospitalization and other medical costs					
8	Time off work					
9	Risk premiums					
10	SIMRAC levies					
11	All forms of compensation					
12	Management time (Inquiries, reporting, communication,etc)					
13						
14						
15	3- Initial cost to implement the practice	Add or delete items as appropriate under each of the headings in bold type				
16	Capital costs of purchasing and installing new equipment					
17	Access to intellectual property (software and other)					
18	Development of behaviour-based plans					
19	Communication aids and materials					
20	New infrastructure (buildings / training aids / etc.)					
21	Initial training of management, supervisory staff and workers					
22	Use of consultants and advisors					
23						
24						
25	4- Direct impact of new practice on operating costs					
26	Human resource costs					
27	Routine training costs					
28	Ongoing cost of behaviour-based plans					
29	Equipment maintenance costs					
30	Materials and other consumables					
31	Outsourced service providers					
32	Power and water costs					
33	All other direct operational costs					
34						
35						
36	5- Indirect impact of new practice on operations					
37	Productivity, both positive and negative effects					
38	Absenteeism					
39	Staff turnover					
40	Regulatory interventions (other than a major section 54 intervention)					
41						
42						
43	6- Major impacts of significant strategic value					
44	Achievement of required progress towards MOSH milestone					
45	<i>Improved stakeholder relationships internally and externally</i>					
46	<i>Reduced risk of enforced change by rule-makers or other key players</i>					
47	<i>Buy-in and collaboration from all stakeholders</i>					
48	Improved image of the mine and industry					
49	More attractive to investors (Generally, also ethical funds globally)					
50	<i>A more positive relationship between all levels at the mine</i>					
51	<i>Reduction in the barriers to women joining the industry</i>					
52	<i>More ready acquisition or maintenance of licence to mine</i>					
53	Progress towards zero harm culture					
54	Less litigation					
55	Less risk of management conviction					
56	<i>Easier recruitment and retention of staff and customers</i>					
57	<i>Improved relationship with communities surrounding mines</i>					
58	<i>A much healthier and productive workforce</i>					
59						
60						
	Summary assessment of the value case					
	Net financial benefit (excluding a possible section 54 intervention)					
	Potential cost of a section 54 intervention					
	Overall assessment of value from adopting the practice					

Provide details of each of the three scenarios in the document prepared in developing the summary table, and provided to support the table

In a final (or alternative) version of this summary table the adoption team may chose to replace the numbered list of items under each of the six major headings with a description of what has been considered in arriving at the cost or assessment presented for the heading in question. Taking this guidance into account, the adoption team will need to decide upon the most effective way of presenting the value case to operational mine management.

Where monetary based assessments are realistically possible, these should be entered.

Otherwise enter qualitative assessments of business value using the following five-point scale

- Overriding
- Good
- Positive
- Neutral
- Negative

Explanatory notes to clarify the basis of the assessment entered should be provided in the detailed companion document.

Enter the calculated net financial benefit -refer to explanatory notes as necessary. Also provide a net qualitative overall assessment using the above five-point rating scale

Section 5.14

Identify and address critical issues including demo-adoption criteria

Key outcomes

- Awareness of the potentially disastrous effects of unintended consequences
- A structured approach to identifying and prioritising potentially significant unintended consequences
- Plans for taking action to prevent or minimise the emergence of significant unintended consequences
- Reduced risk of a poor or unsuccessful adoption outcome

(Doc #15.1, #36)

Background

Notwithstanding the time and care that has been devoted to the identifying and documenting the leading practice, before putting the leading practice forward for adoption, the adoption team needs to reflect on issues that have the potential to cause significant unintended consequences. A common trap that awaits all people who are committed to achieve something worthwhile is that they focus on the upsides and miss or downplay the potential downsides, particularly if they are not immediately obvious. This “blind-spot” may persist even when the downsides begin to emerge, right up to the point when they may appear to suddenly demand attention because they have become a crisis. At that stage a previously fixable problem may have become irrecoverable and disaster management ensues. A conscious effort therefore needs to be made to avoid falling into this trap, by identifying such issues in advance and then taking or planning appropriate mitigating action.

Purpose

The purpose of this section is to:

- Highlight the importance of identifying critical issues and potential unintended consequences that could prevent widespread adoption of the leading practice, and
- Provide guidance on their identification and mitigation.

Potential critical areas

Although an important unintended consequence could emerge from almost anywhere, the adoption team should take a structured approach to identifying and considering such issues. This is outlined below, with Worksheet Doc #36 being provided to aid and facilitate the process:

1. In each of the other areas identified in the worksheet, the adoption team should reflect on whether there is any aspect of the leading practice that could have any short or long-term unintended consequences that could compromise, inhibit or prevent widespread adoption in any way. The areas for consideration identified in the worksheet are shown in the side-box, along with a few examples of the sort of unintended consequences that could arise. The adoption team should

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Structured approach - Identify issues and unintended consequences that affect:

- Viability of plan to facilitate adoption
- Workers
- Key stakeholders
- Operations
- Suppliers
- Public image

Illustrative issues and associated unintended consequences:

- Significant refinement > lack of operational data and experience leading to undue adoption resistance
- Improved production > loss of jobs leading to worker resistance
- Time required for practice > neglect of other areas leading to worsening OHS
- Mechanism of bonus incentives > increased admin and dissatisfaction with equity of bonus determinations
- Use of a single supplier > Long term weakening of competitive suppliers
- Limited consultation > No support from key stakeholders and withdrawal of support for adoption

add any other issues that warrant consideration from this point of view.

2. The first issue that must be carefully considered is the viability of present plan to facilitate adoption of the leading practice. At the time when the leading practice was selected, the adoption team will have considered and decided whether or not a demonstration project should be undertaken. Having now investigated and documented the leading practice in detail, including any necessary testing and refinement, the adoption team should be better-placed to assess whether or not a demonstration project is necessary. With reference to section 4.9, the adoption team should systematically review Worksheet Doc #15.1 to either confirm the earlier assessment, or to overturn it and revise the team's plans accordingly.
3. The adoption team should then systematically consider each of the areas they have listed in Worksheet Doc #36, to identify whether there is any feature of the leading practice that could have a significant unintended consequence in the area in question.
4. The systematic review process should involve the complete adoption team and be conducted in workshop mode. In each case the adoption team should list on Worksheet Doc #36 the relevant feature or issue and the identified unintended consequence.

Mitigating action

The adoption team will need to develop plans to mitigate the potential unintended consequences that have been identified, and the following points are provided to assist and guide the process:

5. Having identified aspects of the leading practice that could give rise to unintended consequences, the adoption team should assess the likelihood and severity of the unintended consequence occurring. On the basis of this assessment, the urgency with which the identified issues need to be addressed should be rated as high, moderate or low.
6. The adoption team should then devote time to identifying possible actions that could be taken to minimize the potential for each of the unintended consequence to occur, starting with those with the highest priority but working through to even those with the lowest priority. This should include consideration of possible communication to pre-emptively create conditions and understanding that would work against the emergence of the identified unintended consequence.
7. In developing these action plans, the adoption team should take special care to ensure that the essential elements of the leading practice are not compromised. Addressing an unintended consequence should not compromise the effectiveness of the leading practice, as this would clearly represent an equally problematic unintended consequence.
8. Guided by their earlier assessment and prioritisation process, and available time and resources, the adoption team should then schedule implementation of the various mitigating actions.
9. In parallel with scheduling the various mitigation actions the adoption team should also put in place a systematic review procedure to help identify the emergence of any unintended consequences not yet identified. This precaution will help ensure that action is taken timeously to address any counter-productive unintended consequence that might begin to emerge.

Concluding comment

The possibility of unintended consequences arising are always present and the adoption team may need to mount an exercise similar to that described above at other times during the adoption process. However, there are unlikely to be times that are more important than that associated with conclusion of the process to identify and document the details of the leading practice at the source mine. It is an opportunity that should not be missed.

Section 5.15

Preparation of a consolidated Source Investigations Summary Report

Key outcomes

- Guidance on the scope and content of the source investigations summary report
- A summary of key findings needed by the adoption team in their future work on the leading practice
- A sound means of enabling and facilitating learning within the learning hub

Background

In section [5.1](#) it was pointed out that the process of investigating and documenting the selected leading practice involved a parallel activities. It was also shown schematically how these activities were inter-related and how they needed to be reported upon. An important objective of section [5.1](#) was to provide clarity on the work that needed to be done so that it could be effectively planned and executed. Now that the work has been completed it is important to preserve that clarity, and to present the work undertaken, by logically pulling it together in the consolidated source investigations report outlined in this section.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the content of the envisaged source investigations report, and
- Provide guidance on the preparation of the report.

Key points for considerations

These are as follows:

- 1. Purpose of the report:** The adoption team needs to be clear about the purpose of the source investigations report. It not only to prepare a brief overview of the work they have done but also to bring together their definitive and detailed account of the source investigations they have undertaken. The layout of the report must thus to be structured to satisfy these important requirements, but without any undue repetition.
- 2. Users of the report:** The main intended readers users of the report are:
 - The Head of the Learning Hub,
 - The adoption team leadership,
 - Industry members of the adoption team, and
 - Learning Hub staff.In preparing the report the needs of this readership must be taken into account.
- 3. Structure of the report:** Following on from this, the envisaged report should be structured as a brief overview document, supported by a number of standalone reports attached as annexes. The standalone annexes should have already been prepared during

Envisaged structure of Source Investigations Summary Report

Overview

- Executive Summary
- Introduction – The leading practice and the risks addressed
- Planning of necessary investigations
- Development of the generic behavioural plans
- Behavioural communication plan for deciders
- Documenting the leading practice at the source mine
- Development of generic value case
- Summary of key lessons learned
- Conclusion

Annexes

- Development of behavioural plans (section [5.12](#))
- Investigations at the source mine (section [5.11](#))
- Development of the generic value case (section [5.13](#))

the course of the parallel investigations. Guidance on the preparation of these reports is provided in the relevant handbook sections. The envisaged structure is presented in the side-box.

4. **Guidance on detail to be provided in overview:** In preparing the overview sections adoption teams should seek to explain what was done and why, and to then present the key outcome/s that emerged. Ideally, the reader should be able to understand the key findings without having to consult the annexed reports. The adoption team should also be mindful of their own needs when selecting the key results to be presented in the overview section. The source investigations summary report should indeed serve as their own useful summary of key findings from the source investigations – the findings that they will need to refer to and use in their future work.
5. **Lessons learned:** The adoption team should pay particular attention to preparing a clear summary of the key lessons learned during the process of conducting and writing up the various source investigations. This is likely to be one of the most useful aspects of the report for their colleagues in the Learning Hub.
6. **Preparation of the report:** Although all members of the adoption team need to contribute to preparation of the report, the team's Adoption Specialist is expected to play a leading role in the preparation of this report. This is something that should be considered in allocating responsibilities at the time of planning the various investigations, as outlined in section 5.1.
7. **Peer review process:** Having completed a draft of the source investigations summary report, the complete report should be submitted to a process of peer review within the Learning Hub. This should be arranged with the assistance of the Monitoring Specialist, with input received being taken into account in finalising the report for into the Learning Hub's web-based data archival system.

Concluding comment

The consolidated source investigations report is expected to serve a useful purpose to both the adoption team and the learning hub. For the adoption team a large part of the benefit will flow from the critical review process required to compile a logical and complete overview report, but also from the feedback they obtain by providing the report to selected peers for review. For the learning hub the report will serve as a record of work done, but also as a means of enabling and facilitating learning within the learning hub.

Section 5.16

Preparation of a draft Leading Practice Adoption Guide

Key outcomes

- Guidance on the preparation of high quality draft of the Leading Practice Adoption Guide
- A draft of generic guidance material for consideration, adaptation and possible inclusion in the adoption guide
- A high quality draft of the leading practice adoption guide for distribution at the leading practice adoption workshop
- An adoption team well-placed to assist future adoption mines with adoption of the leading practice

(Docs [#45](#), [#47](#))

Background

One of the most important deliverables of a MOSH adoption team is a user-friendly document that sets out details and guidance for those who choose to adopt the leading practice. In the three-phase adoption process a draft of this document needs to be made available to guide the first of the adopter mines. It therefore needs to be prepared without the experience that would be gained in demonstrating the adoption process at a demonstration mine. In the four-phase process, in principle it need be prepared only at the end of the demonstration project, enabling the experience at the demonstration mine to be taken into account. However, even in the four-phase process adoption teams should also prepare a draft guide prior to initiation of the demonstration project. This will serve as good preparation in planning the demonstration process and will help ensure a good demonstration outcome. More importantly, it will enable inadequacies in the draft to be exposed and worthwhile improvements to be identified. The importance of ensuring that the document is both user-friendly and effective cannot be over-emphasised.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on the format and content of the Draft Leading Practice Adoption Guide, and
- Highlight the need for experience to be taken into account in finalising the document.

General format

The following points, which should be read in conjunction with the generic example draft Leading Practice Adoption Guide provided as Reference Doc [#47](#), indicate the general format that should be used:

1. The document should be prepared by the MOSH adoption team as a high quality draft document in a standard format. Guidance on production of the document in a standard format will be provided by the team's adoption specialist, based on the standard format that the Learning Hub determines as being most effective from time to time. The standard format should ensure that the presentation is clear and uncluttered, that the number of characters per line does not exceed about 80, and that a margin such as that used in this Handbook is provided for use by the end-user.
2. The cover page should clearly indicate the title as *Draft Leading Practice Adoption Guide for* It should clearly indicate the revision number and date of issue, with the first version being marked Rev 0. An explanatory text box should be included to indicate that

the draft document will be updated to include experience gained in using the guide at the first adopter mine, and any other input received from COPA members in reviewing and working with the document in parallel with the adoption process at the first adopter mine. The process of updating the draft guide is described in section 6.7. At that stage the revision number and date of the document would be changed and it would be marked “released for application”. In the event that the adoption team has decided to include a demonstration phase, the guidance provided in the side-box should be followed.

3. The cover page should also clearly indicate that it has been produced by the MOSH Learning Hub, with the team responsible for its production being identified. All members of the adoption team should be listed. The team’s adoption specialist should provide a template for the cover page.
4. A one-page executive summary should be provided as the first page of the document.
5. A standard explanatory note setting out a brief description of the Adoption System and its main processes should be provided. This should include identification and documenting of the leading practice, the development of behavioural communication and leadership behaviour plans as integral parts of the leading practice, and the establishment of a COPA to facilitate widespread adoption of the practice.
6. A table of contents should follow showing details of how the guide comprises of the following four parts:
 - Strategic context
 - Adoption guidance
 - Details of the Leading Practice
 - Supporting documents
7. A draft Leading Practice Adoption Guide should be made available to those who attend the Leading Practice Adoption Workshop with a clear explanation of its draft status. A copy of the draft document should also be posted on the MOSH Web-site, for convenient access by others in the mining industry. An electronic copy should be provided to all persons who have expressed an interest in joining the COPA that is to be established to help facilitate widespread adoption of the practice.

Guidance when a demonstration phase is included

In the event that the draft guide is being prepared for distribution following a demonstration phase the explanatory text box referred to in Point 4 should indicate that the document takes account of experience gained at the demonstration mine. It should further indicate that the document will be reviewed and finalised by COPA members for release to all potential adoption mines. At that point the document will be marked as “released for application” and allocated the appropriate revision number and date.

In the event that an earlier draft has been prepared for use at the demonstration mine, the explanatory text box should indicate that the draft is for use at the demonstration mine.

Part 1: Strategic Context

It is most important that the reader has a clear appreciation of the strategic context of the leading practice in question, and of the potential for individual mines, and the industry in general, to benefit from adoption of the practice.

8. The strategic context should include clear and concise consideration of the following topics, each under its own heading:
 - **The problem addressed**
 - **Summary description of the practice**

- **Summary of documented performance and impacts**
- **The generic value case**

It should be possible to draw much of this material from the consolidated source investigations report.

Part 2: Adoption Guide

In this Part of the guide all of the special considerations, precautions and procedures that the mine should take in implementing the practice should be set out in sufficient detail for the mine to be able to plan and execute the work without uncertainty about what they need to do to achieve successful adoption.

9. This Part of the guide should start with the brief overview of the adoption process to be followed. The overview should provide the reader with a broad appreciation of the key steps that will need to be addressed in adopting the practice. There are 16 key steps and they are as follows:

1. **Facilitate adoption decision**
2. **Secure support for adoption**
3. **Establish an effective mine adoption team**
4. **Prepare initial plan for adoption**
5. **Initiate baseline monitoring programme**
6. **Establish effective relationship with the COPA**
7. **Update key stakeholders on progress**
8. **Plan and conduct direct enquiries**
9. **Customise generic behavioural plans**
10. **Harmonise leading practice with mine standards**
11. **Assess risks and develop final adoption plan for approval**
12. **Develop training and communication materials**
13. **Brief and train key mine persons**
14. **Implement pilot adoption of the practice**
15. **Monitor evaluate and report on performance**
16. **Finalise and implement mine-wide roll-out plan**

10. In regard to the various activities that make up each of these key steps, these are identified in Reference Doc [#45](#). Much of the required guidance in respect of these activities can be derived from past experience and various sections of this handbook. Accordingly, a generic “starter” draft of material suitable for presentation in the Adoption Guide is provided in Reference Doc [#47](#). However, in providing this convenient starting point, it must be emphasised that it is no more than that, a *generic starting point*. For each leading practice each adoption team will need to ensure that the generic starting material is critically reviewed and updated to appropriately take account of the points that are specific to the practice in question. In due course the content of the guide would be further updated by the adoption team to take account of particular points that emerge at the first adopter mine (or during the demonstration project). The leading practice adoption guide must clearly be a document that is *specific to adoption of the leading practice in question*.

Part 3: Details of the leading practice

In this Part of the guide the details of the leading practice that has been documented should be clearly presented. In doing so it is important to emphasise that the leading practice comprises of three equally important legs, as follows:

- **Leg 1 - Technical elements:** The equipment, structures and procedures for operating the practice
- **Leg 2 - Behavioural communication:** The communication that is necessary to address identified barriers to adoption
- **Leg 3 - Leadership behaviour:** The leadership behaviours needed to secure successful and sustainable adoption, and a culture of continuous improvement.

11. With reference to section 5.11, the details of the technical elements of the practice should be provided as a series of points under headings similar to those indicated below. These headings are indicative and may need to be varied or extended meet the requirements of the leading practice:

- **Management structure**
- **Roles responsibilities and required expertise**
- **Special change management procedures**
- **Proprietary knowledge or technology**
- **Required equipment**
- **Required supporting physical infrastructure**
- **Installation of equipment**
- **Equipment maintenance**
- **Risk management**
- **Instruction Documentation**
- **Operational procedures**
- **Relevant mine standards**
- **Incentive arrangements**
- **Training content and procedures**
- **Signage used**
- **Monitoring and reporting arrangements**
- **Key performance measures**

12. In presenting the leadership behaviour and behavioural communication legs of the leading practice, it should be explained that the observations at the source mine have been used to update the findings determined from investigations across a spectrum of the identified adoption mines. Draft explanations of the investigative process are provided in for It should be emphasised that the leadership behaviour and behavioural communication plans are key aspects of the MOSH leading practice, and that customisation of the leading practice to take account of mine specific circumstances is considered in detail in Part 2 of the Adoption Guide.

Part 4: Supporting documents

In this Part of the guide the various worksheet or reference documents that are referred to in the other three parts of the adoption guide should be presented.

13. In some cases the documents may be illustrative examples of material that the mine may be able to use directly or in an updated form, but in a number of cases they are documents that are part of or directly support the adoption process. The list of envisaged documents provided below identifies these two different types of document.

Appendix A: Supporting work documents

- Framework of the overall adoption plan
- Adoption process checklist
- Systematic leading practice preview process
- MOSH Brochure outlining the adoption process
- Guidance document for the eight-step customisation process
- Expert causal chain risk summary – for customisation
- Likely key stakeholders and adopters
- Identification of adopters and stakeholders at the mine
- Guide to interviewers in preparing for direct enquiry interviews
- Questions for direct enquiry interviews at the mine
- Analysis worksheet for direct enquiry responses
- Generic mental models report

Appendix B: Supporting example documents

- Example documents / communications / signage / etc
- Example training material
- Details of performance and impacts of the leading practice at the source mine

As with the other Parts, the above list is not considered exhaustive and other points should be added as necessary.

Concluding comment

It should be possible for much of Parts 1 and 3 to be a refined and updated statement of material prepared in documenting the practice reviewed at the source mine. Similarly, much of Part 2 is expected to be an appropriately packaged statement of material presented in the various sections of the handbook, updated to include the particular experience of the adoption team. Preparation of the consolidated source investigations report, and its various companion reports (annexes) should be done with this objective in mind.

SECTION 6

Facilitation of widespread adoption

- 6.1 Systematic check before initiating widespread adoption
- 6.2 Set up arrangements with the lead adopter (demonstration) mine
- 6.3 Design and hold a leading practice adoption workshop
- 6.4 Set up a Community of Practice for Adoption, COPA
- 6.5 Oversee the adoption process at the lead adoption (demonstration) mine
- 6.6 Document experience gained at lead adoption (demonstration) mine
- 6.7 Update and finalise the Leading Practice Adoption Guide
- 6.8 Oversee the operation of an effective COPA

Section 6.1

Systematic check before initiating widespread adoption

Key outcomes

- A structured approach to conducting an insightful “what if” exercise by the adoption team
- Identification of key elements that need to be taken into account in finalising plans for the first adoption mine
- A shared awareness of key issues that need to be guarded against in securing a successful first adoption
- A professional and knowledgeable approach to facilitating the adoption of leading practice
- Reduced risk of implementing a compromised or largely unsuccessful first adoption process

(Doc #37)

Background

Experience over many years has shown that there are a number of factors that can inhibit and lead to failure of efforts to implement new technology and practice in the mining industry. This experience led to the compilation of a checklist of such factors to help ensure that they are given due consideration before embarking on such implementation efforts. It was an awareness of these factors, some of which are effectively addressed through behavioural communication and leadership behaviour techniques, that led to these two techniques becoming key aspects of the adoption system. Consideration of the checklist before initiation of adoption at the first adopter (demonstration) mine therefore serves as a check not only on the adequacy of the behaviour-based plans that have been developed, but also as a means of identifying other key issues that might still need to be addressed in planning the adoption at the first adoption (or demonstration) mine. Some of the factors listed are more relevant to the implementation of new technology, but may still serve to prompt useful thinking in respect of adoption of the leading practice at the first adopter (demonstration) mine.

Purpose

The purpose of this section is to:

- Present a checklist of factors that can inhibit or prevent successful adoption of new technology or practice, and
- Provide guidance in the use of the checklist in planning adoption at the first adopter (demonstration) mine.

Structure of the Checklist

The checklist is provided below as a series of numbered points. Each point is followed by a brief comment that provides guidance on its implications and use. The checklist points are grouped under the following broad headings:

Structure of the checklist

- Suitability of the practice
- Establishment of the mine project team
- Interactions with key persons at the mine
- Interactions with future adopters
- Planning the first adoption (demonstration)
- Documenting and reporting

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Suitability of the practice **p**

1. **“ Is there a real need for the practice at the selected adoption mine?**

Technology or policy developments in the mining industry can render a technology or practice redundant or cause it to have such a short life that its implementation would be counter-productive. Such considerations should have already emerged in the planning process that has been followed, but should a serious evaluation of the question for some unforeseen reason return a negative response, even at this late stage the intention to proceed should be aborted and the adoption team should switch its attention to another mine. In the event that a similar outcome applies to all or most of the identified potential adoption mines, the leading practice should be shelved and attention devoted to a fall back technology or practice. This must not be treated as a trivial or after-the-fact question.

2. **“ Is the technology, practice or knowledge ready for adoption by industry?**

This is a key question when implementing new technology or a refined practice. New technology that is not ready for implementation should have been rejected at an early stage of the adoption process. In particular the practice must be adequately simple for effective operation in mines and able to withstand the often harsh operating environments to which it might be subjected. In those cases where the technology or practice has undergone a modest level of refinement, the adoption team must ensure that the refinement process has been adequately completed before commencement of the adoption process at the first adoption (or demonstration) mine.

3. **“ Is the leading practice adequately available on a commercially viable basis?**

This is similar to point 2 but covers the case where the technology or practice may have been fully tested but is not yet commercially (costs/market) available on a viable basis. This point should have been seriously considered in selecting the leading practice, but a negative return on this point indicates warrants a delay until secure source of supply of the practice in adequate numbers has been assured.

Organisational arrangements at the lead adopter (or demonstration) mine

4. **“ Has the lead adopter (or demonstration) mine indicated that it is prepared to pay?**

This point should have been positively resolved in the early discussions with the first adoption (or demonstration) mine. Unless there are unusual risks that warrant special arrangements to reimburse costs in the event of failure, the mine must be sufficiently interested to voluntarily carry the cost and risks of adopting the leading practice.

5. **“ Has the mine appointed an appropriate champion?**

If not, this could become a sensitive and difficult point. In order to minimise the chance of this difficult situation arising an important step in setting up arrangements with the first adoption (or demonstration) mine should be to provide the mine with an outline of what is expected of the person, in respect of facilitating adoption of the technology or practice beyond the pilot demonstration site at the mine. If a significant problem arises on this point the assistance of the Adoption Team Sponsor should be sought.

6. **What technical support is needed to assist mine staff with the adoption process?**

The adoption team should give specific consideration to this matter, and if there is special assistance needed, the team should develop appropriate proposals for consideration by the mine adoption team. This might involve assistance being provided by persons from the source mine, or persons from the adoption mine spending time at the source mine to acquire the needed skill and confidence. The possibility of technical support being obtained from a specialist service provider should also be considered. Any costs involved in such support arrangements should be paid for by the mine.

Interactions with key persons at the mine

7. **Which persons on mines are going to be most affected by adoption of the technology or practice?**

This question should have been effectively addressed in developing the behavioural communication plans to facilitate adoption of the leading practice. Any residual uncertainty should be addressed immediately and built into the behaviour-based plans that are to be customised for implementation at the demonstration mine.

8. **What steps need to be taken to ensure proper communication about the new technology or practice in regard to its application and its positive and negative impacts?**

These steps should be effectively addressed through the process that is to be followed in customising the behaviour-based plans for implementation as part of the demonstration project. The adoption team must ensure that these steps specifically include provision of the necessary communication material, or arrangements for the preparation of adequately detailed material according to the needs of the behavioural plans.

9. **What special training is necessary for mine staff to facilitate successful adoption?**

This point should have been fully addressed in the work conducted at the source mine, and in writing up the practice that is to be adopted. Ensuring that the necessary training material is available, or that arrangements for its preparation are in hand, is crucially important to ensuring a successful adoption outcome.

10. **Which persons on the host mine could make or break the project and how have they been accommodated?**

The Adoption Team Manager, with the assistance of key persons at the adoption mine, should take special care to identify any such persons, and together work out and include within the project plan ways of accommodating the identified concerns or interests. This should become a key aspect of customising the behavioural plans and achieving success on this point could be crucial to a successful adoption outcome.

11. **What will be the benefits to the various people on the mine who are or will be affected by adoption of the technology or practice, in particular the workers and first line supervisors?**

This question should have been fully addressed in developing the behaviour-based plans, but both the MOSH adoption team and mine adoption team must be able to explicitly provide a relatively simple and convincing answer to this question. In the event that they are unable to do this, the adoption team should ensure that this point is adequately

addressed in the process of customising the behaviour-based plans that are to be implemented at the demonstration mine.

12. **“ What measures, in addition to training, need to be adopted to gain the support of the workforce for the new technology or practice?**

Much of the leadership behaviour and behavioural communication planning will seek to address this question. Nevertheless, in addition to this planning, the adoption team, and then later the mine adoption team should seek to identify procedures, structures and practical incentives that might significantly contribute to addressing the point. These points should also be addressed in the process of customising the behaviour-based plans that are to be implemented as part of the adoption process.

13. **“ Which persons will be negatively affected and how have their concerns been taken into account to secure their support?**

This point is a sufficiently important aspect of the previous question to warrant being raised separately. It should be handled in the same way as the previous point, but also explicitly as a separate consideration

14. **“ Does the mine have good and constructive union participation?**

This point should have been explicitly addressed in selecting the first adoption (or demonstration) mine. If the relationship is found wanting in any way, specific steps must be devised with the adoption mine to secure constructive union support and participation in the adoption process at the earliest possible stage.

15. **“ Does the mine have a strong and constructive health and safety committee?**

As with the previous point, this matter should have been explicitly addressed in selecting the first adoption (or demonstration) mine. In the event of a negative assessment specific steps must be devised with the adoption mine to secure support and constructive input from the mine's health and safety committee at the earliest possible stage.

Interactions with future adoption mines

16. **“ Which persons should be invited to join an oversight group to assist in spreading the adoption experience?**

Arrangements for keeping the persons at potential adoption mines informed of developments should be covered in the draft leading practice adoption guide. Key persons at the identified high priority adoption mines, who should also be members of the COPA, should be approached to join an oversight group to comment / advise on issues that arise during the adoption process. In addition to making useful input, this group will then be well-placed to lead the process of spreading positive adoption experience across industry.

17. **“ Which mines would benefit most from adoption of the technology or practice?**

If the adoption team cannot produce a fully completed version of Worksheet Doc #20, as described in section 5.2, the demonstration project should be delayed until this has been done. Communication with the key people listed in Worksheet Doc #20 about the demonstration project must be regarded as a fundamentally important aspect of both

implementing the behavioural communication plan and facilitating the widespread adoption of the leading practice.

Planning the first adoption (or demonstration) project

18. **“ Which persons on the host mine need to be brought into the planning of the project at the earliest stage possible, and has this been agreed with the mine?**

This is one of the key points for achieving a successful first adoption. The adoption team must ensure that both aspects of this point are adequately addressed in the draft leading practice adoption guide, and that they are appropriately implemented as planned.

19. **“ Have adequate time and resources been allocated for the adoption process to be undertaken to its proper conclusion?**

This is another of the important points for achieving successful adoption. There is often pressure to complete the adoption process in the shortest possible time, sometimes without adequate resources. This can lead to inadequate training and a compromised adoption process. Securing adequate time and resources for completing the first adoption should be an important consideration in reaching agreement on the project with the mine. It must also be an explicit checkpoint in the draft adoption plan presented in the leading practice adoption guide.

20. **“ What are the criteria for the adoption process to be considered complete and successful?**

Proposed criteria should be identified by the MOSH and Mine Adoption Teams at an early stage of the adoption process. Reaching agreement with the mine on these criteria should in practice be part of the process of reaching agreement on the time and resources required for successful completion of the adoption process. It must thus be another explicit point in the draft adoption plan presented in the leading practice adoption guide.

21. **“ Are new skills or organisational structures needed to achieve successful adoption?**

In the event that new skills or organisational structures are considered to be necessary, the process for getting the mine's agreement to these requirements should be introduced into the draft adoption plan presented in the leading practice adoption guide. Obtaining the agreement of the mine to these requirements should thus be identified as one of the critical factors for successful adoption.

22. **“ What are the possible unintended consequences of the technology or practice and how will they be addressed if they arise?**

If the MOSH adoption team cannot at this stage provide a considered answer to this question, in the form of a completed version of Worksheet Doc #36, they should revisit section 5.14. It is important to conduct a “what if” exercise before commencing a demonstration project, to identify possible unintended consequences that could arise, and to identify plans that should be implemented to prevent them arising, or to already have draft contingency plans for use in the event that they do arise. Such planning should be a part of any well-considered safety initiative.

Documenting and reporting

23. **“ Who will take responsibility for documenting and writing up the report on the adoption process?**

In setting up the collaboration arrangements with the mine it should be agreed that the adoption team will work with the mine in writing up the outcome of the project. In doing so the data that needs to be collected should be identified and the process for collecting the data agreed. The mine should be responsible for collecting the data but the adoption team should assist in its analysis, and should undertake the preparation of a first draft of the report. The adoption team should identify who of its members is to take prime responsibility for preparing this draft of the report in collaboration with the identified project champion at the mine, usually the Mine Adoption Team Manager. It should be agreed that the outcome of the project will be presented by this mine person at either a COPA meeting or an industry workshop. This point should be adequately captured in the leading practice adoption guide.

24. **“ What are the criteria for the technology or practice to be considered a success once adopted?**

These criteria will probably be different from those identified for judging the success of the adoption process and it is important to distinguish between the two. The former may need to be based on leading indicators whereas the ultimate test may depend on lagging indicators with time scales too long for inclusion in a realistic demonstration project. The key point is that the project at the first adoption (or demonstration) mine should include plans to acquire the data required to demonstrate and publicise the success of the adopted leading practice. This point should be adequately captured in the leading practice adoption guide.

Concluding comment

Systematically working through the above checklist prior to embarking upon the adoption process at the first adoption (or demonstration) mine is more than just a due diligence exercise. It has the potential to deliver significant added value and it should not be skipped. Indeed, it should be supplemented by the adoption team's own “what if” questions. The adoption team should hold a special meeting to conduct the envisaged review and interrogation of its plans.

Section 6.2

Set up arrangements with the lead adopter (demonstration) mine

Key outcomes

- Guidance on the approach to be adopted in reaching and recording agreement with the lead adopter (demonstration) mine
- A letter that records the key issues that have been agreed with the mine
- Initiation of a constructive and supportive relationship between the adoption team and the mine manager
- Clarity about the responsibilities of the Chamber and the Mine in respect of the adoption process

(Doc #17)

Background

In section 5.3 it was pointed out that securing successful adoption of the leading practice at the first adopter mine is one of the most enabling and powerful *communication* initiatives that the adoption team can undertake. It is a fundamental contribution towards the ultimate objective of facilitating widespread adoption of the selected leading practice. The adoption team therefore needs to be sure that the selected lead adopter (or demonstration) mine meets the criteria identified by the by the Adoption Team in its earlier consideration of potential lead adopter mines. At the centre of the criteria used to select this mine should be the following. As will be evident from the systematic check considered in the previous section, the mine must:

- o Have the potential to benefit significantly from adoption of the practice,
- o Have the time and resources to be able to successfully undertake the project, and,
- o Be willing to carry the costs associated with implementation of the project.

Purpose

The purpose of this section is to:

- Indicate the need to review and confirm selection of the lead adopter (demonstration) mine,
- Identify the key components of the arrangements that need to be agreed with the mine, and
- Provide guidance in setting up and formalising the collaboration.

Review and confirm selection of the lead adopter (demonstration) mine

During the course of the source investigations adoption teams may well encounter enthusiastic offers for a particular mine to be the lead adopter (demonstration) mine. Extra care must be exercised in reviewing the selection of the lead adopter (demonstration) mine as outlined below:

1. The adoption team managers and the adoption specialist should together review the validity of the work done in completing worksheet Doc #17 following the planning workshop – see section 5.3. If they did not properly complete the worksheet following the workshop, they should do so now.
2. In the light of the experience gained, and additional information accumulated during the source investigations, the adoption team should review and confirm, or if necessary adjust, their selection of the mine that best meets the criteria they identified for a lead adopter (demonstration) mine.
3. In doing this the adoption team must take care to ensure that this final assessment is not unduly influenced by the ease and convenience of settling on a mine that may have been offered. Experience warns that opting for a mine that does not adequately meet the

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

identified selection criteria is likely to lead to problems and delays that far outweigh the short-term benefits of speed and convenience. This is a serious warning - the temptation of early gains can distort the judgement of experienced professionals, particularly if the offer comes from long-standing colleagues.

Discussions with key persons at the identified mine

The process of initiating discussion and reaching agreement with the lead adopter (demonstration) mine could take various paths, with the following points serving as guidance:

4. The adoption team manager should make arrangements to meet the mine manager at the earliest appropriate opportunity to outline the essence of the practice to be adopted and of what is expected of a lead adopter (demonstration) mine. The primary expectations are outlined in the draft Leading Practice Adoption Guide and in summary form later.
5. Arrangements should be made for the leading practice and the proposed adoption process at the mine to be presented at a meeting involving the mine manager and his executive committee. This should be done even if the lead adopter mine has already decided in principle to adopt the leading practice. As a lead adopter mine it is essential that top management understand and support the full adoption process to be undertaken at the mine. It is also important that the case for adopting the practice is systematically documented, and unless this has already been done, the need to do so according to the process chart provided in the LPAG should be emphasised.
6. Agreement for the mine become the lead adopter (demonstration) mine should be secured with the mine manager, who should also agree on the essence of the collaboration arrangements for conducting the project. Reaching agreement at this high level is essential. This step will help ensure that further discussion of detail at the mine takes place with his blessing.
7. In addition, the adoption team manager should seek an opportunity to present details of the adoption process to the CEO of the mining company, preferably with the assistance of the mine manager, but certainly with his knowledge. The purpose of the presentation should be to ensure that the CEO is aware of the scope and time scales of the adoption process, and to gain his support for the initiative. The presentation should seek to bring out the benefit of the adoption initiative to the mining group. Ideally the CEO should take the step of making successful and complete adoption of the leading practice one of the mine manager's key performance areas.
8. Discussions at the mine about the detailed arrangements will in most cases be with persons more directly concerned with the implementation and operational management of the practice. While this is appropriate, during these discussions the importance of mine persons keeping mine management informed about the discussions should be emphasized.

Key points to be agreed

Each leading practice adoption process is likely to have a number of unique features and it might be necessary to agree upon a number of specific arrangements to secure effective adoption of the practice. The key points that need to be agreed should however not vary much

between practices, and these should be recorded in a letter of confirmation to the mine manager:

9. In order to minimise difficulties in formalising the agreed arrangements with the mine, only the essential details should be covered in the letter sent to the mine manager to confirm what has been agreed.
10. A standard letter to formally record this agreement has thus been prepared for lead adopter (demonstration) mines, and it is presented at the end of this section. This letter should not be unduly varied, and every effort should be made to ensure that this is the case.
11. Notes for record should be used to record lower levels of detail that have been agreed with the mine, and which are considered to be important.
12. Before the letter is sent to the mine manager, it is essential that each of the points covered in the letter is discussed in detail and agreed with the persons at the mine who will be responsible for implementing the practice. They should be made aware of the intention to formally record agreement of what has been agreed, and that they will be sent a copy of the letter that will be sent to the mine manager.

Signing of the confirmation letter

Given that the letter represents what has essentially been agreed between the Chamber and the mine, the following procedure should be adopted in preparing, signing and submitting the letter to the mine.

13. A draft of the letter should be prepared and discussed with mine manager to ensure that he is aware of and in agreement with the contents of the letter. The draft should then be submitted electronically to the Learning Hub Secretariat for finalisation and transfer onto a Chamber letterhead.
14. The signed letter should then be delivered to the mine manager by the adoption team manager.

Concluding comment

The approach taken seeks to ensure that the process of formally recording what has been agreed is not an unduly lengthy process involving detailed and potentially problematic documents. It is however important to ensure that the mine manager is fully aware of and supportive of the contents of the letter. The formality of this step should not be bypassed even if the mine is extremely positive and feels that such a step is not needed.

Standard format of letter for confirming arrangements with lead adopter (demonstration) mines

[Date]

The Mine Manager
Mining Company Name
Address details

Cc. Name of the manager who has agreed to the detailed arrangements

Dear Sir,

Agreement on project to adopt the MOSH leading practice on (Brief title of the practice in question)

In recent discussions between representatives of your mine and those of the MOSH Adoption Team working through the Chamber on the process of facilitating widespread adoption of the above practice, it was indicated that the mine is keen to adopt the practice and quantitatively assess its effectiveness. The purpose of this brief document is to record the collaborative arrangements that have been discussed and agreed for undertaking such a project at the mine. The proposed collaborative arrangement is as follows:

1. The Chamber will provide the mine with documentation that comprehensively describes the leading practice that is to be adopted at the mine. The documents will identify any special equipment or access to technology and people that is required in order to adopt the practice.
2. The Chamber will provide the mine with a detailed outline of the process that needs to be followed in customising the behavioural communication, leadership behaviour and technical aspects of the leading practice to take account of mine specific circumstances. Training requirements for implementing adoption of the practice will also be outlined. Attention will be drawn to any special off-site training that might be required.
3. The Chamber will assist the mine in formulating a plan and procedures for collecting appropriate data with a view to documenting the performance parameters expected to be affected by the practice. The mine will be responsible for the collection of the required data, which will be made available to the Chamber.
4. The Chamber will assist the mine in the analysis of the data collected and in the preparation of a detailed performance report.
5. The mine will make available a person having the required skills and capacity to manage and implement the adoption process at the mine. It will also make available a section of the mine that is of sufficient size for pilot adoption of the practice, and of its impacts, to be meaningfully assessed.
6. The mine will be responsible for all costs associated with acquisition and adoption of the practice, including the preparation of communication and training materials, and of any necessary training.
7. The mine and the Chamber may separately publish details of the procedures and performance associated with adoption of the practice, but will provide each other with an opportunity to comment on the proposed publication in advance of it being published.
8. The Chamber will arrange an industry meeting or workshop on completion of the adoption process to enable the mine and the Chamber to jointly present details of the practice and its performance to potential future adopters.
9. Adoption of the practice at the mine shall be arranged in consultations between the project manager appointed by the mine and the leader of the Chamber based Adoption Team.
10. Unless otherwise mutually agreed these arrangements will apply for the duration of the project, with the meeting or workshop mentioned above marking the end of the envisaged collaboration. Collaboration may however continue as agreed on an ad hoc basis.

Your assistance in securing the successful adoption of this leading practice at your mine is valued greatly, as a key step towards facilitating widespread adoption of the practice across the South African mining industry. We look forward to working with you and your mine in accordance with the above arrangements.

Yours faithfully,

Head: Learning Hub
Chamber of Mines of South Africa

I would be grateful if you would return a signed copy of this letter for our files. Thank you.

Name: Signature: Date:

Section 6.3

Design and hold a leading practice adoption workshop

Key outcomes

- Guidance on the content and focus of the leading practice adoption workshop
- Guidance on the persons who should be invited to the workshop
- A workshop well suited to launch the process of facilitating widespread adoption of the leading practice
- Initiation of the Community of Practice for Adoption, COPA, to assist in achieving widespread adoption of the practice
- Recognition of the key role that persons at the source (and demonstration) mines have played in the process to-date

(Doc #20)

Background

A crucially important step in facilitating the widespread adoption of a leading practice is that of effectively presenting details of the practice to identified key people from potential adoption mines, and then inviting them to join a Community of Practice for Adoption, a COPA. In the shorter three-phase process this occurs at the time of setting up arrangements for adoption of the practice at the lead adoption mine. In the four-phase process it occurs as soon as possible after the practice has been satisfactorily demonstrated at the demonstration mine. Important differences between the three and four-phase adoption processes are explained in section 3.1.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to provide guidance for:

- Planning and holding a workshop to present details about the leading practice, including the value case and process for its adoption, and,
- Structuring the workshop to establish a community of practice for adoption, COPA, focussed on spreading adoption of the leading practice across all potential adoption mines.

Participants

1. The following persons should be invited to participate in the workshop:
 - All identified key persons from potential adoption mines (see Section 5.2 and Worksheet Doc #20), as well as key union representatives from those mines – by personal invitation
 - Task Force members and Group Adoption Coordinators – by personal invitation
 - Other stakeholders – Unions, Mines Professional Associations, Department of Minerals and Energy, Equipment Suppliers, Selected Media representatives (with the Head of the Learning Hub to provide guidance on this), and others as appropriate.
 - Open invitation to all potential adoption mines to send persons who they think should attend.
2. The workshop will in most cases involve about 100 persons, but it should not exceed about 150 persons. Regional workshops may be necessary if attendance needs to exceed about 150.
3. The possibility of media representatives attending a media briefing session should be discussed and agreed with the Head of the Learning Hub, and then arranged through the Learning Hub Secretariat or as otherwise directed by the Head of Hub.
4. The identified key persons at potential adoption mines are the most important of all the workshop participants and they should be given preference and priority in drawing up the

invitation lists. Their attendance of the workshop should be part of an on-going communication process; this process should have started soon after completion of the planning workshop. They should thus be well prepared to decide who from the mine will join the COPA even before attending the workshop.

Venue

5. If possible the workshop should be held in a suitable venue at the lead adopter (or demonstration) mine. The venue should be suitable for the workshop participants to be seated in round-table format.
6. Use of such a mine venue will more readily facilitate participation of persons from the host mine in the workshop process. It will also provide opportunity for key persons at potential adoption mines to initiate contact with key persons at the lead adopter (demonstration) mine. It also has positive implications for the reputation of the mine and the key persons at the mine involved in the adoption process.
7. In the case involving a demonstration mine it will also facilitate the mine displaying aspects of the process, such as equipment etc.

Workshop programme

Given below is an outline of the suggested workshop programme, including timing arrangements that might prove to be suitable.

Proposed Post-Demonstration Workshop Programme		
1. Introductory presentation	08:30 - 08:40	Sponsor/ Mine Manager
2. Outline of the adoption system – key elements of the adoption system and its operation	08:40 – 09:00	Head of Learning Hub
3. Outline of the leading practice – Source of the practice - key elements of the practice - value case rationale for adoption	09:00 – 09:20	MOSH Adoption Team Manager
4. Behavioural Communication and Leadership behaviour – explanation and use of the concepts in the adoption system - Key operational challenges	09:20-09:40	Learning Hub Behaviour Specialist
5. General discussion – clarification of any unclear issues	09:40 – 10:00	MOSH Adoption Team Manager
6. Tea Break	10:00 – 10:30	
7. Operational experience with the leading practice at the source and or demonstration mines – key lessons learnt – key challenges – performance data - value to the mine – other points of interest to potential adopters	10:30 – 11:15	Leading practice champion/s at the mine/s
8. Presentation of Leading Practice Adoption Guide	11:15 – 11:30	Adoption Specialist
9. Outline of envisaged COPA operation - the case for joining the COPA – possible complementary Group structures to facilitate adoption process within Groups - procedure for joining the COPA (provide forms for completing)	11:30 – 11:50	MOSH Adoption Team Manager
10. General discussion – Round table format with initial round table discussion to formulate key questions – consideration of key questions from each table	11:50 – 12:30	Facilitated by MOSH Adoption Team Manager
11. Way forward (collect forms for COPA membership)	12:30 – 12:40	MOSH Team Manager
12. Closure	12:40 – 12:45	Head of Learning Hub
13. Lunch Break (including possible Media Briefing Session and ad hoc discussion about COPA membership)	12:45 – 14:00	

Points indicating the envisaged content of the various presentations are as follows:

8. In outlining the key elements of the adoption system:

- The background to its development and the need to focus on the people aspects of adoption should be explained.
- The concepts of behavioural communication and leadership behaviour should be introduced and briefly explained in the context of addressing the people related aspects of adoption.
- The various structures and their inter-relationships should be briefly outlined in a way that brings out the strong industry participation and involvement in identifying the leading practice, guiding the adoption team, and helping to facilitate its widespread adoption.
- It should be emphasised that the behavioural aspects of the Adoption System strongly differentiate it from previous largely unsuccessful approaches to technology transfer.

9. In presenting an outline of the leading practice::

- It should be emphasised that the MOSH Leading Practice comprises of three legs of equal importance, and that sustainable adoption of the practice requires adoption of all three legs.
- The operational aspects of the practice, as one of the three legs, should be clearly and simply presented to ensure a common appreciation of the operational aspects of the practice.
- The practical importance of the behavioural communication and leadership behaviour legs should be similarly presented, noting that details of the concepts will be considered in more detail in the presentation to follow.
- Importantly, the essence of the value case should be brought out strongly, but in no more than three to five unambiguous points preferably supported by hard data.

10. The presentation on behavioural communication and leadership behaviour should:

- Provide a basic understanding of the two concepts. This may involve repetition of what has already been said, but experience warns that these two concepts are not readily understood by people unfamiliar with them.
- Briefly explain the steps involved in using the concepts, from the expert model to interviews to mental models through to development of the behavioural plans
- Highlight the multi-faceted importance of the interview process and the operational challenges that this poses
- Provide instructive examples of typical elements from the behavioural communication and leadership behaviour plans
- Outline the key challenges involved in proper implementation of the behavioural communication and leadership behaviour plans.

11. The presentation on operational experience with the leading practice should be given by one or more competent and credible persons from the source / demonstration mines. It should:

- Showcase operational experience in using the leading practice at the source mine (and also at the demonstration mine, should the process have included a demonstration project).
- Bring out the key lessons learnt and the key challenges associated with operating the practice
- Provide relevant and reliable operational performance data for the practice, bringing out the value of the practice to the mine.
- Cover any other points likely to be of interest to potential adoption mines.

12. The brief presentation of the Draft Leading Practice Adoption Guide should:

- Clearly explain the purpose of the guide.
- Bring out the key steps and likely time scale of the full adoption process.
- Explain the flow chart of the adoption assessment process that is provided in the guide, including the request that completed charts be returned to the MOSH Adoption Team Manager.
- Emphasise the importance of establishing a multi-disciplinary mine adoption team lead by a competent person with the skill and capacity needed to champion adoption of the leading practice at the mine. The importance of ensuring adequate staff, funds and time to properly implement the adoption process should be brought out.
- Explain that the guide provides detailed guidance on each step of the adoption process. The consequences of cutting corners should be pointed out, and it should be emphasised that the difference between success and failure lies in the detail.
- Bring out that full details of the leading practice are provided in the guide as well as example communication and training materials, where this is the case.

13. In outlining the envisaged COPA operation the following points should be highlighted:

- The primary purpose of the COPA, its envisaged mode of operation and the key benefits from being a member.
- COPA members should primarily be those persons who expect to play a key role in deciding upon and or facilitating adoption of the leading practice at potential adoption mines.
- Others who have a serious interest in the leading practice or the adoption process could also benefit from being a COPA member, and will be accommodated to the extent possible.
- The procedure for joining the COPA, including completion of a form that includes self-assessment criteria.

- That there is scope for structuring the modus operandi of the COPA to accommodate complementary Group structures to help facilitate adoption across potential adoption mines within the Group.

14. In setting up the general discussion, the following should be brought out:

- Each table should discuss and identify key issues of that are either unclear or which are of concern, and which need further consideration and or explanation. Depending on the number of tables this should be done within 10 to 15 minutes to allow time for table feedback and discussion
- Each table to be prepared to raise a point not already raised by others, for discussion or explanation, as appropriate.

15. In dealing with the way forward, the MOSH Adoption Team Manager should ensure that:

- There is clarity about COPA membership and the date of the first COPA meeting.
- COPA members are clear about any work that they need to do in preparation for the first COPA meeting, particularly if the meeting is to be focused on finalising the Leading Practice Adoption Guide, as would be the case at a workshop following a demonstration project.
- All participants have completed the form for assessing the effectiveness of the workshop
- There are no loose ends that requiring unnecessary communication with potential adoption mines before the COPA can be properly initiated.

Concluding comment

The leading practice adoption workshop marks a most important transition in the adoption process, from a focus on acquiring information about the practice and the people involved in its adoption, to that of facilitating the dissemination and effective use of this information by these people. The establishment at this workshop of a COPA with an appropriate membership is thus likely to be one of the most critical success factors in the process of facilitating widespread adoption of the leading practice.

Section 6.4

Set up a Community of Practice for Adoption, COPA

Key outcomes

- Guidance on the process of setting up a COPA
- A document for COPA members that clearly outlines the scope and rationale for the COPA
- Reinforcement of the need for appropriate communication with potential COPA members at the earliest stage possible
- Guidance on detail to be covered in the leading practice adoption workshop presentation dealing with the COPA
- A document outlining use by COPA members of the MOSH internet-based communication system
- A COPA comprised of persons well-suited to the task of achieving widespread adoption of the leading practice

Background

The primary purpose of a Community of Practice for Adoption, COPA, is to facilitate widespread adoption of the leading practice that has been documented. A COPA is in essence a group of people who voluntarily agree to interact with each other to help overcome difficulties in adopting the leading practice, and for bringing about continuous performance improvements in the practice. While the leading practice adoption workshop and the guideline for adopting the documented leading practice are very important aspects of communicating the details and performance of the leading practice to potential adopters, and for providing the impetus for initiating the COPA, the COPA is the primary mechanism for facilitating the ongoing involvement of key persons, information exchange, and stimulation needed to secure widespread adoption of the practice. In keeping with the voluntary nature of the COPA, the Coordinator and COPA members may structure the nature and frequency of COPA interactions to suit both the requirements of members and the issues that arise in adoption of the leading practice.

In parallel with documenting the leading practice the MOSH Adoption Team should have identified the mines that are potential adopters of the practice, as well as the key people at those mines who are expected to be involved in deciding and implementing adoption of the leading practice at those mines, see section 5.2. During the course of the documentation process the adoption team should also have established regular communication with these persons to keep them informed of developments as the practice and its value case are documented. Importantly, these people should have been appropriately provided with the information in the behavioural communication plan developed for the identified Decider Group at potential adoption mines. They should thus be well-positioned to respond positively to an invitation to attend the leading practice adoption workshop and to join the envisaged COPA.

Purpose

The purpose of this section is to set out:

- The basic rationale for establishing a community of practice for adoption, and
- The steps that should be followed by the MOSH Adoption Team in setting up such a community of practice.

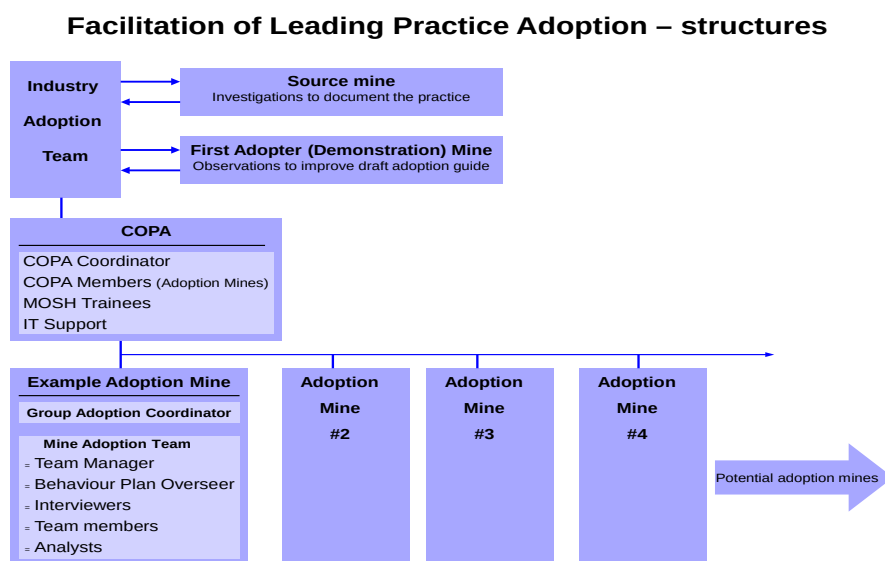
Rationale

The establishment of a COPA to facilitate widespread adoption of the documented practice recognizes that stimulation of future adopters through championship of the practice is necessary

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

to secure ongoing adoption, and that the most credible and effective championship and communication is from peer to peer. In particular, and particularly at the outset, it provides an effective means for potential adopters to learn from the experience gained at the first adopter mine, and other early adopters, in implementing the adoption process. In dealing with the challenges faced by these early adopters it also provides a forum for the details of the adoption process to be interrogated and understood in depth. A community of practice for adoption is thus a mechanism for continuously energizing of the adoption dynamic through championship and focused interaction of credible peers, until such time as they themselves consider further operation of the COPA to be unnecessary. It provides a means for mines to learn from each other in a time and cost efficient manner. It also allows the experience and expertise of the MOSH Adoption Team to be effectively accessed by many mines, which would otherwise not be possible. Finally, it also allows the role of MOSH Adoption Team to gradually reduce as the accumulated experience of the COPA grows, thus reducing the risk of the facilitation process being perceived and resisted as a centrally driven dictate. The MOSH Adoption Team and COPA members need to manage their involvement ensure that this risk does not arise.

The following schematic, which should be seen as an extension of the schematic of the Learning Hub presented in section 2.1, identifies the key structures involved in facilitating the adoption process.



Key steps in setting up a community of practice for adoption

There are many different types of community of practice and many different approaches to establishing them. The process for establishing a community of practice for *adoption*, a COPA, builds on reported experience, as well as that gained by the MOSH Adoption Teams to date. The key steps are as follows:

1. **Prepare a brief outline of the leading practice, its performance and the value case for its adoption:** A relatively brief document is required to bring out that the intended focus of the COPA is to facilitate and assist in achieving widespread voluntary adoption of a worthwhile leading practice. This will require not only a concise outline of the practice, but also a clear outline of performance achieved to date, and of the value to industry of its widespread adoption. The document should be prepared by the MOSH Adoption Team at the time of preparing their draft Leading Practice Adoption Guide since it is in essence a

slightly repackaged version of the strategic context presented in Part 1 of the Guide, LPAG. This document should be provided to the decider group at all potential adoption mines, and all other potential COPA members at the time of inviting persons to attend the leading practice adoption workshop. Circulation of this document to deciders is expected to be an important part of the behavioural communication developed for the decider group by the MOSH Adoption Team.

2. **Prepare a brief outline of the scope and operation of the envisaged COPA, and of the rationale for establishing it:** Again, a relatively brief document is required to advise potential COPA members of what a COPA is, how it works, the envisaged scope of its activities, and of the key arguments for its establishment. The essential details concerning the operation of a COPA should be consistent with those provided in Section 6.8, which deals with the operation of an effective COPA. The envisaged scope of its activities may need to be tailored to the practice in question, but consideration should be given to all of the aspects covered in Section 6.8. The rationale for establishing the COPA provided in the introduction above should be expanded upon as appropriate. In this regard, a fundamentally important requirement is that the MOSH Adoption Team should have identified and established a working relationship with the first adopter mine. A copy of this COPA scoping document should be sent to all persons from potential adoption mines invited to attend the post-demonstration workshop.
3. **Identify the MOSH Adoption Team Manager as the first COPA Coordinator:** At the early stages of a COPA it is important to lead and guide the activities of the COPA. The person best placed to do this should in most cases be the MOSH Adoption Team Manager, who should at this stage of the adoption process take on the role of COPA Coordinator. The assistant adoption team manager should then focus on preparing for the process of identifying the next practice that the adoption team is to focus upon. Unless there is some special reason for doing otherwise, this arrangement should be implemented. Coordination and facilitation of COPA activities will rely heavily on the good communication and organisational skills required of all adoption team managers. A key function of the person would be to manage membership of the COPA, facilitate effective COPA meetings, monitor adoption progress, and to identify difficulties being experienced. When difficulties emerge the coordinator should either provide or facilitate the provision of appropriate assistance to address the identified difficulty. Such assistance could come from the MOSH Adoption Team, the Learning Hub Secretariat, other mines or external service providers. A MOSH Trainee should be allocated to assist the Coordinator.
4. **Limit the term of the initial COPA Coordinator:** In principle the MOSH Adoption Team Manager should limit the time spent as COPA Coordinator in order to move on to investigating other leading practices. An initial term of about 12 months is expected to be long enough to facilitate successful adoption at the first adopter mine and to ensure that the COPA is functioning satisfactorily, but in some cases it might be necessary to extend this period to as long as 18 months. After that, coordination

COPA Coordinator - Experience to date

In identifying and appointing a person to take over from the MOSH Adoption Team Leader, experience warns that a lead-in period of 8 weeks should be allowed. It is important to ensure that the selected person has a view of the leading practice and the adoption process that is consistent with that of the adoption team. If this is not the case, it has been found that the direction and focus of the COPA may diverge from that needed to achieve the desired widespread adoption.

Where the MOSH Adoption Team Manager has been a particularly successful leading practice champion and COPA Coordinator, and where the scope for further adoption is still substantial, a good case can be made for extending the person's tenure. In the one case to date the Head of the Learning Hub and the Adoption Team Manager have been able to arrange how this can be done without impacting negatively on the future work of the adoption team.

responsibility should ideally pass to one of the COPA members, with assistance still being provided by the allocated MOSH Trainee. However, experience in passing coordination of a COPA to one of the industry members is limited and to date no MOSH Trainees have been appointed to provide the necessary assistance and continuity. Recent experience on this point is presented in the side-box.

5. **Brief the sponsor on the envisaged COPA:** This should be done as part of the planning for the leading practice adoption workshop. Agreement on inclusion of the envisaged COPA within the scope of the sponsor's role should have been agreed at the time of initially agreeing the sponsor's involvement. The sponsor should play a role similar to that being played in relation to the adoption team.
6. **Advise key persons at potential adoption mines of the leading practice adoption workshop:** These persons should be advised of the intention to hold the leading practice adoption workshop, at which the details and performance of the leading practice will be presented, and the opportunity taken to initiate the establishment of a community of practice for adoption, COPA. This should be done at an early stage of the process of communicating with these persons, as outlined in Section 5.2. They should be invited and advised of the details of the workshop as soon as these have been finalised, see section 6.3.
7. **Circulate an invitation to attend the workshop to all potential adoption mines:** This should be done in addition to inviting the key individuals already identified in order to ensure that no key individuals are inadvertently excluded from participation in the workshop, and potential participation in the COPA. This point should be read in conjunction with the cautionary note in section 6.3 about limiting the number of workshop attendees.
8. **Prepare guidance on the use of the MOSH internet based communication system:** An important aspect of the operation of the COPA will be electronic communication, and every effort must be made to ensure that this is both simple and effective. The MOSH web-based system has a particularly important role to play in providing COPA members with convenient access to key documents. This should include an updated version of the Leading Practice Adoption Guide, as well as a copy of the latest version of this Handbook. All other key documents to assist with adoption of the leading practice should also be available through the system. A simple user-friendly document on the use of the MOSH web-based communication system by COPA members should be prepared to brief and guide members in its use. Section 13.4 should be adapted and expanded upon as necessary for this purpose.
9. **Set up a communications page for COPA member's use:** In addition to using the MOSH web-based communication system as indicated above, use of the system for key communications with members should be established. All COPA members should be provided with access to the system (usernames and passwords) as soon as possible after the leading practice adoption workshop. Use of the system for communication between members could be explored, but experience indicates that normal email communication is likely to be more effective for such communication. Planned use of the system should be clearly demonstrated at the workshop, or at a meeting of the COPA soon thereafter.
10. **Clarify any costs associated with COPA membership:** It will be essential for this sort of information to be available for presentation at the workshop. The cost of operating the

MOSH web-based system, including the cost of archiving and retrieving data should be carried centrally by the Learning Hub. Apart from this central cost, the general operating principle should be that each party carries its own cost of participating in the COPA.

11. **Define the process for members to join the COPA:** It will be important to keep the operation of the COPA vibrant and the process for becoming a member of the COPA should be consistent with this objective. In particular, all members should have a clear role to play in implementing the practice at their mine, or at mines within their Group. The number of general interest members should be relatively limited, and if necessary the operation of the COPA should be modified to facilitate their participation without compromising the effectiveness of the COPA.

12. **Prepare workshop presentation on the purpose, scope and functioning of the COPA:** This presentation should feature as one of the main presentations at the post-demonstration workshop. The presentation should seek to clearly present the key aspects of the COPA, as presented in the documents covered in points 1 and 2 above. The primary purpose of the presentation should be to convincingly make the case for the appropriate persons coming forward to join the COPA while at the workshop. Further guidance on the scope of the presentation is provided below and in section 6.3.

13. **Make presentation on the COPA at the workshop:** The presentation should be made by the person who is to serve as the COPA Coordinator, as discussed under point 3 above. Part of the presentation time should be devoted to clarifying the process that needs to be followed for joining the COPA, and inviting those present to complete and submit the membership forms. These should be provided to all workshop participants on arrival. It should also be sent to participants on receipt of their response indicating that they will attend the workshop. The form should indicate the self-assessment criteria that should be considered prior to submitting the forms. The purpose and importance of the self-assessment should be explained during the presentation. It should also be explained that while the initial membership of the COPA should ideally include the Mine Manager, or one of his most senior colleagues, as well as the appropriate senior specialist at the mine, once adoption of the leading practice has been decided, the Mine Adoption Team Manager should in most cases take the place of the Mine Manager. The presentation should also provoke workshop participants to identify key issues in need of clarification or further discussion.

Self-assessment by potential COPA members

The primary purpose of the self-assessment is for potential members to explicitly confirm that they are well-positioned to meaningfully participate in the COPA, and to facilitate adoption of the practice at their mine. The criteria to be satisfied should include that:

- the mine has sufficient interest and scope to benefit from the practice,
- the person has sufficient time to participate in the COPA, and,
- the person has either the seniority and or influence required to ensure serious consideration of the adoption opportunity at an appropriate decision making level at the mine.

Other points should be added, as necessary

14. **Obtain confirmation of contact details and commitment to join and participate in the COPA:** While the workshop should be an ideal opportunity for potential COPA members to complete and submit the membership forms at the workshop, it is likely that some may need to discuss the matter at their mine before responding. Provision of the forms and the criteria prior to the workshop should minimise this eventuality, but time should nevertheless be allowed for this (about a week) prior to initiating operation of the COPA.

15. **Prepare a list of those mines that indicate a strong intention to adopt the leading practice:** During the course of presenting the Leading Practice Adoption Guide, it should be explained that each mine is expected to seriously assess the case for adoption of the leading practice. The form that sets out the procedure for making this assessment should be appropriately highlighted and explained. Participants should be requested to liaise with others from their mine attending the workshop to arrange for completion and submission of a single form for their mine. The completed form should be submitted to the COPA Coordinator as soon as possible, preferably by the first meeting of the COPA. It is however likely that some mines may already have developed a strong intention to adopt the leading practice. It would be advantageous to know this at an early stage and the membership forms should thus include a check box to identify such mines. A list of such mines should be compiled with a view to ensuring appropriate liaison with such mines at an early stage.
16. **Provide all key persons on potential adoption mines with a draft of the Leading Practice Adoption Guide:** The draft guide setting out the practice in question and the process that should be followed in adopting the practice at mines should be provided to all workshop participants. In particular, it must be ensured that all of the key persons identified at potential adoption mines are provided with copies of the draft guide. It should also be explained that the guide will be updated to take account of experience gained at the first adopter mine, as well as that provided by COPA members at COPA meetings. An updated version of the guide taking account of all experience gained will then be made available on the MOSH web site on completion of adoption at the first adoption mine. This will allow plenty of time for COPA members to raise any queries they may have and to submit their input. The guide will thus be freely available to all potential users. In presenting the guide it should be pointed out that it is purposely in draft form and that the input of COPA members is being sought with a view to arriving at a version that takes account of that input. Consideration of the guide with a view to discussing each step of the adoption process, including emerging experience at first adopter mine and other mines busy with the adoption process, will thus form an important aspect of COPA meetings. During these discussions, in various ways the COPA coordinator should test members' understanding of the guide.
17. **Identify key issues for COPA consideration following the leading practice adoption workshop:** As indicated in the Section [6.3](#), which deals with the workshop, the workshop should include a discussion session to identify key issues in need of further consideration. Any issues not adequately dealt with at the workshop should be noted and prioritised for detailed consideration at the first few meetings of the COPA.
18. **Initiate operation of the COPA:** Operation of the COPA should be initiated within two weeks of the leading practice adoption workshop. It should be initiated through a meeting focused on consideration of the following three key points:
 - The draft leading practice adoption guide to begin the process of identifying and considering any necessary adjustments.
 - Issues identified during the discussion session at the workshop, including the identification of any issues that should be added to the list, and
 - The proposed modus operandi for the COPA, with a view to agreeing the approach to be adopted. Experience to date indicates that the preferred modus operandi is likely to be based on regular meetings (six-weekly) in which the adoption process is systematically considered, along with key emerging issues. Depending on the leading

practice, mining company requirements and the geographical distribution of members, it may be necessary for the COPA to be divided into separate sub-groupings. This is considered in more detail in section 6.8

Conclusion

Although the establishment and operation of the COPA is intended to be the primary means of facilitating widespread adoption of a leading practice, in addition to the first adopter mine, the adoption team should actively assisting the first few mines that elect to adopt the practice to the maximum extent practically possible. This role should be steadily decreased as the activities of the COPA increase. The focus of the MOSH adoption team should then be increasingly on ensuring the effectiveness of the COPA, with a view to securing the widespread adoption being sought.

Section 6.5

Oversee adoption process at the lead adoption (demonstration) mine

Key outcomes

- Initiation of a constructive working relationship between the MOSH and mine adoption teams
- Guidance on the role that the MOSH Adoption Team should play at the lead adopter (or demonstration) mine
- An understanding of the issues and challenges that need to be focused upon and addressed for successful adoption
- Successful adoption of the leading practice at the lead adopter (or demonstration) mine
- A sound basis for updating the leading practice adoption guide

(Doc #46, #47)

Background

Overseeing and facilitating successful adoption of the leading practice at the selected lead adopter (or demonstration) mine will always be a challenge to the MOSH Adoption Team. An important reason for this is that the adoption process involves concepts that will most likely be new to most if not all of those on the mine adoption team. Inevitably, these people will still carry other responsibilities at the mine and the immediate challenge will be that of securing not only their commitment, but also a shared understanding of what needs to be accomplished, why various elements of the process are important and of how they need to be executed. Notwithstanding the guidance provided in the draft Leading Practice Adoption Guide, the MOSH Adoption Team needs to work closely with the Mine Adoption Team to ensure the successful outcome needed to enable others to learn from the experience gained at a lead adopter (or demonstration) mine.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on the oversight and facilitation role that the MOSH Adoption Team should play at the lead adopter (or demonstration) mine, and
- Indirectly draw attention to challenges that will need to be addressed through COPA activities in respect of other mines.

Adoption framework – 16 key steps

The 16 interrelated steps that form the framework of the overall adoption process set out in the draft Leading Practice Adoption Guide are shown in the following schedule:

Summary framework of overall adoption plan																	
Step	Activity	Weeks															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Facilitate adoption decision																
2	Secure support for adoption																
3	Establish and effective mine adoption team																
4	Prepare initial plan for adoption																
5	Initiate baseline monitoring programme																
6	Establish effective relationship with the COPA																
7	Update key stakeholders on progress																
8	Plan and conduct direct enquiries																
9	Customise generic behavioural plans																
10	Harmonise leading practice with mine standards																
11	Assess risks and develop final adoption plan for approval																
12	Develop training and communication materials																
13	Brief and train key mine persons																
14	Implement pilot adoption of the practice																
15	Monitor evaluate and report on performance																
16	Finalise and implement mine-wide roll-out plan																

Details of the various specific activities that form part of these 16 steps are set out in the example draft Leading Practice Adoption Guide provided in Reference Doc #47. Building on those details, given below for each of the 16 steps is guidance on the role that the MOSH Adoption Team should play in facilitating and overseeing effective application of adoption procedures at the lead adopter (or demonstration) mine. The numbering below matches that used in the Leading Practice Adoption Guide, LPAG. Challenges that will need to be addressed through COPA activity in regard to adoption at a demonstration or other adoption mines are highlighted in the accompanying side-boxes.

G1. Facilitate the adoption decision:

- *Assist with completion of adoption review process:* Having reviewed and confirmed the selection of the potential lead adopter mine, as outlined in section 6.2, the MOSH Adoption Team Manager should interact with key persons at the mine to assist them with the process of arriving at a positive decision to adopt the practice. This should be done as soon as possible. To the extent necessary, the mine should be assisted in using the process chart provided in the LPAG to systematically investigate and decide the case for adoption of the leading practice. In the unlikely event of a negative outcome the MOSH Adoption Team will need to approach another potential lead adoption mine
- *Ensure top management are well-informed:* As outlined in section 6.2, in consultation with the key persons at the mine, and to assist the decision making process, the MOSH Adoption Team Manager should arrange for an opportunity to present both the leading practice and the adoption process to the mine manager and his executive team. It is essential that top management fully understand the scope and detail of the adoption process, and the assistance that would be provided by the MOSH Adoption Team, before agreeing that the mine become the lead adopter (or demonstration) mine.
- *Facilitate a visit to the source mine:* As part of this investigation process, to the extent necessary, key people at the potential lead adopter mine should be encouraged to visit the source mine to gain a better appreciation of the leading practice. Such a visit would build on the information provided in the LPAG and provide an opportunity for peer to peer discussion and resolution of residual queries and uncertainties.

G2. Secure support for adoption:

- *Help ensure effective communication of the adoption decision:* It is likely that mines will want to use their usual means of communicating management decisions to unions and mine staff. This may be fine, but it will be important to help ensure that the communication is effective and that it appropriately takes account of any key elements identified in the behavioural communication plan. In this context the MOSH team should offer help by preparing drafts of the key points that need to be covered. An example of the final communication material could then be added to the LPAG when it is later updated.

G3. Establish an effective mine adoption team

- *Clarify the adoption challenge:* This is likely to be one of the most difficult and important things to facilitate. The LPAG provides considerable detail in outlining what is required, but some management teams may still underestimate the extent of the adoption

challenge. This is likely to be true notwithstanding the fact that the challenge and the resource requirements may have been emphasized when presenting the adoption process to top management. If necessary, a meeting with manager from a mine that is familiar with the adoption process should be arranged to help bring out the importance of establishing a fully effective mine adoption team.

- *Help identify suitable team members:* Recognising that mines have their own priorities and staffing problems, the MOSH Adoption Team Manager should explain the nature of the skills required of the various members of the Mine Adoption Team. In particular, this comment to the Team Manager and the Behavioural Plans Overseer. Every effort should be made to ensure the adequacy of these two persons.
- *Provide any needed behavioural skills training:* A crucially important role of the MOSH Adoption Team will be to ensure that the Mine Adoption Team Manager and the Behavioural Plans Overseer are appropriately skilled in the necessary behavioural techniques. To the extent that they may not be, the MOSH Adoption Team should offer to provide the necessary training. The importance of ensuring the competence of these two persons cannot be over-emphasised.

G4. Prepare initial draft of adoption plan

- *Provide assistance in planning the envisaged briefing / planning workshop:* The MOSH Adoption Team Manager should meet with the Mine Adoption Team Manager to assist in arranging a briefing / planning workshop to initiate the work of the mine adoption team. Key points for discussion during this preliminary meeting should be:
 - Any necessary adjustments or additions to the workshop agenda provided in the LPAG.
 - How best to encourage dialogue between team members (e.g. keep presentations informal and allow discussion time to at least match presentation time).
 - Necessary pre-reading material for workshop participants (this should be carefully selected and kept as brief as possible).
 - The envisaged supportive role of the MOSH Adoption Team during the project (clarify that the Mine Adoption Team must lead the project with the MOSH Adoption Team leadership playing essentially a supportive role).
 - The role of the MOSH Adoption Team during the workshop (a supporting role, except on those items where it is agreed that the MOSH Adoption Team Manager should either make a presentation or facilitate the discussion).
 - Ensuring that sufficient time is provided for the workshop (explain the importance of a proper briefing and discuss the possibility of structuring the workshop into two sessions on separate days).
- *Provide assistance in conducting the briefing workshop:* Throughout the workshop the MOSH Adoption Team Manager must assist in ensuring achievement of a shared and clear understanding of key concepts and principles of the leading practice and the adoption process. The challenge will be to achieve this while at the same time ensuring that the authority and leadership of the Mine Adoption Team Manager is not undermined.
- *Provide an introductory overview of the LPAG:* It is important to ensure that the Mine Adoption Team is not intimidated by the LPAG. The MOSH Adoption Team Manager should introduce the LPAG by explaining the simplicity of its structure and by bringing

out its capacity to provide practical guidance on each adoption step at a detailed level. The importance of gaining an understanding of the one-page adoption planning schedule prior to reading the LPAG, which then serves largely as an explanation / elaboration of the schedule, should be emphasised.

- *Assist in customising the example adoption plan to meet mine specific needs:* It will be important to ensure that the mine embraces the example adoption plan as its own. It should be modified to the extent necessary or its elements incorporated into a more detailed mine plan, but every effort should be made to prevent the emergence of two separate plans - a "mine" plan and a "MOSH" plan. The mine should take responsibility for managing and updating the finally agreed plan.
- *Ensure that key aspects are adequately covered:* It will be important to check that key aspects of the planning process of the briefing workshop are not missed. These are explained in the LPAG and the MOSH Adoption Team Manager should raise any points that might have been inadequately covered. In particular it should be ensured that regular meetings with mine management are identified as a critical enabling factor and that this forms part of the modus operandi that is agreed upon.

G5. Initiate baseline monitoring programme

- *Review adequacy of the mine's envisaged programme:* The importance of the baseline monitoring programme may be underestimated by the mine project team. The MOSH Adoption Team Manager may thus need to prompt the mine on this point. In any event the envisaged programme of measurements should be reviewed and discussed with the mine project team to ensure that the data will serve as an effective baseline from which to assess the impact of the leading practice when it is introduced.
- *Assist in preparing a data gathering protocol:* In most cases the MOSH Adoption Team Manager will need to guide and assist the mine in preparing a document that outlines the procedures and responsibility for data gathering, quality assurance and data analysis. The preparation of such a document serves the important purpose of exposing gaps and recording what is to be done, and by whom.

G6. Establish effective relationship with COPA

- *Clarify the expected relationship with the COPA:* In the case of the lead adopter mine it will be important to ensure that the mine adoption team fully recognises the key role they are expected to play in sharing their adoption experience with COPA members. In this context, the schedule of COPA meetings should be discussed and presentations by the mine adoption team on their experience and lessons learnt appropriately planned.
- *Facilitate the provision of assistance to other mines:* To the extent necessary and possible the MOSH Adoption Team Manager should facilitate the provision of assistance by persons at the lead adopter mine to persons experiencing difficulties at other mines. The provision of such assistance should however not risk jeopardising a successful outcome at the lead adopter mine.

Demonstration mine

- In the case of a demonstration mine this point falls away.
- The establishment of a COPA has been purposely delayed to enable effective demonstration of various uncertain aspects the leading practice prior to presenting the practice for widespread adoption.

G7. Update key stakeholders on progress

- *Prompt appropriate reporting and meetings when necessary:* The MOSH Adoption Team Manager has an important oversight role to play in this area as short-term

priorities are likely to distract the mine adoption team from giving due consideration to the longer-term benefits associated with updating key stakeholders on progress. In following the guidance provided in the LPAG, particular attention should be given to ensuring regular and effective presentations to the COPA and meetings with the mine manager.

Demonstration mine

- In the case of a demonstration mine the envisaged feedback to the COPA must be replaced by a requirement to update key persons at potential adoption mines about key developments and progress. It is an extension of the communication process that should already have been put in place while working on the source investigations.

G8. Plan and conduct direct enquiries

- *Actively oversee the planning and direct enquiry process:* Notwithstanding any training already provided to key mine staff, the MOSH Adoption Team should closely oversee the work of the Mine Adoption Team in implementing the guidance provided in the LPAG. In doing so the focus should be on ensuring that the mine team do what is necessary for a successful outcome, but then also on identifying any shortcomings in the guidance provided in the LPAG. The latter should be recorded and used to update the LPAG in due course.
- *Ensure that the interviewers are properly trained:* Unless the mine already has properly trained interviewers for conducting the direct enquiries, in discussion with the Mine Adoption Team Manager the MOSH Adoption Team Manager should arrange the required training. This should include each interviewer satisfactorily conducting and documenting a trial interview to ensure a quality outcome from the interview process.

G9. Customise generic behavioural plans

- *Actively oversee the customisation process:* As with point G8, the MOSH Adoption Team should closely oversee and ensure the quality of the work undertaken by the Mine Adoption Team in implementing the guidance provided in the LPAG. Any improvements that need to be introduced into the LPAG when it is updated should be duly noted.
- *Offer assistance in finalising the customised plans:* Before the behavioural plans are presented to the mine manager for discussion and approval, the MOSH Adoption Team Manager should offer to assist in finalising the customised plans, by way of review and constructive input concerning possible improvements. In providing this assistance, the importance of properly presenting the plans to the mine manager to gain both his approval and support for their implementation should be brought out.

G10. Harmonise leading practice with mine standards

- *Ensure that the core elements of the leading practice are not compromised:* It is important to ensure that adoption of the leading practice does not unduly conflict with standard mine operating procedures. However, during the harmonisation process the MOSH Adoption Team Manager must interact with the Mine Adoption Team to ensure not only this, but also that any proposed modifications do not impact on the essential core elements of the practice.

G11. Assess risks and develop final adoption plan for approval

- *Seek active participation to ensure a successful outcome:* The MOSH Adoption Team Manager should offer to participate and assist the Mine Adoption Team in undertaking this task. Attention should be focussed, in particular, on development of the roll-out plan and any necessary adjustments to finalise the adoption plan for approval. Once

again, any improvements that need to be introduced into the LPAG when it is updated should be identified and duly noted.

- *Ensure presentation of the finalised plan to management for approval and sign-off:* The MOSH Adoption Team Manager should make every effort to ensure that this step is not skipped, even in those cases where the mine manager may have provided a blanket approval to the Mine Adoption team to proceed. It is important for the mine manager to be fully aware and supportive of the plan, and in particular of the role that he will need to play in its successful implementation.

G12. Develop training and communication materials

- *Actively oversee preparation of the training and communication materials:* This is another key area where the MOSH Adoption Team should become actively involved to ensure that the guidance provided in the LPAG is effectively implemented. Experience warns that without such involvement mines are likely to fall short of what is required to fully benefit from the behavioural plans.
- *Arrange to participate in the planning process:* The MOSH Adoption Team Manager should arrange to participate in the process of identifying and planning the training necessary for successful adoption of the leading practice. This should be with a view to ensuring the emergence of a detailed outline of the scope and schedule for the required training. It should also lead to a shared appreciation of the extent and quality of the required training and communication materials.
- *Assist in securing quality training and communication materials:* Depending on the extent and quality of the materials provided in the LPAG, achieving materials of the required quality may be a serious challenge. However, it is a challenge that must be fully addressed for the benefits of the behavioural techniques to be realised at both the lead and other potential adoption mines. Depending on the resources available at the mine, it may be necessary to advise that the mine engage external service providers to ensure preparation of the materials of the required content and quality. The availability of quality training and communication materials that have been used and tested at the lead (demonstration) mine will be a meaningful input for use when updating the LPAG. It will be an important contribution from the lead (demonstration) mine to all potential adoption mines.

MOSH Team to maximise benefit to other mines

In working with the lead adopter (or demonstration) mine the adoption team must make full use of the opportunity to develop and make available enhanced training and communication material in the updated version of the LPAG to be provided to other mines. This is an important responsibility of the MOSH Adoption Team in working with the first adopter (or demonstration) mine

G13. Brief and train key mine persons

- *Facilitate that briefings occur as planned:* In generally overseeing the adoption process the MOSH Adoption Team Manager should help ensure that the planned briefing sessions are neither overlooked nor unduly delayed due to a focus on seemingly more urgent adoption activities.
- *Observe and assess the briefing and training process:* While the briefing and training need to be delivered by the mine or its service providers, a MOSH Adoption Team Manager should arrange for a team member to be present in selected sessions as an observer. The purpose should be to assess the quality and effectiveness of the briefing and training provided, with a view to noting and suggesting improvements for implementation at the lead adopter (demonstration) mine, and for use in updating the LPAG.

G14. Implement pilot adoption of the practice

- *Provide assistance if necessary:* Procuring the necessary equipment and piloting adoption of the leading practice at the selected site are usual mine activities and there may be little need for any assistance from the MOSH Adoption Team. However, in the unlikely event that access to intellectual property needs to be secured, the MOSH Adoption Team Manager should offer to assist with this if necessary. Otherwise, the MOSH Adoption Team should largely adopt the stance of being constructively helpful observers.
- *Facilitate a visit to the source mine if necessary:* In the event of a persistent implementation difficulty being encountered, in seeking to assist the mine the MOSH Adoption Team Manager may need to facilitate a visit by operational personnel to the source mine to discuss and identify how best to address the issue.

G15. Monitor, evaluate and report on performance

- *Work closely with the mine on the monitoring and evaluation programme:* Monitoring and evaluation of the impact of the leading practice is likely to be less important to the mine than to the MOSH Adoption Team. Although it is important to both, a clear demonstration of benefit will considerably aid the MOSH Adoption Team in facilitating widespread adoption across industry. In particular, it will provide the MOSH Adoption Team with a sound basis for updating the performance data about the leading practice in the LPAG, as well as the guidance provided to other adoption mines about the design of an effective monitoring programme. For the mine, the value will largely be that of justification and establishing a performance datum for further improvement. The MOSH Adoption Team should therefore:
 - Work closely with the Mine Adoption Team to secure the design and implementation of an effective monitoring and evaluation programme.
 - Arrange for any additional monitoring that might be required by the MOSH Adoption Team to be included in the mine's monitoring programme.
 - Ensure that the programme includes a process to assure the quality of the monitored data.
 - Arrange for on-going access to the data in order to identify any trends or weaknesses at an early stage so that appropriate corrective action can be taken.
 - Arrange for regular reports of progress and performance to be presented by the Mine Adoption Team Manager at COPA meetings
 - Discuss and conduct analyses helpful to the mine, as well as to the process of updating the value case and the LPAG
 - In collaboration with the mine, prepare a brief performance summary report suitable for circulation to COPA members and, more broadly, to key stakeholders across industry.

Demonstration mine

- In the case of a demonstration mine the brief performance summary report needs to be circulated to all key persons at potential adoption mines. It should form part of the behavioural communication process with key deciders that is already being implemented.

G16. Finalise and implement mine-wide roll-out plan

- *Oversee implementation of guidance provided in the LPAG:* In overseeing implementation of the guidance provided the MOSH Adoption Team Manager should pay special attention to understanding and documenting any refinements to the leading practice. In particular it will be important to assess whether these refinements are essentially mine specific, or whether they should be introduced into the LPAG as a

generally applicable enhancement of the originally documented practice. In addition, practical considerations related to the mine-wide roll-out plan should be documented, also with a view to updating the guidance provided in the LPAG.

Critical success factors for a successful outcome

One of the important effects to guard against in working with the lead adopter (or demonstration) mine is that of allowing the day to day operational issues to crowd out proper attention being given to the longer-term issues. These issues are critical to securing widespread adoption of the practice. They are covered in various ways in the guidance provided above, but to bring them more sharply into focus, they are listed below:

- Active management interest and support throughout the process.
- Effective communication with future adopters at the mine.
- Effective communication with key persons at potential adoption mines.
- Support of Unions and the mine's Occupational Health and Safety Committee.
- Effective arrangements for documenting observations and lessons learnt for use in updating the draft LPAG.
- Gathering of data to quantify the performance and impact of the leading practice.

Proper attention needs to be given to these issues right from the start of the adoption process. To neglect to do so is an unforgiving and irrecoverable mistake. Worksheet Doc #46 is provided to facilitate explicit consideration of these issues by the MOSH Adoption Team when planning their work at the first adopter (or demonstration) mine.

Updating of the draft LPAG

An important objective of the MOSH Adoption Team in working with the first adopter (or demonstration) mine must be to identify any weaknesses in the draft LPAG, and to identify ways in which the draft LPAG can be improved. In particular the MOSH Adoption Team needs to check that the LPAG is readily understood by the adopter mine. Identified improvements must then be introduced into the updated version of the LPAG, which should be produced as soon as practically possible. Prior to that, in working with a first adopter mine the learning should be made available to other adopters through appropriate presentations at COPA meetings.

Concluding comment

Although there is an important difference between a lead adopter and a demonstration mine, in that the work at a demonstration mine is concluded before the establishment of a COPA, from a practical point of view the role of the MOSH Adoption Team is essentially the same. The main difference is that in the case of a demonstration mine the COPA reporting requirements fall away in favour of a requirement that the MOSH Adoption Team produce and circulate progress updates to key persons at potential adoption mines. This is explained in the side boxes presented at appropriate points in the guidance provided above. With due recognition of this difference, the guidance provided above is applicable to either a lead adopter or a demonstration mine.

Section 6.6

Document findings at lead adopter (or demonstration) mine

Key outcomes

- Guidance for the preparation of a fully detailed high quality report on adoption at the lead adopter (demonstration) mine
- A detailed report and a two-page summary setting out the performance and impact of the demonstrated leading practice
- Awareness by the mine and MOSH adoption teams of the need to devote sufficient time to prepare a quality report
- A high quality report that documents lessons learnt and the performance and impact of the practice at the mine

Background

The primary purpose of working closely with an adoption or demonstration mine in securing adoption of the leading practice at the mine is to observe and document the performance of the practice, as well as the lessons learnt in securing its successful adoption. The former should provide a sound basis for updating the value case and the latter a similarly sound basis for updating the guidance set out in the Leading Practice Adoption Guide. An accurate and sufficiently detailed record of the findings at the lead adopter (or demonstration) mine is thus an important outcome of a successful first adoption of the leading practice.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on the format and content of the report documenting findings at the lead adopter (demonstration) mine.

General style and format

The following points indicate of the general style and format of the document:

- In broad terms the document should recount the lessons learned in using the guidance set out in the Leading Practice Adoption Guide. This includes any necessary departures from the guidance set out in the Leading Practice Adoption Guide. It should identify what worked particularly well, but more importantly, what did not, along with any implications that need to be taken into account in updating the Leading Practice Adoption Guide. The implications should be clearly identified and separately numbered.
- The document should be structured as an internal Learning Hub report. It should include a cover page entitled: "Report on adoption of [Leading Practice Name] at Lead Adopter (or Demonstration) Mine – [Name of mine]. The cover page should list the names of the MOSH Adoption Team members as well as the names of the mine adoption team. An example format for the cover page, in line with that agreed for use by the Learning Hub from time to time, should be provided by the Adoption Specialist.

Outline of Report

The following outline is provided as a guiding framework for preparation of the report:

- **Acknowledgement**
The co-operation and assistance of the mine in producing the report should be appropriately acknowledged.

- **Executive Summary**

The report should include an executive summary of not more than two pages. If possible it should be kept to a single page.

- **Table of Contents**

The table of contents should include the applicable page numbers. If possible, it should be kept to a single page.

- **Introduction**

The introduction should be brief. Within a page it should be possible to set out the relevant background to the first adoption (demonstration) process. The two main purposes of the report, as indicated in the introduction to this handbook section, should be clearly stated, along with any other purposes identified in planning the work. The scope of the work undertaken and the structure of the report should be briefly outlined.

- **The adoption process**

Following a brief introductory section the key lessons learnt (what worked well and what not), and their various implications in respect of updating the Leading Practice Adoption Guide, should be presented in bullet form under the following 16 main steps of the adoption process. In each case any significant departures from the guidance set out in the Leading Practice Adoption Guide should be detailed:

1. Facilitate adoption decision
2. Secure support for adoption
3. Establish an effective mine adoption team
4. Prepare initial plan for adoption
5. Initiate baseline monitoring programme
6. Establish effective relationship with COPA
7. Update key stakeholders on progress
8. Plan and conduct direct enquiries
9. Customise generic behavioural plans
10. Harmonise leading practice with mine standards
11. Assess risks and develop final adoption plan for approval
12. Develop training and communication materials
13. Brief and train key mine persons
14. Implement pilot adoption of the practice
15. Monitor, evaluate and report on performance
16. Finalise and implement mine-wide roll-out plan

- **Details of the Leading Practice**

Following a brief introductory section, any shortcomings and necessary adjustments to the details of the leading practice should be presented in bullet form under the following three headings:

1. Technical elements
2. Behavioural communication
3. Leadership behaviour

- **The value case**

Following a brief introduction to indicate that a detailed presentation of the data and performance impact is provided in the appendix, the main implications of the findings in respect of updating the value case should be presented in bullet form under each of the following headings:

1. Occupational health and safety performance improvements
2. Financial benefit of occupational health and safety improvements
3. Initial cost to implement the new practice
4. Direct impact of the new practice on operational costs
5. Indirect operational impacts of the new practice
6. Major qualitative impacts of significant strategic value

- **Concluding comment**

- **Appendices**

This should include appendices needed to support any of the points detailed in the various sections outlined above. In particular, it is expected to include the following:

1. Risk summary updated for the mine
2. Mental models report derived for the mine
3. The customised leadership behaviour plan developed for the mine
4. The customised behavioural communication plan developed for the mine
5. Detailed presentation of leading practice performance and impact
6. Draft of a brief performance summary report for circulation to stakeholders.

Performance impact documentation

- *Detailed presentation of leading practice performance and impact:* In point G15 of section 6.5 it is pointed out that the MOSH Adoption Team should work closely with the mine adoption team to secure the design and implementation of an effective monitoring and evaluation programme, including any additional monitoring required to meet the needs of the MOSH Adoption team. A similar comment applies also to the analysis of the data. In following the guidance provided in the leading Practice Adoption Guide, and points G5 and G15 of section 6.5, the MOSH Adoption Team should thus be well placed to prepare a detailed document setting out the following in respect of the performance measuring programme:

1. Purpose
2. Methodology
3. Data collection procedures
4. Quality assurance
5. Data analysis
6. Performance outcomes

In addition to setting out the observed performance and impact, the document must record all of the detail that is necessary to accurately reflect the procedures used and data collected. The document should be sufficiently complete for it to be able to serve as the information source for papers and reports that are to be written at some future date.

- *Performance summary report for circulation to stakeholders:* Also in point G15 of section 6.5 it is pointed out that a brief summary performance report should be prepared in collaboration with the mine. This collaboration is to ensure the input and agreement of all parties about presentation and communication of the performance results obtained at the mine. The summary, which should be about two pages in length, should set out the essential detail of interest to future adoption mines. The summary should include a brief description of the practice, the procedures used to achieve its adoption and a graphic illustration of the performance benefits and impacts that have been observed.

Ensure mine input on draft report

Notwithstanding close collaboration with the mine on the adoption and data acquisition process, the MOSH Adoption Team Manager must ensure that the mine is asked for their input and comment on a draft of the report at an early stage. It is most important that the mine and the MOSH Adoption Team have the same understanding of the lessons learnt, performance and impact, and every effort should be made to resolve any differences that may emerge. In line with the agreement reached with the mine in setting up the collaboration arrangements, they must also be provided with an opportunity to comment on the final version of the report before it is released.

Concluding comment

At a time when the attention of both the mine and MOSH Adoption Teams are focused on addressing the many issues associated with achieving successful adoption outcome, it will be a significant challenge to ensure that the necessary time and attention is devoted to acquiring and documenting the required information. However, effort devoted to this and then to the preparation of a good quality report on the findings at the lead adopter (or demonstration) mine will greatly facilitate the task of updating the leading practice adoption guide and facilitating widespread adoption of the practice.

Section 6.7

Update and finalise the draft Leading Practice Adoption Guide

Key outcomes

- Guidance on the process of updating the Draft Leading Practice Adoption Guide.
- Awareness of key aspects associated with producing a high-quality user-friendly document
- Recognition of the importance of ensuring the production of a high-quality Leading Practice Adoption Guide
- Distribution of a high-quality user-friendly Leading Practice Adoption Guide to key persons at potential adoption mines

Background

Having prepared a detailed good quality report on the findings at the lead adopter (or demonstration) mine, including the performance and impact of the leading practice, the MOSH Adoption Team should now be well-placed to update and finalise the Leading Practice Adoption Guide, LPAG, for distribution to all potential adoption mines. Guidance on preparation of the draft LPAG was provided in section 5.16. The importance of producing a high quality guidance document for use at adoption mines, and as a base document for use in COPA meetings, cannot be over-emphasised. Without such a guide the effectiveness of COPA meetings and the adoption process at mines will be compromised. COPA attendees will inevitably end up taking home incomplete and different messages, which in turn will almost certainly lead to ineffective implementation of the adoption process at their mines. COPA meetings need to explain and elaborate the contents of the LPAG, and mine adoption teams need to have a high quality detailed user-friendly document as a source of reference and guide for planning and executing the adoption process.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Provide guidance on key points to consider when revising and finalising the Leading Practice Adoption Guide for use at potential adoption mines.

Details of the revision and finalisation of the LPAG will clearly depend very much on the findings documented in the report on the adoption of the leading practice at the lead adoption (demonstration) mine. Key points for consideration during this process are as follows:

Cover page

The cover page should be updated to reflect a new revision number and date of completion. More importantly the comment indicating the status of the document should be updated to clearly indicate that the document includes, and is based on the experience of successfully achieving adoption of the leading practice at the lead adopter (or demonstration) mine. It should be marked "Released for application"

Executive summary

The executive summary should be updated to bring out that the original draft has been updated to take account of the lessons learnt and experience of successfully securing adoption at the lead adopter (or demonstration) mine. It should also be updated in respect of any significant findings concerning observed performance and impact of the leading practice.

Part 1 - Strategic context

The updates required to this part of the LPAG should be fairly self-evident from what has been documented in the report on the first successful adoption. However, particular attention should be given to ensuring that:

- The summary description of the leading practice features any aspects that proved to be difficult or particularly important at the lead adopter (demonstration) mine.
- Any significant difference in observed performance and impact is adequately reflected in the summary of documented performance and impacts.
- The summary statement of the generic value case is updated to reflect findings at the lead adopter (demonstration) mine. Consideration should be given to inserting a text-box to present the new information, and to high-light that it is derived from the first successful adoption of the leading practice. In this respect it differs in an important way from the generic statement of the value case.
- The process of updating the strategic context does not significantly increase the length of this introductory part of the guide.

Part 2 - Detailed adoption guidance

It is very important to ensure that the key lessons learnt in securing the first successful adoption of the leading practice are fully captured in updating and finalising this core aspect of the LPAG. In doing this particular attention should be given to:

- Systematically working through the whole of the LPAG should it be necessary to update the number or order of the process steps for securing successful adoption.
- Ensuring that the updated adoption guidance does not contain conflicting guidance. This can easily occur in a multi-step process and careful review and editing of will be required to ensure that this does not happen.
- Removing any guidance or other content found to be unnecessary.
- Redrafting any aspects that were not readily understood by the mine adoption team,
- Improving the user-friendliness of the various sections based on experience gained, but which might not have been documented in the report on the first adoption.
- The use of text-boxes to highlight and elaborate findings and experience that is particularly insightful or helpful in preventing a repeat of previous poor experience.
- The use of hyperlinks to effectively increase the user-friendliness of the LPAG.
- Ensuring that the process of updating the detailed adoption guidance does not unduly increase the length of this important part of the guide.

Part 3- Details of the leading practice

In updating this part of the LPAG the MOSH Adoption Team must ensure that:

- The technical elements of the leading practice are updated to address any difficulties experienced by the lead adoption (demonstration) mine in understanding and introducing any particular aspect of the leading practice. The use of text boxes to achieve the desired impact and clarity should be considered.
- Any generally applicable refinement of the leading practice that needed to be introduced is clearly included. Minor adjustments required to harmonise operation of the practice with standard operating procedures at the mine should be dealt with in the relevant section in Part 2 of the LPAG.
- Any necessary refinements to the generic behavioural communication and leadership behaviour plans are also clearly included. Adjustments to the process and procedures for

conducting direct enquiries and customising the behavioural plans should be dealt with in the relevant sections in Part 2 of the LPAG.

Appendix A – Supporting work documents

Some of the documents provided in Appendix A may not require any updating, but the experience gained and lessons learnt will be particularly important in most cases. In updating the various appendices, particular attention will need to be paid to ensuring that:

- Each appendix takes account of experience gained in securing the first successful adoption and that it is consistent with the guidance provided in each section of the LPAG.
- The appendices dealing with the behavioural aspects of the adoption process reflect a consistent and coherent process

Appendix B – Supporting reference documents

Updating of Appendix B is likely to represent one of the major opportunities for improving the usefulness of the LPAG through inclusion of example communication and training material prepared for use at the lead adoption (demonstration) mine. Particular consideration should be given to:

- Clarifying that the example documents may need to be adjusted for use at different mines, and that their use is optional.
- Presenting the example documents, where possible, in a way that they can be readily adjusted for use at various adoption mines.
- Adding any additional appendices considered helpful in ensuring that the experience gained at the first adoption mine is conveniently made available to all potential adoption mines.

Finalisation and distribution

Having completed the updating process, the MOSH Adoption Team should:

- Systematically review the entire LPAG to ensure the quality, consistency and coherency of the completed document – from “cover to cover”
- Provide a copy of the updated LPAG to the lead adopter (demonstration) mine with a request for their input and comment, as well as their agreement to the use the material developed at their mine.
- Arrange for final version of the LPAG to be critically reviewed by a selected group of knowledgeable peers.
- Take account of comments received in finalising the LPAG for distribution.
- Arrange for a copy of the final LPAG to be posted on the MOSH web-site
- Arrange for electronic copies of the final LPAG to be distributed to all COPA members and any other key persons at identified potential adoption mines. The document should be distributed under cover of an appropriate explanatory note.

Concluding comment

Distribution of the updated Leading Practice Adoption Guide represents an important milestone in the adoption process. It completes the phase of documenting the practice and equips the MOSH Adoption Team with a tool for conducting well directed COPA meetings and an effective aid in facilitating widespread adoption at identified potential adoption mines. The quality and user-friendliness of the final document is thus of crucial importance.

Section 6.8

Oversee the operation of an effective COPA

Key outcomes

- Identification of and guidance on the key considerations in securing the operation of an effective COPA
- Clarity on the key success factors that should be monitored and attained in operating the COPA
- Criteria for terminating the operation of the COPA
- Identification of the role the MOSH Adoption Team should play in facilitating adoption at the first few adoption mines
- An understanding of what is required for the operation of an effective COPA

Background and purpose

Once a Community of Practice for Adoption has been established it will be important to ensure that it is effective. An operational but ineffective COPA will not be successful in facilitating widespread adoption of the leading practice. The initiation of a COPA at the leading practice adoption workshop and the rationale for its establishment are outlined in Section 6.4. With reference to that section, particularly important points that should have been covered in setting up the COPA are:

- o Explicit verification by members from potential adoption mines that they have the time and position to ensure serious consideration of the adoption opportunity at their mine, and,
 - o Collective identification of issues that members consider to be important in relation to adoption of the practice, and that should be pursued through the activities of the COPA.
- Proper handling of these two points in setting up the COPA at the workshop and at its first meeting shortly thereafter is the first essential step towards securing an effective COPA.

Purpose

The purpose of this section is to:

- Identify issues expected to be key determinants of the effectiveness of the COPA, and
- Provide guidance for consideration in respect of these issues.

Key considerations for operation of an effective COPA

1. **Ensure a common understanding of the strategic context of the COPA:** The presentations and discussions at the workshop should have brought out:

- The generic value case for adopting the practice in question,
- The rationale and potential benefits of a COPA,
- The business case for joining the COPA. and,
- The key issues to be pursued by the COPA

The strategic context of the COPA should thus be reasonably well established. However, it may have come across in a piece meal fashion and not have resulted in a common understanding. Accordingly, as part of the process of considering and agreeing the modus operandi of the COPA, time should be devoted to collectively agreeing a clear statement of the objective and mission of the COPA. The Coordinator should ensure that key aspects of the above four points are taken into account in developing these statements. A generic

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

example of what is envisaged is provided in the side-box. Discussion and collective development of these statements in more specific terms, as well as the key success indicators outlined later, should engender involvement in, and ownership of the COPA and its processes, as well as a shared understanding of its strategic importance to the industry, the mine, mine employees and the COPA members.

2. Focus on key issues of concern to COPA members:

The input of COPA members during the leading practice adoption workshop and the first meeting of the COPA, including those in developing the objective and mission statements should provide a good indication of the key issues that should be pursued through the COPA.

- The COPA Coordinator should ensure that the COPA focuses on these issues. In particular the coordinator should focus on those issues that have the greatest potential to facilitate adoption of the leading practice at mines through sharing of experience and knowledge.
- One of those key issues should be that of ensuring that the experience gained in working with the lead adopter (or demonstration) mine is effectively passed on to the first few adoption mines to assist them in their efforts to successfully adopt the leading practice.
- As necessary, the coordinator should arrange and facilitate meetings to pursue these issues, including the use of small group meetings where appropriate.

3. Strongly support the first group of mines in their adoption of the leading practice: A significant challenge during the initial operation of the COPA will be that of facilitating successful adoption of the practice at the first few mines that decide to adopt the practice, particularly if this coincides with the MOSH Adoption Team's involvement with a lead adopter mine. On this point:

- It is unlikely that the first group of mines to adopt the practice will be large, but even then, the adoption team may need to carefully plan provision of the support that is likely to be needed by these mines in their adoption of the leading practice.
- The COPA coordinator should, together with the adoption team managers at these mines, establish how best to support them in their implementation of the adoption process at their mines. In practice, this will involve assisting them in implementing the guidance provided in the leading practice adoption guide. This is likely to involve regular meetings of this group of early adopters, as well as providing direct assistance to the teams established at these mines to lead the adoption process. To a large extent the COPA coordinator may need to structure these meetings as training sessions, with the COPA coordinator using the leading practice adoption guide as the training

Example statement of COPA objective and mission

Overall objective: To facilitate assessment of the <leading practice> at all identified potential adoption mines within six months of initiating the COPA, and within a further 18 months to collaboratively facilitate adoption of the <leading practice> at all mines that voluntarily elect to adopt the practice.

Mission: To serve as an effective forum for key persons from all potential adoption mines to discuss and source the guidance and skill required to successfully address the challenges and problems encountered in adopting the <leading practice>. And as a group, by sharing our experience and achievements, to focus on facilitating eager voluntary adoption and continuous improvement of the leading practice at mines in a collective drive towards the mining industry's ultimate goal of zero harm.

Value of working closely with adoption mines

It is clear from experience accumulated to date that working directly with the mine adoption team has great value, and this should be done to the greatest extent possible. Not only does it help to maintain momentum in the adoption process, it also helps to prevent misunderstandings and the errors, inefficiency and delays that otherwise result.

workbook. Such meetings will also enable the experience gained at the lead adopter (or demonstration) mine to be readily passed on to others by the MOSH Adoption Team Manager, or by an appropriate person from the lead adopter mine.

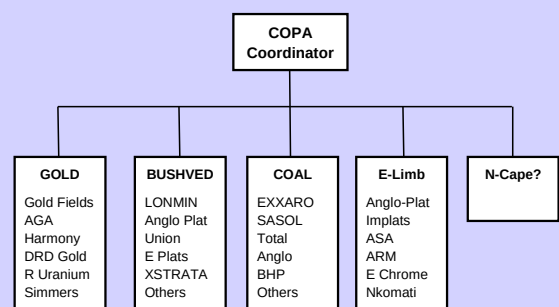
An important benefit of providing this support will be the identification of improvements that should be introduced into the leading practice adoption guide, and the establishment of a core of persons at mines who have experience in securing successful adoption of the practice. Both of these outcomes should add significantly to the operational effectiveness of the COPA, and thus to the process of facilitating widespread adoption of the leading practice in industry.

4. Structure the operation of COPA according to its needs: Within the broad framework that has been outlined for setting up and operating an effective COPA, the COPA should be structured and operated according to its needs. Clearly, this flexibility will in practice also be limited by resource constraints. Relevant considerations are as follows:

- In the event that the group of early adopters is too large, or too diffuse, to handle as a single group, the COPA coordinator should appropriately split the group. The COPA may thus need to become two or more coordinated sub-groups working in parallel, but possibly at different stages of the adoption process. The example in the side-box illustrates the extent to which such sub-groups became a feature of the COPA established by the Fall of Ground Adoption Team.
- Depending on the number of early adopters that need to be accommodated, and notwithstanding the support and assistance from the Adoption Specialist and the MOSH Trainee, the COPA coordinator may at times need specialist assistance from the Learning Hub Behaviour Specialist. The provision of such specialist assistance should be seen as an important aspect of the Behaviour Specialists work.
- It is also possible that the some mining groups may wish to manage the roll-out of a particular leading practice across their Group's mines through a COPA sub-group consisting of their mines only. This may well be a practical and effective arrangement for securing widespread adoption of the leading practice. Accordingly, consideration should be given to this possibility when

Arrangements developed for COPA on Entry Examination and Making Safe

Given the essential requirement for Entry Examination and Making Safe in all mining operations, many mines elected to join the COPA established by the MOSH Adoption Team to facilitate adoption of the leading practice on this procedure. Given the large number of potential adoption mines, the large numbers of people who joined the COPA, the geographical distribution of the mines, and the different types of mining involved, it was decided that the COPA should be broken into sub-groups, as shown below.



As indicated in the diagram, consideration is now being given to the possibility of forming a sub-group for the Northern Cape. This arrangement has worked well, but it has required the full-time involvement of the MOSH Adoption Team Manager to coordinate the COPA.

Mining Group based COPA structures

Some of the factors that should be taken into account when considering a mining group based COPA structure:

Positives

- The particular requirements of each mining group can be consistently and conveniently taken into account
- Group management and operational structures can be enlisted to assist in facilitating the adoption process
- The Group Adoption Coordinator can in effect become the coordinator of the sub-group

Negatives

- The number of COPA sub-structures may become too many for the COPA Coordinator to handle
- The strong group orientation could more easily cause the key features of the leading practice to be lost
- The cohesive and collaborative nature required of an effective COPA could be lost
- The extent of beneficial sharing between mines in different mining groups could be significantly diminished.

debating and agreeing the *modus operandi* of the COPA. However, not all groups may wish to handle things this way and so a combination of approaches may well be necessary. This points to the need for flexibility in the approach used to facilitate widespread adoption. The side-box sets out some of the factors that should be taken into account when considering such an approach.

In either of the above two scenarios, the COPA coordinator will be faced with the challenge of facilitating the exchange of emerging information and experience between the groups. The coordinator must therefore ensure that the groups always see themselves as part of a single COPA, with useful information being exchanged between the sub-groups on a regular basis. This can be achieved by way of joint meetings of all or some of the groups from time to time, and by arranging for key experience and findings of one sub-group to be presented to the others in their separate meetings.

5. **Assist with the provision of training for key persons in mine adoption teams:** One of the important functions of the COPA is to provide a forum through which the training needs of mine adoption teams can be raised and addressed.

- In most cases this will involve special training sessions with persons from various mines in need of the same training. Mine Adoption Team Managers would usually be trained by one of the MOSH adoption team managers or by the team's Adoption Specialist, with Behavioural Plans Overseers and Interviewers for direct enquiries being trained by the Behaviour Specialist.
- Training of the Behaviour Plans Overseer would cover the instruction and guidance that he would need to provide to those responsible for analysing the responses the direct enquiry interview process. In due course it may be possible to arrange for the training to be provided by an outsourced service provider. This is something that will need to be explored within the Learning Hub by the Behaviour Specialist.

Test understanding of LPAG by mine adoption teams

Dealing with the training needs of persons at adoption mines will provide the MOSH Adoption Team with a good opportunity to test understanding of the LPAG of at least the two key persons responsible for leading the adoption process at the mine in question. An important aspect of the training must thus be to test the level of understanding achieved and to ensure that it is at an acceptable level before indicating that the training is complete. The level of understanding achieved must be sufficient for them to effectively lead the adoption process at the mine, and to adequately explain the adoption process not only to members of their adoption team, but also to their work colleagues, including superiors.

6. **Ensure effective operation of the mechanisms for communication between members:**

The mechanism for communication between members must be kept as simple as possible. Accordingly, direct verbal communication should be strongly encouraged, as should site visits to observe effective practices.

- In order to gain greater benefit from such interactions, members should be encouraged to record the essence of the useful information in writing, and to forward it to the COPA coordinator for further sharing.
- Such information could well be in the form of an email sent to a colleague to record or confirm useful information that emerges out of discussions and visits, or from experience at the member's own mine. The key point is that the useful information needs to be reduced to writing. The coordinator can then arrange for the information to be posted on the MOSH web-site and, if appropriate, for it to be presented at a COPA meeting.

- Finally, the coordinator should recognise that not all persons will commit useful information to writing. In such cases, appropriate minuting of verbal presentations at meetings may be necessary to share and capture the useful information for more widespread sharing.

7. Ensure effective operation of the mechanism for providing access to acquired knowledge: Allied to the above point, the coordinator must ensure that all key documents and information provided by members are loaded onto the MOSH web-site, and that they are logically and readily accessible. The Monitoring Specialist should assist in ensuring that this is the case.

- Soon after establishing the COPA, it must be explicitly confirmed that all members are able to readily access the site. Members will then be advised per email when significant new material that has been loaded onto the site.
- The effectiveness of this arrangement should be checked from time to time and the alternative of sending information to members directly per e-mail should be implemented as a fall back measure if necessary.

8. Ensure that members are made aware of the latest advances: In addition to the provisions outlined immediately above, the coordinator should provide all COPA members with useful information that emerges out of the activities of the MOSH Adoption Team and the scanning function of the Learning Hub Secretariat. The Monitoring Specialist has a key role to play in ensuring that such information is identified and made available to the various COPAs.

9. Maintain a continually updated version of the adoption guide: A copy of the initial draft of the Leading Practice Adoption Guide should be loaded onto the MOSH web-site as Rev-0 at the time of the leading practice adoption workshop.

- Following consideration of the experience gained at the lead adopter mine and input received from COPA members, the draft should be updated and loaded onto the site in PDF form as Rev-1. The time scale of this adoption process at the lead adopter mine should allow adequate time for COPA members to review and develop their input for inclusion in the process of updating the LPAG.
- The original version of the guide that was released for use by mines, as described in Section 6.7, should be retained on the web-site as Rev-0 to preserve the original point of departure.
- As additional worthwhile improvements to the document become evident in the light of the operational experience of members, the coordinator should from time to time introduce the agreed improvements into the living version of the LPAG kept on the MOSH web-site. The new material should be clearly identified in the living document and appropriately referenced to the source of the change, with each revised version of the guide being numbered.
- All persons who attended the leading practice adoption workshop, the key persons at potential adoption mines that have not yet joined the COPA, and all members of the COPA should be advised of revisions to the guide when they occur.

- Old versions should be archived with only Rev-0 and the latest revision being retained for ready access on the web-site. Revisions should occur whenever necessary, but not too frequently.
10. **Prepare and release an updated PDF version of the leading practice adoption guide if necessary:** Should the extent of the revisions to the adoption guide be very extensive, it may be advisable to email a PDF version of the updated guide to all who are being kept informed of updates as they occur. Unfortunately, the process of visiting the web-site to maintain an updated version of the leading practice adoption guide may not be followed by users at all potential adoption mines. The email should thus warn of the very substantial changes that have been made and advise that if they have not already done so, they should replace the older version of the guide with that which is attached.
 11. **Maintain a readily accessible register of member's contact details and special expertise:** The detail provided in the register of members contact details should be sufficiently detailed in respect of special expertise to help direct a member to an appropriate person to discuss a problem that the COPA member may have. The coordinator should ensure that new member's details are added when the member joins, and that the register is updated and checked for correctness from time to time.
 12. **Facilitate member interaction in problem solving:** The coordinator, with the assistance of the MOSH adoption team when necessary, should play an active role in facilitating interaction between members for problem solving. This should not only be done at meetings, but also between meetings. Members should be aware that there is a standing invitation for them to advise the coordinator of problems that they have been unable to satisfactorily address. The coordinator should assist with issues identified in this way, by identifying and facilitating contact with persons well positioned to advise or otherwise assist in dealing with the issue. These persons may be at other mines or available in or through the Learning Hub.
 13. **Arrange meetings on topics of key concern or interest:** In those cases where the COPA is operating as a single group, without sub-groups such as those described earlier, this point will be particularly important. In such cases, but also when there are sub-groups operating in parallel, the coordinator should continuously seek to identify issues that are of common interest to groups. Meetings between such people should then be arranged and facilitated to collaboratively address the issue in question. Such collaborative problem solving is not readily achieved per e-mail, and, in addition to contributing to the effectiveness of the COPA, such face to face meetings will add an important vibrancy and productive dynamic to the COPA. Where appropriate the coordinator should invite credible persons from mines to make potentially helpful presentations at such meetings.
 14. **Facilitate visits of interested members to successfully operating sites:** From time to time, and particularly in the early stages of the operation of the COPA, the coordinator should identify persons interested in visiting operating sites to view and discuss points of common interest. The coordinator should arrange the visit and the agenda for the visit. This will build on the dynamic referred to in the previous point. As more mines initiate adoption of the practice the focus of such visits may shift towards problem solving discussions.
 15. **Facilitate the provision of assistance and exchange of personnel between mines:** Where a particular mine is experiencing persistent difficulty the coordinator should assist by

offering to arrange for relevant persons from the mine to meet with peers from a mine that has successfully addressed the issue in question. In some cases this could even lead to an exchange of personnel for a limited period. This mechanism for securing needed assistance will clearly become more viable as the number of mines that have successfully adopted the practice increases. It is a mechanism that will help enable the withdrawal of the MOSH Adoption Team Manager from the role of coordinating the COPA.

16. Facilitate access to expert input as and when necessary: In some cases the problems encountered by mines may require expert input beyond that available at mines that have successfully adopted the practice. In such cases the coordinator should facilitate the provision of appropriate expert assistance through the secretariat. An important objective of such assistance should be to ensure that the input provided is written up in a form that can be made available to all potential adoption mines, and introduced into the leading practice adoption guide if appropriate.

17. Provide information to members to assist them in promoting the value of their involvement: It will be important for members to be able to demonstrate within their mine structures the value of their involvement in the COPA. The coordinator should seek to identify, document and provide such information, including:

- Issues successfully dealt with through the COPA,
- Adoption success and benefits achieved at other mines, and more generally,
- Information that elaborates on the strategic significance of the adoption initiative.

A brief document setting out such information should be made available to COPA members at least once every three months.

18. Facilitate external communication to advance recognition of the value and achievements of the COPA: The coordinator should consolidate material such as that listed in the previous point into a form that is suitable for external communication to industry in general. The information should be provided directly to COPA members and to other key persons at potential adoption mines. It should also be disseminated through industry newsletters, trade publications, presentations at relevant Association meetings and the various regional Tripartite Forums, and so on. Members should be encouraged to do the same. The coordinator should explore the possibility of jointly preparing such material with members, where appropriate.

19. Encourage a sharing mentality between members: The coordinator should encourage a sharing mentality in COPA members right from the start, when the strategic context for the COPA is first clarified. Members should be encouraged to have a generous approach to sharing their experience and expertise in the area of occupational health and safety. Such sharing will impact positively not only on overall industry performance, but also on their performance through feedback and reciprocal sharing. This positive dynamic should be reinforced by ensuring that the contribution of members to the success of others is recognized and brought out to the maximum extent possible. The ultimate aim should be to facilitate the emergence of a positive sharing experience and a mentality that places no limit on sharing in the area of occupational health and safety. The coordinator should identify and explore the use of other approaches helpful to fostering and growing such an *abundance mentality* in members.

20. Promote a collaborative style of operation: Notwithstanding the very significant role that the coordinator must play, the focus needs to be on stimulating member activity on a voluntary basis. As COPA members voluntarily engage and become more active in discussions and making presentations at COPA meetings, the coordinators role should increasingly shift towards monitoring and offering to assist members meet their needs. Even at the early stages when clear leadership and training needs to be provided, the coordinator should set the tone by adopting a helpful collegial style, but without compromising competence and credibility.

21. Ensure continuity of operation on relinquishing the responsibility of COPA coordination: It is envisaged that the MOSH Adoption Team Manager responsible for coordinating the COPA may need to begin withdrawing from the coordination role after about twelve to eighteen months.

- Within this period the coordinator should have identified a few persons within the COPA who have the attributes necessary to take over the coordination responsibility, and who would be willing to serve in that capacity. In particular they should have credibility with their peers and have no vested interest that could cause the COPA to be steered in a direction different to that already established.
- At least eight weeks before withdrawing from the COPA, the person selected to become the new coordinator should begin to take on the coordination role, with assistance and coaching as necessary. During this period the needed residual assistance and process for interacting with the secretariat should be defined. The MOSH Trainee allocated to assist the coordinator should continue in that role to assist the newly appointed coordinator.

(Note: In the event that a MOSH Trainee, or equivalent, is not available to provide continuity, and the necessary administrative assistance, the MOSH Adoption Team Manager may need to continue. This and the possibility of some other form of arrangement should be discussed with the Head of the Learning Hub.)

22. Facilitate appropriate growth of the COPA: The objective of growing the COPA must be limited by the potential for adoption of the practice. Where the initial membership of the COPA only covered a portion of the potential adoption mines, growth of the COPA should be facilitated until all potential adoption mines are covered. The key persons at potential adoption mines who have not yet joined the COPA should continue to be sent updates of progress and successes achieved in a way that makes it clear that they are welcome to join the COPA at any time of their choosing.

23. Monitor adoption progress at adoption mines: The COPA coordinator should ensure that the progress made by adoption mines in implementing the adoption process for the leading practice is regularly reported for monitoring purposes.

- Mine adoption team leaders should be requested to provide the necessary input for inclusion on the scorecard developed for this purpose, (see section [14.2](#)) and for review in COPA meetings.
- In due course it may be possible for mines to input the necessary information, including supporting documentation, using the MOSH web-site, which will then automatically generate the appropriate scorecard. This will however require that all

mines routinely use the web-site to input the necessary progress data and documentation. Until then, mine adoption teams should be encouraged to keep the key adoption documentation in the form of the portfolio of evidence outlined in the leading practice adoption guide.

- 24. Periodic assessment of the impact achieved at adoption mines:** The impact achieved at adoption mines as a result of adopting a leading practice should be investigated and assessed periodically to establish whether the benefit has been maintained, improved or perhaps regressed. Such an investigation should be undertaken within 12 to 18 months of the first adoption, when COPA activity is still strong. Should performance have regressed, the adoption team should investigate further to establish why this has occurred and to then plan appropriate remedial action at the affected mines.
- 25. Monitor operation of the COPA against agreed key success factors:** As part of the process of discussing and agreeing the *modus operandi* of the COPA, the key success factors for the COPA should be agreed. The factors below should be considered as the core around which to agree any others that should be added. Performance against these factors should be regularly assessed and reported to the Head of Hub by the COPA coordinator:
- 50% of potential adoption mines to have members on the COPA within the first month;
 - 80% of potential adoption mines to have submitted their assessment and decision about adopting the leading practice at their mine within the first three months;
 - 30% of mines represented on the COPA to initiate adoption within the first six months;
 - 80% of potential adoption mines to have members on the COPA within the first six months;
 - 80% of members to rate membership of the COPA as worthwhile in a poll conducted after four months;
 - 75% of potential adoption mines to initiate adoption within two years.
- 26. Terminate the COPA when it has served its purpose:** The COPA should be terminated if a sufficient number of members agree that it has served its purpose or that it is no longer effective. Members should be polled at least every six months on this point. Unless otherwise agreed by members, the COPA should be terminated when 75% of the identified potential adoption mines have adopted the practice.

Concluding comment

The success of the adoption system depends critically on the operation of an effective Community of Practice for Adoption. It will be important to critically assess the performance of the COPAs and to identify any areas that need to be improved. The secretariat, and in particular the monitoring specialist, should see this as one of their primary tasks in supporting and monitoring the operation of the various COPAs established by the adoption teams.

SECTION 7

Adoption process for Simple Leading Practices

- 7.1 Definition and criteria for a Simple Leading Practice, SLP
- 7.2 Identifying and documenting a Simple Leading Practice
- 7.3 Facilitating widespread adoption of a Simple Leading Practice

Section 7.1

Definition and criteria for a Simple Leading Practice, SLP

Key outcomes

- Recognition of the case for some practices to be classified as simple and treated in a relatively simple manner
- An understanding of the concept of a Simple Leading Practice
- Criteria for justifiably classifying a practice as a Simple Leading Practice, a SLP
- Procedures for critically assessing and formally reviewing a proposed SLP

(Docs #50, #51)

Background

The systematic procedures outlined in this handbook positively differentiate the MOSH Leading Practice Adoption System from previous generally unsuccessful approaches at achieving widespread adoption of a particular technology or practice. However, these processes do require significant time and resources and this can give rise to a problematic counter-productive dynamic, particularly in cases where a leading practice and its adoption are relatively straightforward. Indeed, in some cases the systematic application of the full spectrum of processes outlined in this handbook is unnecessary, and to require their application in these cases would thus be both inappropriate and counter-productive. It would inevitably compromise the credibility and long-term success of the MOSH Adoption System. It therefore follows that procedures need to be put in place to identify those cases where the leading practice and the procedures for its adoption are sufficiently uncomplicated for the practice to be categorised and treated as a *Simple Leading Practice, SLP*.

Purpose

The purpose of this section is to:

- Set out a clear definition of what qualifies as a *Simple Leading Practice*.

Definition of a Simple Leading Practice, SLP

1. Conceptually, a leading occupational health or safety practice may be categorised as a *Simple Leading Practice* when both the practice and its adoption does not depend on securing a change in the behaviour of many people. The practice and its adoption should thus involve few steps, few people, little or no training, and have no materially negative impact on any person or group of people.
2. The classification of an identified leading practice as a *Simple Leading Practice* is thus largely a matter of subjective judgment. Accordingly, with a view to enabling consistency in these judgments, a set of clearly stated criteria are provided in point form below. It is emphasised that all of the listed criteria must be met for the practice to qualify as a SLP.
3. To further assist in ensuring consistency in the identification of a *Simple Leading Practice*, classification of the practice as a SLP must be formally approved following the procedure that is outlined later in this section.

Criteria to be satisfied

4. The criteria that should be met for a practice to be classified as a SLP are as follows:
 - i. The practice must have delivered worthwhile benefits in quantitative terms at one or more operating mines.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

- ii. The practice must have significant adoption potential: it should have the potential to be adopted at more than 10 mines or impact on the health or safety of at least 10% of persons employed in the mining industry.

Adoption of the practice should involve:

- iii. No significant adjustment to other existing practices on the mine,
 - iv. Few people and levels of management,
 - v. Few implementation steps,
 - vi. Little or no training, and
 - vii. Little or no external assistance.
- viii. The extent of any assistance that may be required by a mine to successfully adopt the practice must have been identified and clearly outlined with at least one of the source mines having explicitly agreed to provide such assistance to those mines that request it.
 - ix. Adoption of the practice at a mine must have no materially negative impact on any person or group of persons at that mine.

Classification as a potential Simple Leading Practices

5. Practices that have the potential to be categorised a SLP are most likely to be identified during:
 - The process of the MOSH Adoption Team Managers preparing for the team's planning workshop to identify their next leading practice,
 - The planning workshop of the MOSH Adoption Team,
 - Routine scanning activity of the Secretariat in support of the adoption teams,
 - Routine meetings of the MOSH Adoption Team,
 - Discussion at COPA meetings, and
 - The process of peer group review, of mines, that is expected to be established in due course as part of the operations under the Learning Hub.
6. Importantly, a potential SLP may be identified in other ways and at other times.
7. This initial identification of a SLP must include explicit consideration of the candidate practice in relation to each and every one of the criteria presented earlier. Worksheet Doc #51 should be used to record the outcome of this informal preliminary assessment. The Adoption Team will need to make a conscious effort to ensure that their assessment is not unduly influenced by their familiarity with the practice, and or their enthusiasm for its potential application
8. In the event that this informal assessment yields a positive outcome the practice may be listed as a *potential* SLP. However, such an informal assessment does not qualify it to be regarded or treated as an *approved* SLP. This requires a detailed investigation and formal approval of its classification as a SLP. Details of the investigation process are outlined in section 7.2, and the formal approval process is outlined below.

Classification as an approved Simple Leading Practice

9. Inappropriate classification of a practice as a simple leading practice carries a real risk of adoption failure. Such failure could deprive industry of much needed OHS improvement. In the long-term, such failures will also compromise the credibility and success of the MOSH Adoption System. Due diligence and careful judgment are thus essential in classifying a practice as a simple leading practice.

10. Having conducted the necessary detailed investigation, as outlined in section 7.2, a well-documented motivation for classifying the practice as an approved SLP should be prepared. Worksheets Doc #50 and Doc #51, expanded as necessary, should be used for this purpose. This detailed motivation should be critically reviewed by the Adoption Team and endorsed for submission to the Head of the Learning Hub for independent review.
11. Once the Adoption Team has collectively made a positive assessment, the Adoption Team Manager must submit to the Head of the Learning Hub the well documented motivation for the practice to be independently approved as a Simple Leading Practice.
12. On receipt of the motivation, the Head of the Learning Hub will convene a review panel to formally review and decide on the proposed classification. The review panel should comprise of at least the following:
 - The Head of the Learning Hub, who should chair the review process,
 - An Adoption Specialist from one of the other adoption teams,
 - The Behavioural Specialist employed by the Learning Hub, and
 - A credible independent expert in the area concerned.
13. A record of the key considerations entered into by the review panel should be kept to assist in achieving consistency over time, and the decision of the panel, with reasons given, as well as comment on any further information / investigation considered necessary, should be conveyed to the Manager of the MOSH Adoption Team in writing.
14. Following receipt of a positive outcome from this formal review process, the practice may be classified as an *approved* SLP, and put forward to industry as an SLP for adoption.
15. A schedule setting out a summary of the key steps involved in the identification, investigation and facilitation of widespread adoption is provided at the end of this section. The details are described in the next two sections

Concluding comment

The availability of a process and a set of procedures for identifying and facilitating the adoption of *Simple Leading Practices* constitutes an important element the MOSH Leading Practice Adoption System. Without such a process and set of procedures, the MOSH Leading Practice Adoption System would be incomplete. However, the task of ensuring that the various elements of the Adoption System are properly and appropriately used will be an on-going serious challenge to the MOSH Adoption Teams and the Learning Hub Secretariat.

Hyperlinks: Sections: [7.2](#), [7.3](#) and Worksheet Docs [#50](#), [#51](#), [#52](#)

Section 7.2

Identifying and documenting a Simple Leading Practice

Key outcomes

- Recognition that some practices can be classified as simple and treated in a relatively simple manner
- Criteria for justifiably classifying a practice as a Simple Leading Practice, a SLP
- Guidance on investigating and documenting a candidate SLP
- Procedures for critically assessing a proposed SLP
- Guidance on preparing a document to facilitate adoption of an SLP at an operating mine

(Docs #47, #50, #51, #52)

Background

Identification of a simple leading practice may occur at any time. It is however most likely to occur when preparing for an adoption team planning workshop, or during such a workshop. Ideally, it should occur within the framework of searching for leading practices that have the potential to bring about significant improvements in OHS performance. This is a fundamental requirement of any leading practice worthy of widespread adoption and it therefore applies also to Simple Leading Practices, notwithstanding the considerably reduced time associated with documenting and facilitating the adoption of such a practice. It is anticipated that in most cases the work on a simple leading practice will be carried out by the adoption team in parallel with its work on a carefully selected conventional MOSH leading practice.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the team-based assessment associated with the initial identification of a potential *Simple Leading Practice*,
- Set out the procedures to be followed in investigating and documenting a potential *Simple Leading Practice* for independent assessment and classification as an *approved* SLP, and,
- Provide guidance on the preparation of an SLP Adoption Brief to enable adoption of the SLP at an operating mine.

Initial assessment of potential simple leading practices

1. Having identified what is thought to be a Simple Leading Practice, the Adoption Team Manager must ensure that the practice is explicitly assessed against the criteria for qualification as a Simple Leading Practice. This should be done before devoting time and effort to the investigations required to adequately document the practice for independent assessment and approval as a Simple Leading Practice.
2. The explicit team-based assessment of the practice against each and every one of the criteria for a simple leading practice should be done using Worksheet Doc #51. For each of the nine criteria, the Adoption Team Manager should make notes against each of the nine criteria listed in the worksheet. This should be done with input from his Assistant Manager, the Adoption Specialist and adoption team members, based on their knowledge of the practice.
3. The adoption team should then collectively make its assessment of the practice against each of the nine criteria in the worksheet. As pointed out in section 7.1, the adoption team will need to make a conscious effort to ensure that their assessment is not unduly

influenced by their familiarity with the practice, or their enthusiasm for its potential application.

4. In the event of a positive outcome, the adoption team may list the practice as a *potential* SLP and plan the necessary investigations to document the practice for independent assessment, approval and presentation to industry.
5. In conducting the planning workshop, should an identified potential simple leading practice be selected as the first choice leading practice for widespread adoption, it will be important to identify which of the other candidates will take its place in the event that it is later approved as a SLP.

Documenting and assessing a potential Simple Leading Practice

6. Having explicitly assessed and agreed that the practice is a potential SLP, the Adoption Team Manager should contact the Manager of the relevant source mine to confirm that the mine is willing to serve as a source mine for the potential SLP. During this process the Manager should be briefed on the envisaged investigation and subsequent process to facilitate widespread adoption of the SLP. Subject to such confirmation, the person at the mine who is responsible for ensuring the continued successful operation of the practice should be identified and arrangements made to conduct the necessary investigations.
7. In setting up the arrangements, the concept of a SLP and the necessary investigation procedure should be explained. In particular, it should be pointed out that the initial investigations may need to be followed up with further investigations to more fully document the practice in the event that it is to be put forward to industry for widespread adoption.
8. A check list to assist in gathering the required information is provided below, and in Worksheet Doc #50. In respect of the 19 points listed below, any substantial findings on the points associated with a darkened check box should be regarded as a warning that the practice is unlikely to qualify as a simple leading practice.

Systematic investigation of a candidate <i>Simple Leading Practice</i>			
No	Consideration	Check box	See relevant point in Section 6.1
1	What are the key features of the practice being investigated that must be adopted for the practice to operate successfully?	<	
2	What benefits of the practice have been quantitatively demonstrated and recorded in routine mine operations at the source mine?	<	
3	Is the technology, practice or knowledge ready for transfer and adoption by industry?	<	2
4	Has the equipment to be tested been adequately designed to withstand the harsh underground environment?	<	2
5	Has the operation of the technology or practice been adequately simplified for mine application?	<	2
6	What technical support is likely to be needed to assist mine staff with the adoption process?	<	6
7	Which persons are going to be most affected by adoption of the technology or practice?	<	7
8	What steps need to be taken to ensure proper communication about the new technology or practice in regard to its application and its positive and negative impacts?	<	8
9	What special training is necessary for mine staff to facilitate successful adoption?	<	9
10	Which persons on an adoption mine could make or break the project and how were such persons accommodated at the source mine?	<	10
11	What will be the benefits to the various people on the mine who are or will be affected by adoption of the technology or practice, in particular the workers and first line supervisors?	<	11

12	What measures, in addition to training, need to be adopted to gain support of the workforce for the new technology or practice?	<	12
13	Which persons may be negatively affected in adopting the practice and how was their support secured at the source mine?	<	13
14	Which mines have the potential to benefit from adoption of the identified technology or practice?	<	17
15	Which mines would benefit most from adoption of the technology or practice?	<	17
16	Are new skills or organisational structures needed to achieve successful adoption?	<	21
17	What are the possible unintended consequences of the technology or practice and how can they be addressed if they arise?	<	22
18	What are the criteria for the technology or practice to be considered a success once adopted?	<	24
19	Are any other special procedures necessary for successful adoption of the practice?	<	

9. The process for acquiring the information needed to satisfactorily document answers to the above set of questions should involve in-depth discussion with the identified key person/s at the source mine. The investigation should also include careful observation of the practice in operation.
10. The space provided in Worksheet Doc #50 for each of the investigation elements is not indicative of the level of detail that should be recorded. All relevant information should be recorded, with the worksheet being expanded / supplemented as necessary.
11. The investigations should always be conducted by at least two persons from the MOSH Adoption Team, usually one of the Adoption Team Managers along with Team's Adoption Specialist.
12. A particularly important aspect of their investigations should be that of acquiring quantitative data that demonstrates the benefits associated with adoption of the practice in question.
13. Having conducted the investigations necessary for a proper assessment of the practice, and assuming that no contra-indications have emerged, the Adoption Team Manager should prepare a clear description of the candidate SLP, a summary of the benefits demonstrated to date, and detailed comment in respect of each of the nine assessment criteria presented in section 7.1 and Worksheet Doc #51. Worksheet Doc #51, which was previously used by the Adoption team to make their initial assessment, should be used afresh for presenting the acquired information in appropriate detail for formal assessment. The space provided in the worksheet should be expanded upon if necessary.
14. In addition to Worksheet Doc #51, relevant information in respect of each of the elements listed in Worksheet Doc #50 should be provided in support of Worksheet Doc #51.
15. With reference to section 5.12, which deals with the value case, the MOSH Adoption Team should use the performance information gathered in terms of point 11 above to prepare the one-page summary of the value case described in that section. Although a fully documented and reviewed report of the value case is not considered to be necessary, a credible assessment of the benefits to be derived by the spectrum of potential adoption mines is considered to be an important aid to facilitating widespread adoption of a SLP. The one-page summary of the generic value case should thus be provided as an attachment to Worksheet Doc #51, and as an elaboration on the summary comments provided on point (i) of the worksheet.
16. Following completion of Worksheet Doc #51, and the supporting documentation as explained above, the Adoption Team Manager should provide the key person at the mine

with the a copy of the prepared information for comment, updating if necessary, and final endorsement.

17. The MOSH Adoption Team should then meet to consider and update the drafts that have been prepared by the Adoption Team Manager, and to initiate the independent review and SLP approval procedure.

Independent review and formal SLP approval procedure

18. Having investigated and documented the potential SLP, the first step is for the MOSH Adoption Team to consider the prepared documentation to collectively decide whether the candidate practice clearly meets each and every one of the SLP criteria listed in Worksheet Doc #51.
19. In the event of a positive assessment by the Adoption Team, the Adoption Team Manager should submit the well-documented motivation to the Head of the Learning Hub for the practice to be independently reviewed for classification as an *approved* Simple Leading Practice.
20. On receipt of the motivation, the Head of the Learning Hub will convene a review panel to formally review and decide on the proposed SLP. The review panel should comprise of at least the following:
 - The Head of the Learning Hub, who should chair the review process,
 - An Adoption Specialist from one of the other adoption teams,
 - The Behavioural Specialist employed by the Learning Hub, and
 - A credible independent expert in the area concerned.
21. The Adoption Team Managers and the Adoption Specialist may present the SLP to the review panel in support of their well-documented submission, and answer any questions that may arise, but they should then leave the review meeting.
22. In some cases it may be considered advisable for the review panel to make a site visit to view the candidate SLP in operation. In such cases this should be done.
23. A record of the key considerations entered into by the review panel should be kept to assist the Learning Hub achieve consistency in the review process over time. The decision of the review panel, with reasons given, as well as comment on any further information / investigation considered necessary, should be conveyed in writing to the Manager of the MOSH Adoption Team.
24. In the event that approval of the proposed Simple Leading Practice includes comment on further information or investigation requirements, this must be undertaken to the satisfaction of the Head of Hub. This may require additional investigations at the source mine and consequential updating of the documentation prepared to date.
25. Having successfully investigated and documented the SLP, the Adoption Team needs to focus its attention on the challenge of facilitating adoption of the approved SLP. It is in this context that the team needs first to consider the behavioural issues that are generically applicable to the adoption of any new practice, and which should be used to help facilitate successful adoption of the SLP.

Behavioural aspects generically applicable to all SLPs

26. Fundamental to the concept of a Simple Leading Practice is the realization that such practices do not require the time-consuming *leading practice specific* investigations to develop and implement the detailed behavioural communication and leadership behaviour

plans described in Section 5. However, there are certain aspects of such plans that are generic and which are readily determined for any particular practice. They should thus be determined and used to enhance the SLP adoption process.

27. The key aspects generically applicable to all SLPs are set out below as a set of behavioural communication and leadership behaviour requirements. The adoption team should ensure that the information necessary to customize and implement these generic aspects is gathered during the investigations at the source mine.

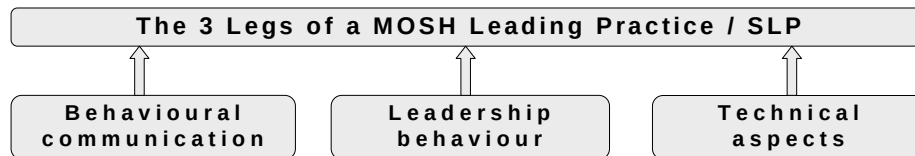
Behavioural communication requirements (see sections 15.3 and 5.9)

No.	Issue / belief	Essence of required behavioural communication
1	No perceived personal benefit from the SLP	The direct benefits to the operators and first line supervisors of adopting the particular SLP must be clearly identified and communicated to them
2	Potential negative impact of the SLP on production	Any possible impact on production of adopting the SLP must be clearly and explicitly outlined to all affected operational levels
3	SLP will require extra work effort	The impact on required work effort following adoption of the SLP must be clearly and explicitly outlined and justified to the relevant operators
4	Short cuts are taken to meet production targets	The harm of taking likely (any) short-cuts must be graphically explained – impact on individuals, their families and the mine must be emphasized. The reasons for a safe mine being a productive mine must be explained to all
5	Trust and buy-in are needed for adoption	Repeatedly emphasise to all supervisory levels the importance of regular dialogue with their staff to identify and properly address any and all concerns about the SLP
6	Leaders must lead by example	Explain that a leader's behaviour is his most powerful means of communication – employees are always watching. Leaders / supervisors cannot expect behaviour from their staff that is better than what they demonstrate
7	Workers have a disregard for health and safety in the workplace	Explain to managers / supervisors that this is a reflection of the way that they and their colleagues implicitly communicate / demonstrate their own beliefs and priorities. In their day to day activities managers and supervisors must regularly demonstrate their high regard for health and safety – and in their daily interactions they must show regard for the consequences of unsafe behaviour to individuals, their colleagues and the mine.
8	People fail to implement the training provided	Explain to supervisors that they must not allow sub-standard activity – they will get what they allow. They must provide constructive coaching or if necessary send the person for re-training

Leadership behaviour requirements (see sections 15.4 and 5.10)

Antecedents (For desired behaviour)	Behaviours (Desired for successful adoption)	Consequences (For exhibited behaviour)
Operational adopters		
- Appropriate training / instruction to all operational adopters - Briefing before implementation - Regular enquiries from supervisors about SLP performance	- Install / Operate / maintain SLP as instructed - No short cuts - Report any problems with SLP - Request explanations to ensure full understanding	- Immediate positive feedback from supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance
First level supervisors		
- Appropriate training / instruction to all first level supervisors - Briefing before implementation - Regular meetings with next level supervisor	- Regularly dialogue to check on SLP and operator performance - Ensure operational adopters receive any necessary training / instruction - No short cuts allowed or tolerated - Prompt action on any reported SLP problems - Provide immediate positive feedback on observing desired behaviour - Provide constructive coaching on observing sub-standard behaviour	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance
Second level supervisors (and any other levels if applicable)		
- Briefing before implementation - Regular meetings with next level supervisor	- No short cuts allowed or tolerated - Ensure that operators and supervisors receive any necessary training / instruction - Enquire about SLP performance at regular meetings with supervisors	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance

28. As experience accumulates, it may be possible to update and or usefully add to the above tables. The Behaviour Specialist should take responsibility for doing this from time to time.
29. An important implication of providing customized behavioural plans for the SLP is that they need to be put forward and implemented as an integral part of the SLP. As with a conventional MOSH Leading Practice, the SLP should be considered to comprise of three equally important legs, a conventional technical leg, a behavioural communication leg and a leadership behaviour leg. This is emphasised by restating it graphically below:



Preparation of a SLP Adoption Brief

30. The final step in documenting the SLP is the preparation of an SLP Adoption Brief. Such a document needs to be prepared to guide potential adoption mines in their adoption of the SLP. It is also needed for distribution more widely to industry, as described later. The envisaged contents of the SLP Adoption Brief are given in the side-box.
31. It will be evident from the side-box that a key element of the SLP Adoption Brief is the guidance that must be provided on the process to be followed in adopting the SLP.
32. Accordingly, to assist on this point a generic 10-step process for adopting a SLP is provided in the table below. Each of the ten steps is made up of a number of particular activities, although some of these activities may not be necessary for some SLPs. In some cases it may be appropriate to combine some of the activities.
33. The table also includes brief explanatory notes about the nature of the guidance that should be provided on each of the adoption activities. It also contains a column that identifies guidance points in Reference Doc #47, as these may be helpful in preparing the envisaged guidance. Although Reference Doc #47 applies to the case of a conventional MOSH Leading Practice, some aspects are likely to be applicable to the SLP in question.
34. Further assistance and guidance in preparing the SLP Adoption Brief is provided in Reference Doc #52, which contains a pro forma draft of an SLP Adoption Brief, as well as an example of a completed SLP Adoption Brief.

Contents of SLP Adoption Brief

- **Background comment:** Provide a brief description of the MOSH Leading Practice Adoption System, the definition of a Simple Leading Practice, and the review procedure for classifying a practice as simple. This should be provided in a separate text box.
- **Description of the SLP:** Provide a brief but clear description of the leading practice that has been formally classified as simple.
- **Documented benefits to date:** Clearly set out the benefits of the practice that have been quantitatively demonstrated at the source mine.
- **Summary of generic value case:** Provide a generic summary of the benefits that are expected to be realised at various types of potential adoption mines.
- **Generic behavioural plans:** Provide brief tabulation of the customised behavioural communication and leadership behaviour plans to be implemented in adopting the SLP.
- **Technical details of the SLP:** Provide the technical details of the SLP in sufficient detail for an adoption mine to acquire and operate the SLP.
- **Guidance on the SLP adoption process:** Set out the adoption steps in a table that provides adequately detailed guidance on implementation of each of the steps.
- **End notes:** Set out any other helpful points, including contact details for any necessary assistance.

Guidance on 10-step process for adoption of a Simple Leading Practice			
(Note: The steps / activities are not sequential and their initiation needs to be appropriately scheduled by the mine)			
Step No	Adoption Activities	See Ref Doc #47	Comment on Envisaged Guidance
1	Facilitate decision to adopt		
	Prepare and present case for adopting the SLP.	#1.1	Indicate who should do and why it is important even if the generic case for adopting the SLP appears obvious
	Obtain top management decision to adopt SLP	#1.2	Emphasise the importance of this for successful adoption. Advise that this should include a presentation to the mines executive.
2	Secure support for adoption		
	Secure support of mine health and safety reps	#2.1	Bring out that support provided, or withheld by worker representatives can facilitate or hold back the adoption process.
	Issue mine-wide briefing note about adoption	#2.2	The mine's usual briefing system should be used. The main features and benefits of the SLP should be explained.
3	Establish an effective adoption team		
	Identify person to lead / champion adoption	#3.1	The person must have credibility, good leadership and communication skills, and be provided with the necessary time
	Ensure / enable provision of any needed support	#3.4	The SLP may require the input and support of others, and the manager needs to enable and ensure that this is provided
4	Develop mine-wide adoption plan		
	Identify appropriate piloting arrangements	#4.3	Bring out that even for a SLP a piloting step should be included as an key step in the mine's adoption process
	Develop mine-wide adoption & roll-out plan	#11.1	This should be properly done by the appointed project leader as one of his key enabling deliverables
	Conduct risk assessment of planned changes	#11.3	Bring out the importance of doing this and that it should be another of the project leader's key responsibilities
	Clarify and agree time scale and success criteria	#11.5	Indicate the importance of reaching agreement on this - the Mine Manager and other key stakeholders must know what to expect
5	Develop and implement a monitoring plan		
	Identify measurements to document SLP impact	#5.1	Bring out that this is an essential element of the adoption process and indicate any particularly important measurements to be made
	Develop and action monitoring plan	#15.1 #15.2	Indicate some of the key elements that should be considered in developing and implementing the plan
	Analyse data and report on SLP impacts	#15.4 #15.5	Explain the importance of doing this on an on-going basis and of ensuring that key information is provided to key stakeholders
6	Harmonise SLP with mine standards		
	Critically review SLP against mine standards	#10.1	Indicate that this should be done with a view to identifying and eliminating any potentially unnecessary clashes
	Check acceptability of identified SLP changes	#10.2	Identify core elements of the SLP that must not be compromised in the interests of standardisation
	Adjust non-core elements of SLP or standards	#10.3	Indicate that the mine should work out when and how best to implement and test the planned adjustments.
7	Develop training & communication materials		
	Identify people who need to be briefed or trained	#8.2	Indicate who in particular will need to be briefed and trained. Bring out that the mine should identify any others
	Develop required briefing and training material	#12.2 #12.3	Emphasise that special materials may be needed for effective presentation of the behavioural and technical detail given here.
8	Brief and train mine persons		
	Plan briefing and training programme	#12.1	Point out that although the briefing and training needs may be brief, it needs to be planned and appropriately scheduled.
	Brief all relevant supervisory levels	#13.1	Explain that relevant material from both behavioural plans should be included in these briefing sessions. Give guidance / examples.
	Brief all workers involved in adopting the SLP	#13.2	Explain that the workers may need different material to be selected from the behavioural plans. Give guidance / examples
	Train workers / supervisors as necessary	#13.4	Bring out training needs identified in the adoption brief must be provided, as well as any other considered necessary by the mine.
9	Pilot adoption of the SLP		
	Conduct adoption of SLP at the pilot site	#14.4	Identify any particular points that the mine needs to take into account in planning and implementing this piloting step
	Identify and test any needed SLP improvements	#16.1 #16.2	Emphasise the importance of ensuring that any improvement to the SLP is properly tested before initiating mine-wide roll-out.
10	Finalise & implement mine-wide roll-out plan		
	Review and finalise mine-wide roll-out plans	#16.3	Indicate that the project leader must ensure that this step is explicitly done and the outcome communicated to the manager.
	Implement mine-wide roll-out plan	#16.3	Identify any particular points that should be taken into account in planning and implementing this key step.
	Distribute progress updates to key persons	#7.2	Bring out the importance of keeping future adopters at the mine informed about progress in the roll-out process.

35. Using the guidance provided in this table and Reference Doc #52, the MOSH Adoption Team should prepare a draft of the table needed for inclusion in the SLP Adoption Brief. The table must contain the necessary detailed guidance to enable successful adoption of

the SLP. Having done that the MOSH Adoption Team should be well positioned to prepare the required adoption brief using the pro forma template provided in Reference Doc #52.

36. On completing a draft of the SLP Adoption Brief, the MOSH Adoption Team should arrange for the draft document to be critically reviewed by the following three persons:
 - An Adoption Specialist of another adoption team,
 - The person responsible for the practice at the source mine, and
 - A mine manager or relevant specialist identified at a potential adoption mine.
37. Following receipt of the review comments, the draft document should be revised and then presented in a form suitable for both electronic and hard copy distribution.

Concluding comment

On completion of the above the adoption team will be well-positioned to address the challenge of facilitating widespread adoption of the *approved* SLP.

Section 7.3

Facilitating widespread adoption of a Simple Leading Practices

Key outcomes

- Guidance on arranging and conducting a SLP Briefing Workshop
- A basic framework for setting up and operating an SLP Interest Group
- An appreciation of the relatively limited scope of the envisaged facilitation arrangements
- Broad outline of supporting communication arrangements to help facilitate widespread adoption of an SLP

(Doc #20)

Background

Having systematically completed the procedures associated with identifying and documenting an approved SLP, the MOSH Adoption Team needs to set up arrangements to facilitate its widespread adoption. Given that the MOSH Adoption Team is expected to be working in parallel on a conventional leading practice, an important challenge will be that of effectively facilitating widespread adoption of the SLP but with limited involvement of the MOSH Adoption Team. If the benefit of identifying and documenting the SLP is to be realized without delaying work on the conventional MOSH leading practice, it is a challenge that must be successfully addressed.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline a practical process and procedures for facilitating widespread adoption of an approved *Simple Leading Practice*.

Identification of key persons at potential adoption mines

1. In keeping with the concept of *informing the right people with the right information in the right way at the right time*, the MOSH Adoption Team should identify the persons at the potential adoption mines who are best positioned to consider and decide on adoption of the SLP in question. As indicated in section 5.2 for a conventional MOSH leading practice, this is likely to include the mine manager as well as the mine's specialist responsible for the area addressed by the SLP. The list of potential adoption mines should already have been identified by the adoption team and the names and contact information of most of the key persons should be available from the database kept by the Learning Hub Secretariat.
2. With reference to section 5.2, and using an adapted version of Worksheet Doc #20, the list of identified potential adoption mines and key persons should be listed, assessed and prioritised following the guidance provided in that section. Although this prioritisation is not as important as it is for conventional MOSH leading practices, it will nevertheless provide guidance in directing and following up on the various communications that form part of the MOSH Adoption Team's effort to secure widespread adoption of the SLP.

SLP briefing workshop

3. In a focused approach to facilitate adoption of the SLP at the identified potential adoption mines, the MOSH adoption team should plan and arrange a workshop to brief key persons from potential adoption mines about the SLP, and the procedures for its adoption.
4. A key step towards arranging the workshop is to provide the mine managers and specialists identified at all the potential adoption mines with a copy of the SLP Adoption

Brief, along with an invitation for them, or an appropriately senior person from the mine, to attend the workshop. In the event that they are unable to attend they should be requested to designate an appropriately senior person from the mine to attend on their behalf, with the name and contact details of the person being provided in advance of the workshop.

5. Given below is an outline of the suggested workshop programme, including an indication of the timing arrangements that might prove to be suitable. If possible the workshop should be held at the mine that is the source of the SLP.

Example Programme for SLP Briefing Workshop		
1. Welcome and introduction	09:00 - 09:10	Sponsor / Mine Manager
2. Brief outline of the MOSH Leading Practice Adoption System and the concept of a Simple Leading Practice, SLP	09:10 – 09:30	Head of Learning Hub
3. Outline of the Simple Leading Practice – Key elements of the practice / operational experience to date / value case	09:30 – 09:50	MOSH Adoption Team Manager and Source Mine Manager / Specialist
4. Behavioural communication and leadership behaviour – concepts and generic elements	09:50 – 10:10	Behaviour Specialist
5. Discussion	10:10 – 10:30	MOSH Adoption Specialist
6. Tea Break	10:30 – 11:00	
7. Presentation of the SLP Adoption Brief	11:00 – 11:20	MOSH Adoption Team Manager
8. Investigation of SLP at potential adoption mines	11:20 – 11:30	MOSH Adoption Specialist
9. Way forward: On-going communication and assistance, and formation of an interest group	11:30 – 12:00	MOSH Adoption Team Manager
10. Closure	12:00	Head of Learning Hub
11. Lunch	12:15 – 13:00	

Key points related to the presentations are as follows:

- In outlining the key elements of the MOSH Leading Practice Adoption System the extent and importance of its behaviour-based aspects should be brought out. This will provide the platform upon which to explain the concept of a Simple Leading Practice, and to present the criteria that need to be satisfied for the candidate practice to be approved as a SLP. Such a presentation will also pave the way for the later presentation on behavioural communication and leadership behaviour.
- In presenting an outline of the SLP, the role of the source mine should be recognised by arranging for a key person from the mine to present aspects of the SLP. The MOSH Adoption Team Manager should ensure that the benefits / value case for the SLP are simply and clearly presented.
- In presenting the concepts of behavioural communication and leadership behaviour the notion of a conventional MOSH Leading Practice comprising of three legs should be brought out – a techno-operational leg, a behavioural communication leg, and a leadership behaviour leg. It should be explained that although a SLP does not strongly involve the latter two legs, there are generic aspects that should nevertheless be implemented. These aspects should then be presented and explained in detail.
- In presenting the SLP Adoption Brief the primary focus should be on bringing out the essence of the adoption procedure, highlighting those aspects considered particularly important for the SLP in question. This should include the steps involving

implementation of the behavioural considerations, and the need to investigate adoption of the SLP at the mine.

- The link between investigating adoption of the SLP and reporting on the Mining Charter requirements should be brought out in presenting the process flow chart for investigating adoption of the SLP.
- Finally, in the presentation on the way forward the scope for obtaining assistance from the source mine and fellow adopters should be outlined, and the value of establishing a low-maintenance SLP Interest Group should be presented. The envisaged modus operandi of such a group should be briefly outlined and people interested in being part of the group should be asked to provide their contact details.

Envisaged modus operandi of an SLP Interest Group

6. It will be important to ensure that the SLP Interest Group does not begin to operate in much the same way as a COPA. This would be too time consuming and it would compromise the effectiveness of the MOSH Adoption Team in its work on other leading practices.
7. The envisaged low-maintenance modus operandi of the SLP Interest Group is as follows:
 - Maintaining an page for the Interest Group on the MOSH website that displays:
 - A list of names and contact details of the members of the interest group,
 - A list of identified potential adoption mines indicating adoption status,
 - Notes on experience and benefits gained in adopting the practice, and
 - a copy of the SLP Adoption Brief.
 - Inviting feedback on any experience and benefits gained in adopting the practice for sharing with colleagues via the MOSH website
 - Arranging one or perhaps two follow up meetings of the interest group to discuss and address identified problems.
 - Responding to or redirecting requests for assistance from potential adoption mines.

Supporting communication to facilitate widespread adoption of a SLP

In addition to the communication arrangements outlined above, the MOSH Adoption Team should plan and implement the following communication arrangements to facilitate widespread adoption of the SLP.

8. Immediately after the SLP Briefing Workshop, a circular should be sent to all identified potential adoption mines requesting their assistance in monitoring progress on adoption of the SLP. The simple process for doing this should be outlined and a copy of the progress information they will regularly receive should be provided. It should be pointed out that the information will also be available on the website
9. On a monthly basis the identified potential adoption mines should be provided with updated adoption progress data with a request for them to provide their latest adoption data for updating purposes.
10. Within six weeks of the SLP Briefing Workshop one of the key persons at the ten mines topping the Adoption Team's priority list should be contacted telephonically to follow up on progress made and any difficulties encountered in adopting the SLP. Arrangements should be made to provide any assistance identified as necessary.
11. In support of and as an extension of this direct approach to the identified potential adoption mines, the details of newly identified SLPs should be presented to the various MOSH

Adoption Teams, and at a meeting of those COPAs considered relevant. Similarly, details of relevant SLPs should be presented at conventional Leading Practice Adoption Workshops. It is envisaged that a presentation of no more than 10 to 15 minutes should be sufficient to highlight the various SLPs and their potential benefits that may be of interest to those who attend such meetings. Copies of the SLP Adoption Briefs should be made available at such meetings with an electronic copy being sent to those at the meeting who wish to receive such a copy.

12. Importantly, the Communication Facilitators should be provided with copies of the SLP Adoption Briefs for discussion with and distribution to interested persons. The Communication Facilitators should also be provided with a few slides for use in their presentations about the MOSH Leading Practice Adoption System.
13. Finally, an updated list of approved SLPs should be maintained on the Adoption System website, with electronic links to the various SLP Adoption Briefs for downloading purposes. The list should include a synoptic description of each SLP. Such a list should be made available at the various meetings where information is presented by the Adoption Team Managers or the Communication Facilitators about the SLPs available for adoption.

Concluding comment

The availability of a process and a set of procedures for respectively identifying and appropriately facilitating the adoption of *Simple Leading Practices* constitutes an important element the MOSH Leading Practice Adoption System. Without such a process and set of procedures, the MOSH Leading Practice Adoption System would be incomplete. However, it will be important to ensure that the SLP process and procedures are not inappropriately applied to practices that require custom designed investigations to develop appropriate behavioural communication and leadership behaviour plans. The responsibility for ensuring that this does not happen will lie primarily with the adoption specialists and the Head of the Learning Hub.

SECTION 8

Peer group review process for identifying and spreading leading practice

- 8.1 Outline of the peer group review process
- 8.2 Selection of mines to be reviewed
- 8.3 Establishment of peer group review teams
- 8.4 Planning and conducting the review
- 8.5 Documenting and spreading identified leading practices
- 8.6 Developing system level guidance on key occupational health and safety risks
- 8.7 Annual review of accident investigations
- 8.8 Developing guidance from the annual review of accident investigations

Section 8: Envisaged content

Section 8.1

Outline of the peer group review process

Purpose

To explain the role of the peer group review process in relation to the adoption system and to outline the key elements of the process.

Scope

Explain that there may be many leading practices that could be beneficially adopted by other mines, but that may not need nor be suited to the full and time consuming adoption process outlined in Part 1 of the handbook. Bring out the value and place of a peer group review arrangement to identify, document and spread such practices. Set out the key objectives of the review process and outline its key attributes with a view to providing a clear overview description of what the process entails. Bring out that the process draws on the well established system and processes developed by WANO. Also bring out the essential upfront requirement for mines to agree to participate in the review process.

Section 8.2

Selection of mines to be reviewed

Purpose

To identify and provide guidance on the key issues to be considered in selecting mines to be reviewed

Scope

Present the main objectives that give rise to the various approaches that could be followed in selecting the mines to be reviewed. (Systematic roster / volunteer mines / mines to request / mines with notable good or bad performance.) Set out the key considerations that need to be taken into account in respect of these options and provide guidance on how these considerations should best be taken into account.

Section 8.3

Establishment of peer group review teams

Purpose

To identify and provide guidance on the key issues to be considered in establishing peer group review teams and to outline the process for establishing the team for each review.

Scope

Set out the essential criteria that must be met for the peer group review team and the review process to be successful. Outline the need to establish and maintain an up-to-date register of credible potential review team members identified by participating mines in each of the key areas that are to be reviewed. Provide guidance on the creation and maintenance of the register. Outline the value and scope for including external specialists in the review teams. Set out the key considerations and procedures for establishing the scope and membership of each team. Bring out the need for the review burden to be equitably shared across the participating mines.

Section 8.4

Planning and conducting the review

Purpose

To outline the key considerations and guidance that needs to be taken into account in planning and conducting the reviews.

Scope

Identify and explain the key considerations that need to be taken into account. Bring out the importance of identifying the Chairperson of the team, of facilitating a meeting between the Chair of the team and the leadership of the mine to be reviewed, of clarifying the focus and scope of the review, of bringing the team together prior to the review to provide the necessary orientation and training. Explain the need to ensure that all review findings are properly discussed with the relevant parties at the mine before they are reported to mine management. Outline the importance of using the opportunity to identify leading practices for spreading to others, and of introducing the mine to leading practices already identified that could be of benefit to the mine.

Section 8.5

Documenting and spreading identified leading practices

Purpose

To outline the approach to be followed in documenting leading practices identified at the mine under review, and the procedures for spreading it to potential other adopter mines.

Scope

Outline the key considerations that should be taken into account in documenting review findings, and in identifying leading practices for potential adoption at other mines. Provide guidance in dealing with these considerations. Similarly, outline the key considerations to be taken into account in spreading the details of leading practice to other mines, and their procedures and mechanisms that should be used for doing this.

Section 8.6

Developing system level guidance on key occupational health and safety risks

Purpose

To highlight the scope for using the review process to develop system level guidance on the identified key occupational health and safety risks, and to outline the approach that should be followed to achieve this.

Scope

Bring out the importance of developing a system level view of what needs to be done to address the identified key areas of risk. Point out the similarity of what is envisaged in comparison with the fatal risk protocols developed and implemented by some mining companies. Present a simple outline of what is required in order to develop such "key risk protocols". Outline the way in which the peer group review process can and should be used to acquire the key input material for developing such protocols. Identify and provide guidance on the key considerations in getting the key risk protocols accepted and adopted as a leading practice.

Section 8.7

Annual review of accident investigations

Purpose

To highlight the scope for and benefit from conducting an annual review of accident investigations and to outline the process for conducting the reviews

Scope

Present a brief outline of current accident investigation procedures and of the potential to use an annual review process to identify patterns and trends indicative of deeper underlying problems in need of deeper investigation. Highlight the major shortcoming of the present investigation process and point to the advantage of including the investigations conducted by mine management within the review process. Identify the key issues that need to be considered in setting up the annual review process and provide guidance on how best to do this.

Section 8.8

Developing guidance from the annual review of accident investigations

Purpose

To set out the major objectives of the annual review process and to provide guidance on how they might best be achieved.

Scope

Explain the hierarchical concept of events - patterns - structures and of how this relates to the annual review of accident investigations. Bring out the need to conduct the review at these three levels, both in respect of the content of the accident investigations and in respect of the investigation process. Outline the need to confine the focus of the review and provide guidance on the selection of the area to be reviewed. Provide guidance on how the best document and deal with the results of the review.

SECTION 9

Spreading leading practice in the small scale mining sector

- 9.1 Review and segmentation of small scale mining sector
- 9.2 Establish process to identify and document leading practices
- 9.3 Establish procedures to facilitate widespread adoption of leading practices
- 9.4 Monitor performance and facilitate continuous improvement of adoption procedures

Section 9: Envisaged content

Section 9.1

Review and segmentation of the small scale mining sector

Purpose.

To bring out the diversity of the small scale mining sector and the need to ensure that an appropriate approach is developed to meet the needs of the different sub-sectors

Scope

Provide a preliminary listing of likely sub-sectors within the small scale mining sector to highlight the varied nature of the sector. Draw attention to some of the major differences and explain why it is considered necessary to segment the sector into sub-sectors for the purpose of developing viable processes for identifying and facilitating the widespread adoption of worthwhile leading practices. Highlight the difficulty of obtaining authoritative information about the sector. Bring out the potential value and use of the MOSH website as a readily accessible data and information management system for the sector. Explain the need to appoint a person with appropriate skills to deal with the many expected challenges and that the appointed person will need to have a good understanding of small scale operations, as well as credibility with small scale operators. Identify and outline the various issues that will need to be considered in reviewing and segmenting the sector into appropriate sub-sectors. Explain the need to address the various sub-sectors sequentially and identify key considerations for prioritising the order in which the identified sub-sectors should be addressed.

Section 9.2

Establish processes to identify and document leading practices

Purpose.

To set out the broad approach that should be taken in developing the processes for identifying and documenting leading practices in each of the identified sub-sectors

Scope

Bring out the need to fully identify, document and understand the organisational arrangements that exist in the sub-sector in question, and which are of potential relevance to the development of the envisaged leading practice adoption system. Highlight the importance of visiting mines in the sub-sector to become familiar with the size, scope and nature of operations in the sub-sector, and to establish relationships with key persons. Bring out the value of working with an established Association or other similar structure where it exists, and the need to establish an effective means of contact with key persons where it does not. Explain that in some sub-sectors it may be necessary to assist with the creation of an appropriate Association. Explain the challenge of identifying key risks and access to reliable OHS performance data for the sub-sector, and provide guidance on developing an expert model of risk for the sub-sector. Explain the need to adopt an approach to developing behavioural plans for the sector that is similar to that used for simple leading practices, and provide guidance for doing so. Identify the key points that need to be considered in developing a system for identifying and documenting worthwhile leading practices and outline features that are considered essential for a successful outcome. Highlight the crucial importance of preparing an adoption brief similar to that applicable to simple leading practices.

Section 9.3

Establish procedures to facilitate widespread adoption of leading practices

Purpose.

To set out the broad approach that should be taken in developing procedures to facilitate widespread adoption of leading practices in each of the identified sub-sectors

Scope

Highlight the need to use existing structures to the extent possible for communication about the practice, but also highlight the value of convening regional interest group meetings when first introducing the leading practice. Bring out the need to ensure that all mines are provided with a hard copy of the adoption brief that has been prepared, and that details of the leading practice are made available on the MOSH Website. Drawing on experience gained with the MOSH COPAs, identify key points for establishing procedures to facilitate widespread adoption of identified leading practices, and provide guidance on how best to address them. Bring out the importance of personal interaction with mines as a means of facilitating both the adoption process, and the decision to adopt the leading practice. Point out that existing channels involving personal interaction may be helpful in this context, such as existing audit and or inspection processes. Also outline a process for identifying MOSH Leading Practices that have potential application in one or more mines across the sub-sectors, including participation of key persons from such mines in one or more of the MOSH COPAs that are relevant to their interest.

Section 9.4

Monitor performance and facilitate continuous improvement of adoption procedures

Purpose.

To identify and address the difficulties of monitoring performance in the small scale mining sector and to outline a process for facilitating continuous improvement of the adoption processes developed for the various sub-sectors

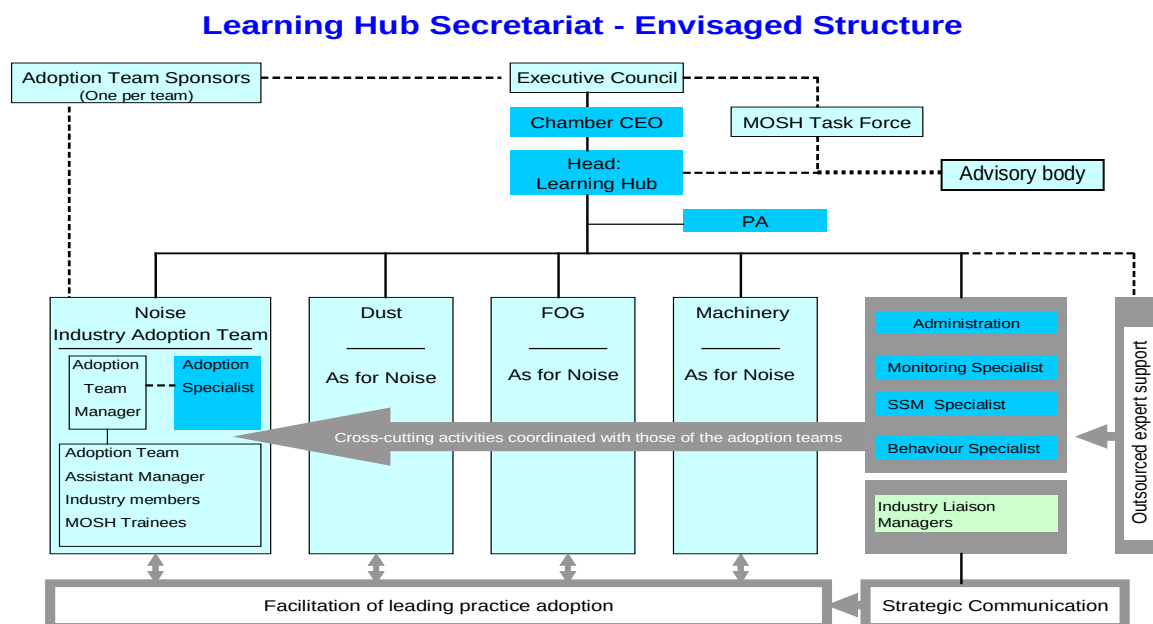
Scope

Highlight that an effective system for monitoring adoption uptake in the small scale mining sector will need to rely on structures established within the sub-sectors. In respect of OHS performance, point out that use should be made of data maintained by the Mine Health and Safety Inspectorate, but that on occasion this may also need to be supplemented by data gathered within the sub-sectors. Bring out that these considerations add to the importance of establishing effective structures within sub-sectors that do not already have an established association, or equivalent structure. In this context, provide an outline of the annual auditing system operated by ASPASA, and point out how the system readily provides a basis for tracking adoption of particular leading practices, and for obtaining input on specific OHS parameters. Outline a process for annually reviewing adoption experience in each of the sub-sectors, and for facilitating that the sub-sectors learn from each other with a view to continuous improvement of the procedures applicable to the sub-sector. Explain the value and importance of maintaining on the MOSH website an up to date and clear description of the adoption procedures and adoption uptake applicable to each of the sub-sectors.

The envisaged scope and content of Section 9 is further elaborated upon in the draft job description provided below for the Learning Hub's envisaged Small Scale Mining Specialist

Envisaged Learning Hub Small Scale Mines Specialist – general description of the job

Given below is a schematic of the envisaged organisational arrangement for the envisaged Learning Hub, followed by an outline of the envisaged role, function and responsibilities of the Learning Hub Small Scale Mines (SSM) Specialist:



Job Synopsis: The small scale mines specialist will broadly investigate the Small Scale Mining sector to identify logical sub-sectors and then, in priority order, sequentially work with each sub-sector to set up detailed arrangements for facilitating the identification and widespread adoption of leading practices that have the potential to significantly improve occupational health and safety performance within that sub-sector.

The Small Scale Mines Specialist:

1. Reports to the Head of the Learning Hub, who carries oversight responsibility for the work undertaken by the SSM Specialist.
2. Promotes the achievements of the Learning Hub and the MOSH Adoption System by preparing and presenting quality technical papers at conferences and in recognised journals.
3. Maintains close contact with the MOSH Adoption Teams with a view to identifying and following up on those of their leading practices have potential for application in the SSM sector.
4. Works closely with the Behaviour Specialist to steadily grow his behavioural communication and leadership behaviour knowledge and skills, and to establish how best to include behavioural communication and leadership behaviour processes in the adoption of leading practices within the SSM sector.
5. Makes effective use of MOSH Trainees in undertaking his programme of work, and ensures that performance reviews are conducted at least twice per year.
6. Continuously develops his skill and competence as a SSM specialist, through systematic reading, critical review of personal experience, and undergoing specialised training when necessary.

Overall sub-sector based sequential approach

7. Sequentially initiates and develops sustainable arrangements for identifying, documenting and facilitating widespread adoption of worthwhile leading practices in the various SSM sub-sectors sectors, by:
 1. Identifying the various groupings of mines that warrant being treated as a distinct SSM sub-sector, such as those that have already established an Association to represent their interests.
 2. Investigating use of the Regional Tripartite meetings as a forum for interacting with and initiating working relationships with interested small scale miners within the regions.
 3. Assessing and prioritising the identified SSM sub-sectors according to the order in which leading practice adoption arrangements should be pursued within each of these sub-sectors.
 4. Focusing on one SSM sub-sector at a time (not more than two) in setting up arrangements for identifying and facilitating the adoption of leading practices.
 5. Establishing details for each of the mines within the SSM sub-sector being focused upon, including the names and contact details of the key persons at each of these mines.
 6. Convening a meeting of interested key persons from the SSM sub-sector in question to propose, discuss and agree a process for identifying, documenting and facilitating the adoption of leading practice in that sector.
 7. Exploring and assisting with the establishment of a SSM Association in those cases where the identified SSM sub-sector does not already have such an association.
 8. Assisting personally with the establishment and adoption within the SSM sub-sector of a viable process for identifying, documenting and facilitating the widespread adoption of leading practices
 9. Preparing a document that details and explains the procedures and processes developed for identifying, documenting and facilitating widespread adoption of leading practices in the SSM sub-sector in question.
 10. Providing continuing ad hoc assistance in maintaining and improving the leading practice adoption procedures and process established for each SSM sub-sector.

Development of understanding and structures within identified SSM sub-sector

8. Develops and establishes, for each identified SSM sub-sector, the understanding, processes and structures required to enable effective identification, documentation and widespread adoption of worthwhile leading practices, by:
 11. Establishing effective working arrangements with the SSM Association where it exists, or with a select group of individuals who have credibility in their sub-sector and who are able and willing to meet at least quarterly to assist with the establishment of effective and sustainable leading practice adoption arrangements.
 12. Identifying and agreeing the person within the SSM sub-sector who will assist in setting up the necessary arrangements, and who will later take responsibility for their ongoing implementation.
 13. Developing effective procedures and processes for email and SMS communication with the identified key persons within the SSM sub-sector.
 14. Developing a comprehensive database of key operational and occupational health and safety data applicable to the SSM sub-sector.
 15. Analysing occupational health and safety data for the SSM sub-sector to identify the risks that give rise to the largest harmful impacts, and the high performing mines that are potential sources of leading practice.
 16. Visiting mines in the SSM sub-sector to develop a broad appreciation and understanding of the sub-sector and issues of importance to operators.
 17. Planning and conducting, with input from experts and experienced key stakeholders, an in-depth investigation of the causal chain risk profile for the SSM sub-sector in question.
 18. Developing an expert model of the risk situation applicable to the SSM sub-sector.
 19. Planning and overseeing a direct enquiry investigation in the SSM sub-sector.
 20. Developing a behavioural communication and leadership behaviour plan for the SSM sub-sector, to address the key generic issues broadly applicable to facilitating the adoption of leading practices in that sub-sector. (Note: While this is expected to be helpful it will not address the particular adoption and leadership behaviour issues that are specific to a particular leading practice – in general SSM do not have the capacity to implement the leading practice specific behavioural processes that form part of the MOSH Leading Practice Adoption System)
 21. Developing and setting up an effective web- page for the SSM sub-sector, for systematically storing and making available key data, communications, and most importantly, key documents related to identifying, documenting and facilitating the widespread adoption of leading practice within the sub-sector.

Identification and documentation of leading practices

9. Establishes procedures, for each identified SSM sub-sector, that facilitate the identification and documenting of worthwhile leading practices, by:
 22. Liaising with the SSM Association, and or identified key persons within the SSM sub-sector in question to identify best-in-class mines and potential leading practices within the sector.
 23. Visiting key persons at best-in-class mines, and selected other mines to view operations and potential leading practices, but also to identify potential leading practices not already proposed.
 24. Developing and maintaining on the web-site an adequately descriptive list of potential leading practices, the scope of expected application of each practice, and the mines on which they are currently working.
 25. Keeping abreast of emerging trends and policies that could impact on the selection of leading practices for adoption
 26. Reviewing local and international research outcomes from organisations such as SIMRAC and NIOSH, but also from others.
 27. Arranging for a select group of credible experts from the SSM sub-sector to collectively review and prioritise the list of identified potential leading practices according to their potential occupational health or safety benefit if adopted widely.
 28. Arranging visits to investigate and appropriately document the identified potential leading practices, to enable their successful adoption by other mines.
 29. Preparing a brief but clear pamphlet for each documented leading practice setting out the details of the practice, the case for its adoption, and the procedures that should be followed to enable its successful adoption, including behavioural communication and leadership behaviour procedures.

Facilitation of widespread adoption

10. Establishes procedures, for each identified SSM sub-sector, that facilitates widespread adoption of identified leading practices, by:
 30. Circulating copies of the adoption pamphlets on each leading practice to the identified potential adoption mines, as well as a simple process chart to assist mines in deciding whether or not to adopt the practice.
 31. Publishing the pamphlet on each leading practice on the appropriate SSM web-page of the MOSH web-site
 32. Convening regional interest group meetings to present details of the documented leading practices being put forward for widespread adoption in the SSM sub-sector in question.
 33. Establishing arrangements for progress with adoption of the leading practices in the SSM sub-sector to be monitored, and assisting adopters where necessary and possible.
 34. Arranging for persons who have successfully adopted the leading practice to assist those who are experiencing difficulty in their adoption of the practice,
And,
 35. Identifying MOSH leading practices that have potential for application in one or more mines within the SSM sub-sectors.
 36. Facilitating the participation of selected persons from the SSM sub-sectors in COPAs dealing with MOSH leading practices that have potential for application in their mines.

Broad stakeholder engagement

11. Liaises with key stakeholders not directly involved in particular SSM sub-sectors about developments and progress towards improved occupational health and safety in the SSM sector, by:
 37. Developing and maintaining a list of key stakeholders who need to be kept informed.
 38. Ensuring that the MOSH web-pages on SSM are easy to navigate, that they are informative and that they are kept up to date
 39. Inviting key stakeholders to attend regional interest group meetings, as appropriate.
 40. Interacting directly with particular key stakeholders through meetings and telephonic discussions, as appropriate.

SECTION 10

Facilitating the contribution of suppliers to leading practice

- 10.1 Establishment and maintenance of effective industry / supplier networks
- 10.2 Development and implementation of facilitative policies and incentives
- 10.3 Inclusion of new developments in adoption team activities

Section 10: Envisaged content

Section 10.1

Establishment and maintenance of effective industry / supplier networks

Purpose

To outline the need / benefit of establishing and maintaining an effective industry / supplier network and to set out procedures for establishing and maintaining such a network.

Scope

Briefly outline the present industry / supplier dynamics to highlight the key factors that need to be considered and taken into account in setting up an effective industry / supplier network. Explain the importance of bringing together those who experience and know the needs with those who understand the technology, its limitations and its potential for improvement. Highlight the importance of understanding the drivers at work in both industry and the suppliers. Point to the scope for using mental models techniques to identify the key elements that need to be put in place to drive mutually beneficial behaviours. Outline a process for identifying the key supplier organisations that should be approached to become part of the envisaged network, and who should thus be sampled in conducting the envisaged mental models work. Identify the need to convene an initial meeting of the parties at CEO level to consider an agenda that addresses the key points that emerge from the mental models work, and a proposed modus operandi that seeks to ensure effective communication focussed on deriving mutual benefit.

Section 10.2

Development and implementation of facilitative policies and incentives

Purpose

To outline a process for developing and implementing policies and incentives focussed on facilitating that suppliers develop and supply equipment that leads to improved occupational health and safety performance.

Scope

Outline a process for identifying those areas that offer the greatest scope for improved occupational health and safety performance through improved equipment / technology. Bring out the need to involve equipment manufacturers / suppliers and technology experts / researchers in the review process. Explain how the findings of the review process should be considered within industry to formulate industry-wide purchasing policies and or market based incentives for suppliers (and researchers) to embark upon needed equipment / technology improvement initiatives. Outline the process that should be followed in communicating these policies and incentives to the supplier network.

Section 10.3

Inclusion of new developments in adoption team activities

Purpose

To outline the scope and process for including newly developed equipment within the activities of the MOSH adoption teams.

Scope

Explain that the scope of adoption team activity does not and must not extend to conducting equipment evaluation and field trials of equipment under development. These must be done by the equipment developers in collaboration with an interested mine. Outline the facilitation role that the MOSH Secretariat can and will play in setting up such developmental activities. Explain that once the equipment has been shown to be sufficiently developed to be considered for widespread adoption, as one of the key incentives offered to suppliers, the MOSH adoption system will assist in facilitating its widespread adoption. Depending on the nature of the equipment and its potential impact, this may be either by an adoption team as a leading practice, or as one of the leading practices promoted through the website and the peer review system.

SECTION 11

Facilitating the contribution of R&D to leading practice

- 11.1 Establishment and maintenance of effective industry / R&D networks
- 11.2 Coordination meetings to exchange identified needs and R&D outcomes
- 11.3 Inclusion of new R&D products in adoption team activities

Section 11: Envisaged content

Section 11.1

Establishment and maintenance of effective industry / R&D networks

Purpose

To outline the need / benefit of establishing and maintaining an effective industry / R&D organisation network and to set out procedures for establishing and maintaining such a network.

Scope

Identify the key R&D resources of interest to industry in developing practices and technology to achieve improved occupational health and safety performance. Point out that consideration should not be limited to the SIMRAC system or local companies and give examples of international organisations that should be considered, such as NIOSH. Explain the shortcoming of drawing a sharp distinction between productivity related R&D versus occupational health and safety related R&D. Explain the wisdom of maintaining links to both types of R&D activity. Outline the scope for the MOSH Adoption System to provide important input into the identification of R&D needs, and for the R&D organisations to provide new R&D products for inclusion within the adoption team activities. Ideally the key organisations and individuals who are to form part of the coordination group should meet regularly to ensure effective consideration of identified R&D needs, and of R&D products ready for adoption.

Section 11.2

Coordination meetings to exchange identified needs and R&D outcomes

Purpose

To outline arrangements for regular and effective coordination meetings to exchange identified R&D needs and R&D outcomes with the potential for adoption.

Scope

Briefly outline some of the difficulties in maintaining the long-term effectiveness of regular liaison and coordination arrangements. Identify and elaborate on key attributes of the meetings that must be put in place and maintained to secure an effective long-term arrangement. Outline the arrangements and procedures that should be put in place. Bring out the scope for arranging workshops involving a broader range of participants when the needs or R&D products warrant such an occasion.

Section 11.3

Inclusion of new R&D products in adoption team activities

Purpose

To outline the scope and process for including newly developed R&D products within the activities of the MOSH adoption teams.

Scope

Restate that the scope of adoption team activity does not and must not extend to conducting equipment evaluation and field trials of equipment that is still the subject of R&D. Such evaluation and equipment development must be done as part of the R&D programme in collaboration with an interested mine. Outline the facilitation role that the MOSH Secretariat can nevertheless play in setting up such collaboration arrangements. Explain that once the R&D product has been shown to be sufficiently developed to be considered for widespread adoption, the MOSH adoption system may then assist in facilitating its widespread adoption. Depending on the nature of the equipment and its potential impact, this may be either by an adoption team as a leading practice, or as one of the leading practices promoted through the website and the peer review system.

SECTION 12

Strategic communication

- 12.1 Supportive strategic communication activity
- 12.2 Industry Liaison Appointees and a communication network

Section 12.1

Supportive strategic communication activity

Key outcomes

- Guidance on the development of a strategic communication plan to support adoption activity and the adoption system
- An insightful understanding of challenges that need to be addressed to secure ongoing support from key stakeholders
- A clear statement of the need for measurable objectives to be the focus of communication activity
- A stakeholder map to assist in prioritising the engagement of stakeholders
- A detailed plan for implementation of the strategic communication activity
- Plans for measuring and assessing the success of the communication strategy

(Doc #31)

Background

Most of the necessary communication related to facilitating the adoption of a leading practice is undertaken directly by the Adoption Team. This is done primarily through the activities of the Community of Practice for Adoption that is established following presentation of the leading practice to potential adopters. However, there is a residual communication requirement, as well as a more general strategic communication need, which must be addressed through a more strategic on-going communication initiative.

In particular, a broad strategic communication initiative in support of adoption team activity is important to help build positive judgments among high-level key stakeholders of the adoption activities being undertaken by the Chamber on behalf of its member companies. Positive stakeholder judgments about adoption activity and the Adoption System are crucially important to the long-term success of the Learning Hub. It is such judgements that provide the basis for willing continuation of the Adoption Initiative through the Learning Hub.

Purpose

The purpose of this section is to:

- Outline the steps in developing a broad communication strategy to support the MOSH Adoption System and the activities of the Adoption Teams.
- Provide guidance on the development and implementation of the strategy.

Setting clear objectives for the supportive communication strategy

It is essential to ensure that the strategic nature of the communication strategy are clear, and that this is well understood and appreciated by those responsible for developing and implementing the strategy. Although the detail of the strategy may vary from time to time, it is envisaged that in broad terms the strategy should always be directed achieving the following three underlying objectives:

1. *Understanding of the Adoption System:* All key stakeholders, both internal and external, must have a good understanding of the adoption system and its key processes. They need to properly understand that sustainable adoption of a leading practice requires behaviour change. Without a proper understanding they cannot develop an informed view of either the merits of the system, or ways in which it might be improved. Of all stakeholders, this comment is particularly true in respect of managers responsible for operational mines.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

2. *Supportive management behaviour:* Executive management in Groups and at mines need to have a management orientation that embraces the adoption system, which results in executive behaviour that supports the Adoption System, and leadership behaviour that facilitates eager adoption of leading practices at mines.
3. *Awareness of the work and achievements of the adoption teams:* All key stakeholders, particularly those at mines, need to be aware of the nature of the work of the adoption teams and of their most significant achievements to date. Such awareness helps open the way to a positive engagement with the adoption teams.

Unless the above three objectives are addressed through well-designed on-going communications, experience warns that recognition of the need for such activity is likely to occur only when it is already too late. By then negative views may be entrenched and difficult to dislodge, and progress towards stakeholders arriving at seriously negative decisions regarding the future of the adoption system may already be beyond the point of no return.

Key steps in designing and implementing an effective communication strategy

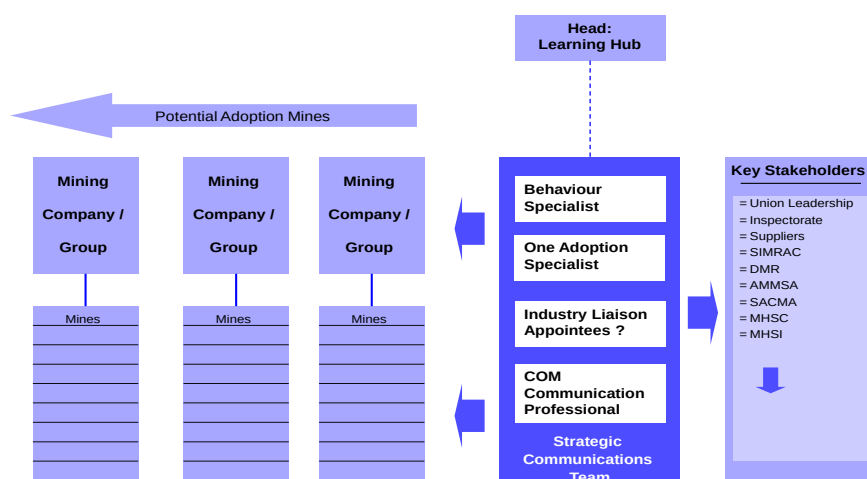
There are seven key steps that should be followed to put in place a communication strategy to effectively achieve three broad objectives outlined above:

1. **Establish the communication team**
2. **Identify priority communication needs and deliverables**
3. **Identify and prioritise key stakeholders**
4. **Identify and develop communication content**
5. **Develop a detailed implementation plan**
6. **Implement the plan**
7. **Measure and evaluate outcomes**

Step One: Establish the Communication Team

It is important to begin the communications development process by identifying a reasonably sized team to develop and oversee implementation of the plan. The envisaged structural arrangement is depicted in the following schematic, which should be viewed as an elaboration of the communication elements shown in the schematic of the Learning Hub presented in section 2.1:

Strategic Communications Team – in support of adoption teams



The following considerations apply:

3. The team, however small, should report to the Head of the Learning Hub. The Head of Hub needs to provide high level guidance to ensure that the detailed design and implementation of the communication strategy are well aligned with the primary purpose of the strategy, as outlined earlier. The Head of Hub also needs to ensure that the necessary skills and resources are made available to secure development of an effective strategy.
4. As shown in the above schematic, the Communication Team is envisaged to comprise of the Behaviour Specialist, an Adoption Specialist, a senior person from the Chamber's Communications Department, and any Industry Liaison persons who may have been appointed (see side-box).
5. One of the team members will need to take on the responsibility of coordinating and leading the work of the team and it is likely that this would best be done by the Behavioural Specialist
6. The Team should begin its work by establishing a shared understanding of their joint purpose, as well as their individual roles, responsibilities and accountabilities.

Industry Liaison Appointees – Communication Facilitators

At the time of piloting the Adoption System it was considered essential to appoint experienced industry persons to liaise with key industry stakeholders. The appointed persons were called Communication Facilitators. Since then the need for such persons has become less certain, and there are currently no appointments. The envisaged role and function of such persons is outlined in section [12.2](#).

Step Two: Identify specific communication challenge, objectives and deliverables.

From time to time the step of measuring and evaluating the outcomes of the on-going communications will point to the need to renew the focus and content of the strategy. When this happens, the communication team must be clear about the new communication objectives and deliverables. The communication objectives and outcomes must be stated in specific terms. In doing so it is important to use simple language and avoid technical terms in writing the statement. This statement of the communication challenge, along with the specific objectives and deliverables is similar to a scoping or mission statement and is called an Opportunity Statement. Additional guidance is provided below:

7. The opportunity statement should offer measurable (behavioural) outcomes for communications and identify what is to be accomplished and by when. It should be appropriately focused, avoid the use of negative language, and be measurable and achievable. An example opportunity statement is given in the side-box.
8. The strategic nature of the communications challenge should always be brought out in the opportunity statement. In this context the specific objectives and deliverables that address the underlying objectives outlined in points 1 and 2 above should be at least implicitly evident.
9. In drafting the opportunity statement the Communications Team must also ensure that it includes elements that will adequately support not only the adoption team activities that are in progress, but also those that are envisaged in the near future.
10. It should be evident from the above that the Communications Team will need to meet with the Adoption Team Managers and the Adoption Specialists to secure their input into the formulation of the opportunity statement. The communication strategy clearly needs to enjoy their support.

11. Finally, to also ensure that the strategic elements have been satisfactorily addressed, it is essential that the Head of Hub makes input into formulation of the opportunity statement. He should then review and endorse the final statement prior to any further work by the Communication Team.

Step Three: Define and prioritize key stakeholders

To achieve the specific objectives that have been identified the communications team should identify key internal and external stakeholders and set a priority for engaging them in communications. This can be done a number of ways. One way is to categorize stakeholders into the following categories:

12. *Decision-Makers*: Decision-Makers are those who have a primary or shared role in implementing, and/or approving the MOSH Adoption System and the work of the MOSH Adoption Teams. Decision-makers include, for example, the Executive Committee of the Chamber of Mines (EXCO), the MOSH Task Force, member company CEOs and Senior Managers at the Adoption Mines, and the Mine Adoption Team Managers and members.

This category could be sub-divided into those higher-level decision makers who decide on the annual programme and funding and of the Learning Hub and operational management at mines who decide on whether or not to adopt a particular leading practice.

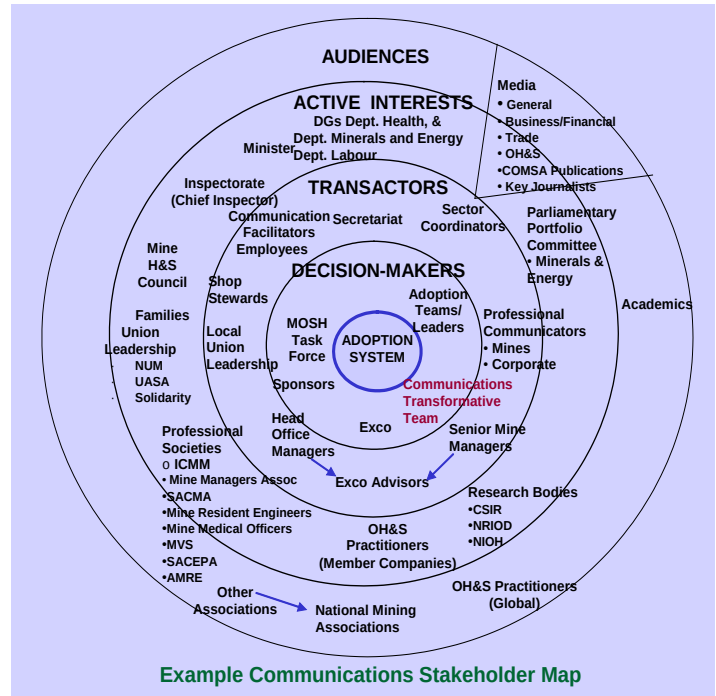
13. *Transactors*: Transactors are the stakeholders who are most affected by the Adoption System and may be party to some sort of “transaction” such as communication, employment, supply as a vendor, and so forth. They may have direct contact with the Adoption Teams in the process of participating in adoption processes. They may be involved in the management and/or monitoring of the Adoption System and/or the implementation of the Adoption Projects.

This category could include: shareholders of member companies, local union leaders at the adoption mines, shop stewards, and employees engaged in the adoption activity, and others. Transactors could also include external stakeholders who have responsibility for monitoring and reporting on Adoption System progress, such as the Ministry and Department of Mineral Resources, Union Leaders, the Mine Health and Safety Council, and others.

14. *Active Interests*: Active interests are individuals or groups who have a stake in the outcome of the Adoption System, including the efforts of the adoption teams, but they are not as directly involved as Transactors or Decision-Makers. These include people and groups who may observe the work of others such as occupational health and safety practitioners outside of the industry, industry research groups, academics, consultants, and key media who focus on business or occupational health and safety related to mining.
15. *Audiences*: Audiences can include general media, associations with interests in mining in South Africa, financial organizations and others who are not actively engaged in improving occupational health and safety in the mining industry, but who have some interest.
16. Priorities for engaging stakeholders in communications can be set on the basis of deciding:
 - Which stakeholders may have the most influence on the success and sustainability for the Adoption System (highest priorities);

- Which stakeholders may be influential and have poorly informed or negative judgments of the Adoption Initiative by virtue of inadequate communication to date (second highest priority); and
- Which stakeholders may be positive or neutral in their judgment of the Adoption Initiative, but are important to keep well informed about the Initiative through frequent and adequate communication?

17. To identify and prioritize stakeholders, the Team should consider constructing a Stakeholder Map as a series of concentric circles with the adoption system being placed at the centre. The various groupings are represented by the concentric circles, starting with the decision makers and working outwards to the audiences. The various stakeholders are then mapped onto the system of concentric circles. An illustrative example of such a stakeholder map is shown in the box provided, with the identified stakeholders and their position in this diagram being indicative only. The Team should also develop a table for prioritizing stakeholder engagement under the categories: Decision-Makers, Transactors, Active Interests and Audiences.



Step Four: Draft strategy and plan elements to achieve the opportunity

In this step, the Communication Team develops a clear, specific and targeted communication strategy, with detailed identification of the messages needed to achieve the identified objectives. The strategy should be specifically focused on the desired behavioural outcomes for each key stakeholder.

18. Plans are developed systematically using a direct enquiry approach similar to that used in developing the behavioural communications plans for achieving the adoption of a particular practice, as outlined in sections 5.7, 5.8 and 5.9. The key point is that they should be based on insight into stakeholders' current thinking and mental model of the Adoption System and its many elements, not guesswork and intuition, in order to formulate actions and communications content that will have the desired effect. The Behaviour Specialist should play a key role in developing the direct enquiry protocol and in analysing direct enquiry responses.
19. In analysing the mental model determined from their direct enquiry process, the Communications Team should also take into account the mental models determined by the adoption teams in developing behavioural communication plans for the leading practices that they are working on. The Adoption Team Managers should bear this use of their data in mind when developing the direct enquiry protocol for the leading practices they work on. The Behaviour Specialist should play a leading role in the process of developing the required mental model and then analysing it in the process of formulating the strategic communication plan.

20. It is expected that it will be necessary to renew the communication plan at least once every two years and perhaps even annually, but this will depend on the evaluation described in step 7 below.
21. In developing the communication plan, the key is to define the specific stakeholder communication objectives in behavioural terms. The goal of a behavioural communications strategy is to help people make well-informed decisions and take appropriate actions. Importantly, these decisions and actions should reflect the management orientation and desired occupational health and safety culture considered in Section 3.2. Careful consideration should be given to this section in thinking about the actions or behaviours that the team wants its communications to result in. The results of this thinking should be captured in the first three content columns of a table similar to the template below, (or Reference Doc #31):

Objective 1: Communication plan to achieve(identified desired behaviours)									
No	Recipient (Decider, adopter, other stakeholder)	Belief or Issue addressed & Desired behaviour	Messages / communication content	Mode	Tools / Means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure

22. A typical communications strategy should have approximately 3 to 6 key objectives, but this would depend on the complexity of the communications challenge being addressed. More complex challenges may require additional objectives. All objectives and plans must be measurable and achievable, ideally in behavioural terms. In this context it should be noted that measures of changes in attitude or understanding are limited in their usefulness when it comes to evaluating the effects of communications on individual judgment and behaviour.
23. Before preparing a detailed implementation plan, the Communications Team should identify the “requirements for success”. The Team should discuss and document what it needs in order to successfully implement the communication plans, including the resources it might need in terms of people and budget and any other requirements deemed critical to addressing the communication challenge.
24. Throughout the process it is important to focus on developing a communication strategy that is realistically achievable, and which achieves the specific objectives and deliverables defined in the Opportunity Statement. The strategy and plans should be endorsed by the Head of the Learning Hub, and provided with sufficient budget and resources before moving to the next step.

Step Five: Develop the Plan

This step involves the Communication Team developing a comprehensive plan, with assigned responsibilities and timing for action, as the basis for implementing the communications strategy.

25. The framework of the communication plan that has been developed in Step 4 should be further developed in respect of the missing detail. In doing so, particular attention needs to

be devoted to deciding the mode and means for delivering the message, and then to developing the messaging material accordingly. The important task of developing appropriate communication material to deliver the required messages / communication content should not be underestimated.

26. It should be noted that in planning the delivery of a particular message to different stakeholders, and even to one stakeholder group, different modes and means may be considered necessary. This should be captured in the planning document.
27. When developing a plan covering a lengthy period, it is often more practical to develop a detailed plan for the first quarter, with the next two or three quarters being drafted in less detail, since plans and circumstances for their implementation may change in the near term.
28. This planning document should be regarded as evergreen in that it will need to be updated and revised as appropriate during the course of its implementation.
29. In developing the plan it should be recognised that it can and should also serve as tool for facilitating meaningful engagement between the Head of the Learning Hub and the identified key Decision-Makers in industry.

Step Six: Implement the Plan

In this step the Communication Team needs to ensure completeness of the plan and to then commence its implementation:

30. In reviewing the plan to ensure its completeness, the Communication Team should ensure that adequate information is provided in respect of the message and communication content, as well as the modes and means for its delivery. A similar comment applies to the timing, responsibility for delivery, and evaluation and control measure, in respect of each communication activity detailed in the plan.
31. It will then be necessary to develop and pre-test the materials to be used in implementing the plan. This is likely to be an ongoing activity as implementation of the plan progresses. In the pre-testing, the Communication Team will need to check that the identified message can be expected to have the desired impact.
32. A further preliminary step in implementing the plan should be to arrange any training considered necessary in respect of those people who are involved in delivering various aspects of the plan.
33. The plan should then be implemented using the usual project management approach to implementing a detailed plan of action.
34. The Team should review their progress on implementing the plan at least monthly, and communicate progress to the Head of the Learning Hub. The planning template should be updated at these progress reviews, to check off actions that have been completed, and to introduce any changes considered necessary, including new actions.

Example communication material

Having conducted a direct enquiry process across a spectrum of high-level key stakeholders, it was established that very few had a good understanding of the adoption system. This was recognised to be a serious knowledge gap. It was decided that one means of addressing this issue would be to make available to key stakeholders, and particularly to mine managers, a relatively brief cartoon-styled brochure that covers the full adoption system, as well as the adoption process. The contents of the brochure would also be presented at the annual Minesafe Conference. This was done at the Minesafe Conference in 2013. Although some testing of the draft brochure was undertaken, the extent of the testing was not as extensive as that recommended here. A copy of the brochure is provided as Reference Doc [#64](#).

Step Seven: Measure and evaluate outcomes

Formal and informal evaluations can be made against the objectives established by the team. A variety of methods can be used, including tracking progress on the evergreen planning document described in step 5:

35. Using specific performance measures to evaluate outcomes ensures that the plans being implemented achieve their objectives and that the team is on track in doing so. These should be clearly indicated in the planning document, as described in earlier steps. Evaluation adds credibility for strategic communications planning, especially among senior managers in the mining industry, and is consistent with leading practice in communications and the concept of continuous improvement. This points to the importance of developing an opportunity statement that it is based on outcomes that are possible to measure.
36. The Communication Team should evaluate the effectiveness of the process, as well as the quality of communication outcomes on a quarterly basis and then after full implementation of the plan. It is envisaged that in most cases the review process will identify the need to refocus and renew the communication plan after about 12 months.
37. The quarterly review process should be accompanied by other information gathering to help identify any particular shortcoming in the understanding and management behaviour of key stakeholders that need to be addressed through future strategic communication activity. Such information gathering could involve a one or more of the following: surveys, informal discussions with key stakeholders, feedback from the Task Force, and feedback from the MOSH adoption teams. Along with the outcomes of the evaluation process, this feedback should provide a sound basis for identifying the communication challenge that still needs to be addressed.

Concluding comment

On-going supportive communication along the lines described above should assist the adoption teams in their efforts to facilitate widespread adoption of the leading practices they are working on. However, at a strategic level, the communication strategy should contribute to an the establishment of an increasingly favourable view of the MOSH Adoption System by key stakeholders.

Section 12.2

Industry liaison appointees and a communication network

Key outcomes

- Clarification of the primary role of the envisaged industry liaison appointees
- Identification of the special attributes required of the industry liaison appointees
- Guidance on the procedure to be followed in appointing industry liaison appointees
- Identification of the key functions and responsibilities of the industry liaison appointees
- Recognition of the need for communication to be based on dialogue rather than on one-way presentation
- Identification of an potential communication network
- Recognition of the time, attention and effort required to develop and effective communication network

Background

In the development of the adoption system the key role of communication was clearly recognised and incorporated into the system. While most of the communication linked to the various leading practices is carried out by the Adoption Teams, there is a need to design and implement a supportive communication strategy, as outlined in section 12.1. The use of persons well-placed to assist with the implementation of this strategy may well be necessary, as was the case when the Adoption System was first introduced. Given the significant differences between the coal and hard rock mining sectors, at that time two persons were appointed to provide the required assistance. However, circumstances have changed since then and any future appointments should be appropriately needs driven. In the absence of such appointees, the Learning Hub will need to place greater emphasis on the use of available staff to develop and maintain an effective communication network.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to outline:

- The envisaged roles and functions of industry liaison appointees,
- Procedures for their selection and appointment, and
- The development of an effective Learning Hub based communication network.

Primary role

1. *Primary role of the industry liaison appointees:* The envisaged primary role is to:
 - Participate as members of the communication team in the development of the supportive communication strategy and plans, as outlined in section 12.1, and
 - Assist in effectively implementing the communication activities according to the approved plans.

Selection and appointment

Implementation of the supportive communication strategy requires the appointment of persons with special attributes:

2. *Required special attributes :* Ideally, the industry liaison appointees should:

- Be known and have credibility in their commodity sectors.
- Have the confidence to deal with a highly visible role at an executive level;
- Have excellent interpersonal and communication skills;
- Be a dynamic and energetic individual who is highly motivated;
- Have a good knowledge of the industry and its challenges;
- Be open to new ideas and practices.

3. **Appointment process:** The industry liaison appointees should be identified in consultation with the Mines Professional Associations, MPAs, namely SACMA, SACEA, SACEPA, and SACHRP for the coal sector and AMMSA, AMRE, and AMIHRP for the other sectors. It is envisaged that appointees should be appointed for a two year period. The envisaged procedure for seeking nominations and making the appointment is presented below:

Mines Professional Associations

AMMSA	Association of Mine Managers of South Africa
AMIHRP	Association of Mining Industry Human Resource Practitioners
AMRE	Association of Mine Resident Engineers
SACMA	South African Collieries Managers Association
SACEA	South African Collieries Engineers Association
SACEPA	South African Collieries Environmental Practitioners Association
SACHRP	South African Collieries Human Resources Association

Activity	Responsible person
Approach the MPAs for nominations	Head of Learning Hub
Make nominations	MPAs
Make appointments	Head of Learning Hub
Develop performance management contract	Head of Learning Hub
Start work	Appointee
Performance review	Head of Learning Hub

4. **Reporting:** The industry liaison appointees should function within the communication team described in section 12.1, but should report directly to the Head of the Learning Hub. Implementation of the supportive communication strategy is closely aligned with the strong outward focus of the Head of Hub.

Key functions and responsibilities

Many of the functions and responsibilities of the industry liaison appointees are identified in the supportive communication strategy described in section 12.1. In line with that section, and their primary role as identified above, their key functions and responsibilities may be listed briefly as follows:

5. **Identify and prioritise key stakeholders:** Use their knowledge and understanding of the industry to contribute to the identification and prioritisation of the key stakeholders who need to be considered in the development and implementation of the supportive communication strategy.
6. **Develop the supportive communication strategy and plans:** Liaise with the Adoption Teams to identify their communication requirements and work with the strategic communication team to develop the required supportive communication strategy. In particular they should ensure that the plan includes provisions to appropriately interact with Mine Professional Associations, corporate and mine-level executive management, the Mine Health and Safety Inspectorate and the employee unions.

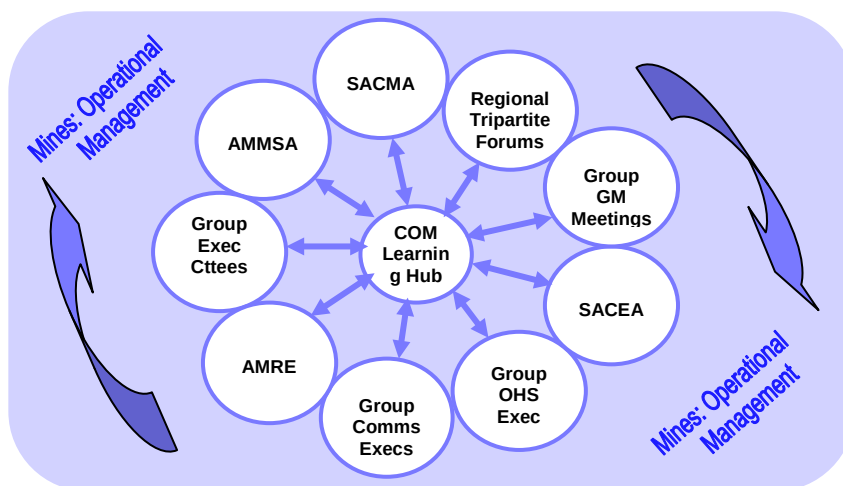
7. *Develop effective working arrangements with mining company communications specialists:* An important means of delivering information and messages to key persons in the major mining companies is through the communication activities of the mining company communication specialists. Effective working relationships with these persons should be established so that this avenue of communication can be considered and used as appropriate in developing the supportive communication strategy and plans.
8. *Pre-test communications materials:* The effectiveness of the materials to be used in delivering the messages should be critically reviewed and tested prior to their widespread use in executing the communication plan. The appointees should be well placed to assist in this process.
9. *Prepare and make presentations:* An important means of delivering the information and key messages that need to be communicated will be through stand-up presentations and round-table type discussions. Quality presentations that are well suited to the different types of communication opportunity that may arise should be prepared, tested and delivered.
10. *Prepare material for newsletters:* Appropriate material should be prepared for delivering information and messages on a more widespread basis through the various forms of print and electronic media that are available for this purpose. This includes the Adoption System's own website and various Chamber publications, such as Mining News, Mining, and the Chamber Newsletter.
11. *Conduct dialogues with stakeholders:* Interactions with stakeholders should be structured to create an opportunity for a meaningful dialogue. The dialogue should be focused on learning about all issues that are important to the stakeholder and which are relevant to the operation of the Adoption System. The importance of two-way communication is thus clear.
12. *Document and provide feedback on dialogues conducted:* Following each communication opportunity, a brief record should be prepared of the key issues discussed and of the feedback received through the two-way interaction that was initiated. In general, the record should be entered into the web-based communication and information system of the Adoption System, with the appropriate parties being advised of the new entry. Depending on the nature of the feedback, the relevant parties, including the Head of the Learning Hub, should be personally advised through direct contact.
13. *Keep abreast of Adoption Team activity:* It is essential that the industry liaison appointees are aware of the latest developments and challenges being addressed by the Adoption Teams so that they are well-placed to appropriately respond to questions during their interactions with stakeholders. It is also most important that their understanding and representation of these issues is accurate and accords fully with that of the Adoption Team Managers. Brief discussions with the Adoption Team Managers and or the Adoption Specialists should be held regularly to ensure that this is the case.
14. *Regularly review and update the supportive communication plan:* The communication team should meet monthly to review progress in implementing their plan, the feedback received through the dialogues with stakeholders, and progress of the various adoption teams that needs to be taken into account in their communications. They should then update their communication materials and plans as necessary. On a quarterly basis the detailed planning for the next quarter should be considered and the plan updated accordingly.

15. *Keep sectors informed:* A feature of the communication plan should be arrangements to ensure that the industry liaison appointees keep the various mining sectors effectively informed of the progress being made by the Adoption Teams, and of any key developments and future plans related to the Adoption System. Appropriate presentations should be prepared and made to the key influencing bodies (AMMSA/SACMA/AMRE, etc.) at their Council and quarterly meetings.
16. *Assist adoption teams:* Given the expected seniority and experience of the industry liaison appointees, they may be able to assist the Adoption Teams and the Secretariat deal with particular problems and issues that may arise from time to time. The development of the value case, the identification of source / demonstration / potential adoption mines and the key persons at these mines, as well as the identification of future adoption team managers / adoption team members / adoption system trainees are examples of such issues.

It should be recognized that much of the above points to and builds upon the ready access that suitably selected Industry Liaison Appointees will already have in industry. In many respects they therefore come into the position with a network of contacts that has been built over many years. Without such persons, the creation of an equally effective network will clearly be a formidable challenge.

Development of an effective communication network

The development of an effective communication network in the absence of industry liaison appointees will necessitate that existing Learning Hub staff make the development of such a network an important priority. Hub staff who do not have existing relationships and ready access to key stakeholders will clearly be at a disadvantage and will need to seriously apply themselves in this direction. In a systems sense, in developing the envisaged network consideration should initially be given to building upon the network presented in the figure below, and the points that then follow:



Nodes of a proposed communications network

17. *AMMSA – Association of Mine Managers of South Africa:* This is one of the most influential bodies in the South African mining industry and the Learning Hub should endeavour to secure attendance, in one way or another, at monthly Council meetings. The person who attends should be carefully selected to ensure credibility and acceptance at that level. *The purpose of attendance should be to briefly communicate Adoption System issues and developments that will be of importance to operating mines, and to obtain feedback on such*

issues from those at the meeting. Where appropriate this should extend to securing agreement to more formally and extensively present and discuss such issues at regional meetings of the Association.

18. *SACMA – South African Colliery Managers Association:* The comments applicable to AMMSA are equally applicable to SACMA, but in this case in respect of the South African coal and open caste mining sectors. The Learning Hub should endeavour to establish the same sort of relationship with SACMA as that described above for AMMSA.
19. *AMRE – Association of Mine Resident Engineers:* This association provides an important channel of communication to engineers across the mining industry. Accordingly, the Learning Hub should seek to have a suitably qualified and credible member of its staff attend AMRE Council meetings. Although discussions at these meetings are likely to have an engineering orientation, the purpose of attendance should be essentially the same as that identified above for AMMSA.
20. *SACEA – South African Colliery Engineers Association:* As with SACMA, the comments applicable to AMRE are equally applicable to SACEA, but in respect of coal and open caste mining operations. The Learning Hub should endeavour to establish the same sort of relationship with SACEA as that described above for AMRE.
21. *Regional Tripartite Forums:* These forums provide a good opportunity for Learning Hub staff to communicate Adoption System issues and developments that should be of interest to operational mine management, as well as to employee representatives and representatives of the mines inspectorate. Attendance of Learning Hub staff at these meetings needs to be coordinated by the Head of Hub and a conscious effort needs to be made to ensure that communication at these Forums is planned with strategic intent. To the extent possible the interaction at those attending should be used to obtain feedback for reporting at Learning Hub meetings. In addition to attending the regional meetings, there may be value in attending meetings of the Executive responsible for planning the regional meetings, both with a view to appropriate communication, and with a view to securing appropriate consideration of Adoption System issues at the meeting of the Tripartite Forum.
22. *Group EXCO meetings:* These meetings in each mining group involve top executives of the group along with general managers of the group's operating mines. These meetings deal with key operational matters and would not be readily accessible for consideration of Adoption System issues. However, from time to time, in respect of issues of strategic or operational importance to the Group and its mines, it might be possible for the Head of the Learning Hub to arrange for such an item to be considered at one of these meetings. This would certainly be facilitated by the existence of a good working relationship between the Head of the Learning Hub and the Chief Operations Executive of the mining group. The use of this forum to address Adoption System issues would clearly have to be used sparingly.
23. *Group Health and Safety Executive meetings:* These meetings in each mining group involve group health and safety executives as well as key health and safety people from the Group's operating mines (a combination of managers and health and safety managers). Access to such meetings to present or discuss important Adoption System issues and developments should be possible through the Group's Task Force representative, who should in most cases routinely attend these meetings. Once again, use of this forum to

present and discuss Adoption System issues should be confined to those issues and developments that are considered to be of strategic importance.

24. *Group Communication Executive meetings*: A meeting of communication executives from the various mining groups used to be convened from time to time by the Chamber's Communication Adviser. Although restructuring within the mining groups may have made this arrangement less effective than in the past, it is a forum that has potential to be developed and used as a channel through which to communicate Adoption System issues into each Group's internal communication network. This is something that the Head of Hub should explore with the Chamber's Communication Adviser.
25. *Group General Manager meetings*: General Managers within some mining groups arrange to meet on a rotational basis across the Group's mines. The Learning Hub should endeavour to gain access to such meetings from time to time to present and discuss Adoption System issues and developments of strategic or operational importance to the Group. Such access will almost certainly require the existence of a good working relationship between someone senior in the Learning Hub, and at least one of the general managers involved in these meetings.
26. *COM Learning Hub*: The challenge of building the envisaged network is large, and it is thus important that the substantial network of relationships that already exists through Chamber Committees and Chamber participation in other relevant structures is not overlooked. The existing network is expanded upon in the accompanying side-box. Nevertheless, from the earlier points it will still be clear that all Learning Hub staff will need to participate in development and use of the envisaged network for it to be effective. Much of the success achieved will undoubtedly flow from the existence and development of good personal working relationships with identified key stakeholders. This will not be easy and will consistently require both the time and attention of Hub staff. Importantly, it will also require the development of quality communication materials to convey the messages identified in the supportive strategic communication plan considered in section 12.1. It should be noted that that communication plan may well identify other communication opportunities and channels that should be used.

Existing Chamber network

In addition to the Chamber's sector-based principal committees, which are comprised of top company executives, the Chamber has a number of policy and technical committees. These are similarly comprised of high-level company representatives in the area of the committee.

Committees of particular relevance to the adoption system include the Mechanical and Electrical Engineers (CM&EE), the Group Rock Engineers (GRE), the Group Environmental Engineers (GEE), the Health Policy Committee (HPC) and the Occupational Health and Safety Policy Committee (OHSPC). The existing Chamber network also includes involvement in the Tripartite Mine Health and Safety Council (MHSC) and its subordinate structures, such as the Safety in Mines Research Advisory Committee (SIMRAC), and its sub-committees.

While it may not always be easy or appropriate to consider Adoption System issues at meetings of these committees, in many instances it may be possible to do so. The potential for doing so, and for forging good personal working relationships with key individuals, should thus be actively explored.

Concluding comment

While the importance and potentially extensive role of the industry liaison appointees is clear, the key determinant to the success achieved will depend on the identification and appointment of suitable persons. They must have the right standing and ability to be effective in the development and execution of the envisaged supportive communication strategy and plan. In the event that such appointees are not available it will be equally clear that considerable time and effort by Learning Hub staff will be required to achieve communication outcome that is equally effective.

SECTION 13

Process management

- 13.1 Effective utilisation of Sponsors
- 13.2 Role and function of the MOSH Task Force and Tripartite Advisory Body
- 13.3 Roles and functions of the Learning Hub secretariat
- 13.4 Outline of MOSH communication and information management system

Section 13.1

Effective utilisation of Sponsors

Key outcomes

- Clarification of the primary role of the adoption team sponsors
- Guidance on the process for selecting and appointing sponsors
- Guidance on the effective utilisation by the adoption teams of the sponsors limited time
- Interactions that have the potential to secure ongoing high-level support for the Adoption System and its adoption teams

Background

In broad terms, the concept of a high-level executive serving as the Sponsor of a project team, or of a community of practice has become relatively well established in recent years. Although the Sponsor may play a role in relevant funding decisions, their primary role is not that of ensuring the availability of funds for the entity or activity in question. This general approach applies also to the Sponsors used in the MOSH Adoption System. It is therefore important to ensure that both the Sponsor and the Adoption Teams have a shared clear view of the Sponsor's role in order that the limited time of the Sponsor is used to maximally benefit from such valuable high-level input.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to outline:

- The envisaged role of the Sponsor, and
- The selection and effective utilisation of the Sponsor.

Key points for consideration

1. *Envisaged role of Sponsors:* The envisaged roles of the Sponsor are presented below:

Envisaged role of Adoption Team Sponsors

- Assist in addressing problems that cannot be resolved by the Industry Adoption Team, particularly sensitive issues that are best not taken up through the formal reporting structures
- Remain broadly abreast of progress in order to be in a position to speak reasonably knowledgably about the adoption team's activities.
- Serve as a sounding board to the Adoption Team Managers on strategically important issues.
- Advise the Adoption Team of looming industry issues that need to be taken into account.
- Informally promote the Adoption Team and its work in relevant high-level discussions
- Support the Adoption Team and its work at selected major functions by making brief presentations to provide a high-level context for the work.
- Support the Community of Practice for Adoption in much the same way as for the Adoption Team.

It is most important that the envisaged role of the sponsor is fully explained, discussed and agreed to at the time when the Sponsor is being approached for appointment.

2. *Identification of suitable sponsors:* The primary requirement is that the Sponsor should operate at a high-level within the mining industry, and have a high degree of credibility with peers. Ideally the person should also be knowledgeable in the area that is the focus of attention of the Adoption Team, but this should not be seen as a limiting requirement. It is however essential to establish that the identified potential sponsor is willing to make the necessary time available from time to time and when difficulties requiring high-level input arise.
3. *Protocol to be observed in appointing sponsors:* Although the Adoption Team Managers may play a large role in identifying persons well suited to taking on the sponsor's role, potential Sponsors should be approached only by or through the Head of the Learning Hub. Depending on the person and the circumstances that apply, the Head of the Learning Hub may decide that the initial approach should be through the Chamber's Chief Executive Officer, or in some cases through the President of the Chamber. The initial approach should however always lead to a discussion with the Head of the Learning Hub for the envisaged role to be fully outlined and discussed before confirmation of the envisaged appointment.
4. *Regular communication with sponsors:* Once the Sponsor has accepted the appointment, the Head of the Learning Hub should arrange for the Adoption Team Leadership to meet the Sponsor. The primary purpose of the meeting should be for the Adoption Team Manager to outline the envisaged work of the team, including the potential benefits to industry of a successful outcome, and to agree on future communication arrangements.
 - The agreed arrangements are likely to vary between Sponsors, but in broad terms the preferred approach should not involve the preparation or reading of long documents. One-page reports in point form could prove to be suitable, with more information being provided on request. The key purpose of the regular communication is to keep the Sponsor informed of developments, but without consuming too much of the Sponsor's time.
 - The communication arrangements should also include meetings at key stages of the adoption process, but the time between meetings should not be longer than about three months. The primary purpose of the regular meeting should be to use the Sponsor as a sounding board to on key issues being considered by the Adoption Team.
 - The Adoption Team Managers must not inadvertently get the Sponsor to make decisions that should be made by themselves, the Adoption Team or the Learning Hub management, or the Task Force when that is appropriate.
 - The Head of the Learning Hub should always be advised of meetings to be held with the Sponsor, and be provided with an option to attend.
5. *Provision of material to assist the Sponsor influence peers:* In providing the Sponsor with information about progress, the Adoption Team Managers should specifically include interesting facts and findings that the Sponsor can use to favorably influence peers in respect of both the MOSH Adoption System and the leading practice specific work of the

Adoption Team. This is a potentially important way in which the Sponsor can assist the process of facilitating widespread adoption of leading practice. Without such information the Sponsor will have limited scope to assist the Adoption Team in this way.

6. *Enlisting the support of sponsors:* The Adoption Team Managers should enlist the support of their Sponsor to deal with issues that have the potential to seriously jeopardise the success of the adoption process. Such problems, which may be sensitive and in need of high-level attention should seldom arise, but if and when they do, the Sponsor should be informed. The Sponsor's input and support for the proposed path forward should be sought, and to the extent that the Sponsor may be able to assist, this assistance should also be sought. A particularly important reason for keeping the Sponsor in touch with the work of the Adoption Team is to enable meaningful input and assistance in times of need such as this.
7. *Assistance in liaising with suppliers:* In the cases suppliers may feel that a particular leading practice is in effect promoting a single source of supply. Should the Sponsor or the Adoption Team become aware of such sentiments, it should be discussed with a view to deciding how it might be best addressed. The Adoption team should always strive to ensure that such sentiments have no basis and that this is generally appreciated by potential suppliers. However, should such sentiments persist, and having established that the sentiments are unfounded, the Sponsor should liaise with the affected suppliers at a high level with a view to addressing their concerns.
8. *Facilitating access to high-level persons otherwise not readily reached:* Provided that the request for assistance in arranging access to high-level persons is not too frequent, or otherwise too time consuming, the Sponsor may be able to materially assist the progress of adoption teams by facilitating access to such high-level persons. Adoption Managers should make use of the Sponsor's position and personal network in this way, but not inappropriately or too frequently.

Concluding comment

Adoption Team Sponsors clearly have the potential to considerably assist the adoption teams in realising the successful outcome being sought. However, the responsibility for enabling and enlisting the support of Sponsors to provide such assistance is primarily the responsibility of the Adoption Team Managers, but with the assistance of the Learning Hub Adoption Specialist, who should facilitate much of the thinking in this direction

Section 13.2

Roles and functions of MOSH Task Force and Tripartite Advisory Body

Key outcomes

- Clarification of the role and function of the MOSH Task Force and the Tripartite Advisory Body
- Guidance on the process for ensuring the effectiveness of Task Force and Advisory Body members
- Guidance on fulfilling the identified key functions of the Task Force and the Advisory Body
- Tripartite ownership of a System and a Programme that is focused on issues aligned with the needs of the Partners

Background

The MOSH Task Force was originally established to identify what needed to be done to enable achievement of the tripartite agreed occupational safety and health milestones and it was this task that led to the development of the MOSH Adoption System. Within this system the role and function of the MOSH Task Force became that of providing the strategic leadership and oversight needed to ensure the focus and quality of the work. This was in effect confirmed by the Chamber's Executive Council when it decided to establish the Learning Hub under the MOSH Task Force as the vehicle for implementing the operational aspects of the MOSH Adoption System. In this

role the MOSH Task Force had a pivotal role to play in ensuring the focus and scope of the work of the Learning Hub Secretariat, the MOSH Adoption Teams and the MOSH Adoption System as a whole. For a period this role of the Task Force was weakened as it took on other responsibilities, but the original key role and function of the Task Force has again been appropriately recognized and reestablished. However, along the way the value of a complementary Tripartite Advisory Body was also recognized and such a body now also has an important role to play.

Adoption Process		OHSAS
Vision and management orientation	Establish structures and responsibilities	Policy
Identify hazards and assess risks	Identify potential leading practices	Plan
Develop widespread adoption plan	Identify prevailing mental models	
Document the identified practice	Develop behaviour-based plans	
Demonstrate practice (if necessary)	Communicate details of practice	Implement & Check
Establish community of practice	Facilitate widespread adoption	
Monitor and review adoption		
		Review

Purpose

The purpose of this section is to outline:

- The roles and functions of the MOSH Task Force and the Tripartite Advisory Body respectively, and
- Guidance on achievement of the envisaged roles and functions.

Key principles

There are a number of important principles that need to be recognized, accepted and operationalized for the two bodies to be effective and complementary. They are as follows:

1. *The Tripartite Advisory Body is an advisory body and not an executive decision making body:* The final decision on what action is to be taken by the Mosh Learning Hub lies with those who can and must be held accountable for the activities of the Hub. These are the persons and structures that formally respond to line management within the Chamber and its member mining companies.
2. *The Advisory Body advises the Learning Hub Manager, the Task Force or both.* It is these bodies that must decide and act upon the advice given. Any advice intended for others must pass through either or both of them.

3. *Advice from the Advisory Body must be diligently considered:* The Learning Hub Manager and the Task Force must diligently consider and act on the advice given. This includes providing comment to each other on the advice given, with a view to aiding the decision making process.
4. *Feedback on advice given must be timeously provided:* Should any recommendation of the Advisory Body not be accepted or acted upon, the reasons for this must be explained to the Advisory body. This should seldom occur if the Advisory Body is functioning well. Frequent failure to act on Advisory Body recommendations indicates that something is wrong and that an investigation is necessary. Feedback on action taken in response to advice given must also be provided.

Unless these principles are consistently applied, the envisaged high-level leadership and advisory arrangements for the Learning Hub could be seriously compromised. These principles informed the process of developing the roles and functions set out below:

Roles and functions of the MOSH Task Force

5. *Foster a sense of Industry ownership of the Adoption System:* There are essentially three important aspects that need to be considered:
 1. The first important step towards fostering a real sense of ownership of the MOSH Adoption System by the mining industry is to ensure that all of the major mining companies are well represented on the Task Force by high-level persons. In all cases these persons should have credibility and influence within their companies in the area of occupational health and safety. While the responsibility for appointing the Task Force members lies with company CEOs, the Chairperson of the Task Force, together with the Head of the Learning Hub should identify and discuss with the President of the Chamber any company appointments that are counter-productive to the effectiveness of the Task Force. Where necessary, appropriate replacements should be sought. The Chairperson of the Task Force should be elected from among the company representatives. In essence, the Task Force should thus see itself as being responsible for ensuring the credibility and effectiveness of its membership.
 2. The next key step is for the Task Force to ensure that not only its activities, but also its meetings, are personally interesting and rewarding to individual members as well as to their company's operations. This key task falls primarily to the Chairperson of the Task Force and the Head of the Learning Hub in planning and running meetings, but it is also the collective responsibility of all Task Force members.
 3. Finally, it is the personal responsibility of all Task Force members to ensure that they participate fully in Task Force activities, that they serve as an effective link between the Task Force and their companies, and that the interests of both are effectively served.
6. *Be adequately aware of Learning Hub activities, issues and challenges:* A fundamental requirement underpinning the credibility and performance of the Task Force will be that it maintains an adequate awareness of the activities, and key issues and challenges being addressed by the Learning Hub. The Head of the Learning Hub must clarify how the Task Force wishes this to be done, and the appropriate arrangements should then be put in

place. Brief presentations at Task Force meetings by selected MOSH Adoption Team Managers and Learning Hub Specialists to bring out the key issues at play in both the short and long-term should be a feature of these arrangements. The preparation of regular written reports is likely to be counter-productive in the long term.

7. *Mandate the Task Force representatives on the Tripartite Advisory Body:* For the advice and recommendations from the Advisory Body to be credible, the input provided by the tripartite members must meaningfully represent the three constituencies. The implications of this are clear:

- Each of the tripartite partners must ensure that their representatives are appropriately mandated on critical issues.
- Each of the parties must ensure the appointment of credible persons to represent their interests in the many discussions that will inevitably take place outside of a mandated framework.

An important function of the Task Force will be to provide its representatives on the Tripartite Advisory Body with a broad mandate to allow them to function as effective representatives on a broad range of issues. However, from time to time, it will be equally important to provide a very clear and specific mandate on those issues where industry seeks a very particular outcome.

8. *Consider and act or comment on Advisory Body recommendations:* Advice from the Advisory Body should be minuted or provided in a separate written document. Such advice should always be regarded as a serious recommendation. Irrespective of who the advice is directed to, it should be seen by both the Learning Hub Manager and the Task Force. Both parties must consider the advice with a view to taking appropriate action, or providing comment to assist the other party take appropriate action. Feedback on the action taken must be provided to the Advisory Body at the earliest opportunity. This includes instances where for good reasons, which should be explained, the advice of the Advisory Body is not accepted. In practice, the Head of the Learning Hub should take responsibility for appropriate channeling of the advice given, and for providing feedback to the Advisory Body.
9. *Facilitate the staffing of adoption teams:* Although the responsibility for initiating the process of staffing Industry Adoption Teams lies with the Secretariat of the Learning Hub, the members of the Task Force have a key role to play in ensuring that appropriate persons are identified and put forward to join these teams. This comment applies to those who are to be put forward for secondment to serve as an Adoption Team Manager, as well as those who are to serve as Industry Team Members well placed to play a role in facilitating adoption of leading practice within their company. In deciding on the Industry Members of the Teams, the Task Force members need to request and take into account suggestions put forward by the Learning Hub. In respect of these Industry Members, the Task Force members should also facilitate that they are provided with sufficient time to adequately fulfill their responsibilities as adoption team members.
10. *Review and comment on proposals for EXCO consideration:* A particularly important role of the Task Force is that of reviewing and commenting on all major proposals from the Learning Hub to the Chamber's EXCO for decision. The primary formal purpose is to make

available to EXCO the considered view of the experts they have appointed to the MOSH Task Force. The equally important informal purpose is to enable the Task Force members to insightfully brief their EXCO members on the key issues before the proposal is decided upon at EXCO. The Head of the Learning Hub, in consultation with the Chair of the Task Force, should identify the major proposals that should be handled in this way. One such proposal will be the proposed annual budget and programme of work to be undertaken by the Learning Hub and the MOSH Adoption Teams.

11. *Facilitate and support adoption team activity:* The Task Force, and its members in their personal capacity, have a most important role to play in facilitating and supporting Adoption Team activity.

- At times an adoption team may be uncertain about the best path forward in dealing with an unexpected issue that has arisen. In some cases such issues could be severe enough to consider abandoning further work on the selected leading practice. At such times special meetings of the Task Force may be necessary so that it is fully briefed and positioned to provide input and guidance in determining the most appropriate path forward.
- In their personal capacity there are many ways in which Task Force members can and should facilitate and assist adoption team activity. This includes ensuring that the member's mining group is properly represented on the adoption team, and at the workshops at which the team selects the leading practice to be put forward (see section 3.11). It extends to providing assistance in identifying mines that are potential adopters of the leading practices selected by the Adoption Teams, as well as who are likely to be the key players in the adoption process at those mines (see section 5.2). More generally, it extends to serving as a coordinator and facilitator of adoption activity within the member's mining group, as outlined in section 2.5.

There are many other instances where the Task Force can significantly facilitate or support adoption team activity and the Chairman of the Task Force and the Head of the Learning Hub should ensure that these are appropriately considered and acted upon by the Task Force as a group, or its members individually.

12. *Review and update the Terms of Reference of the Task Force:* The essence of the above, along with the other roles and responsibilities that may be allocated to the Task Force from time to time, should be captured in a document that sets out terms of reference for the Task Force. The initial document should be prepared by the Head of the Learning Hub in collaboration with other relevant Chamber officials, which the Task Force should then review and update as necessary. The Task Force should ensure that its Terms of Reference appropriately cover the roles and responsibilities outlined above, as well as any other responsibilities it may have been assigned. The document must also cover important aspects related to the efficient and effective operation. The updated document should then be provided to the Chamber's EXCO for approval, and thereafter, the Terms of Reference should be reviewed on an annual basis and updated as necessary.

Terms of Reference for the MOSH Task Force, which are broadly in line with the guidance provided here, have been developed and approved by the Task Force. A summary version

of these terms of reference is presented in Reference Doc #65. As indicated in the side-box presented here, they do contain a notable addition to what has been outlined above.

Task Force ratification of a selected leading practice

In overseeing the quality of the work of the Learning Hub, the Task Force is required to ratify the leading practice selected by industry representatives at a planning workshop convened by the MOSH Adoption Team. Given that the Task Force has a key role to play in identifying the persons who participate in the workshop, the process outlined in the handbook implicitly assumes that the selected leading practice will be ratified by the Task Force. However, in the event that it is not, the Adoption Team would then need to put forward one of the other short-listed leading practices considered at the workshop. Should none of the short-listed practices be acceptable to the Task Force, the workshop would have to be reconvened in line with guidance to be provided by the Task Force.

Roles and functions of the MOSH Tripartite Advisory Body

13. Ensure the credibility and effectiveness of the Advisory Body:

There are three fundamentally important aspects that need to be considered:

1. In the first instance the tripartite partners must ensure that they appoint persons who have credibility and influence within their stakeholder community.
2. As with the Task Force, the second is to ensure that the issues that it deals with are personally interesting and rewarding to individual members, as well as their stakeholder communities.
3. Finally, as with the Task Force, it is the personal responsibility of members to ensure that they participate fully in Advisory Body activities, as effective representatives of their stakeholder community.

14. Ensure adequate awareness of Learning Hub activities, issues and challenges: The credibility and performance of the Advisory Body will crucially depend on how well the Advisory Body is in touch with the activities, and key issues and challenges being addressed by the Learning Hub. The Head of the Learning Hub must clarify how the Advisory Body wishes this to be done, and the appropriate arrangements should then be put in place. As with the Task Force, brief presentations at Advisory Body meetings by selected MOSH Adoption Team Managers and Learning Hub Specialists to bring out the key issues at play in both the short and long-term should be a feature of these arrangements. Appropriate site visits should also be arranged from time to time to further assist in keeping the Advisory Body well informed about the nature and detail of the Learning Hub's adoption activities.

15. Provide high-level advice on Learning Hub adoption activities: The Head of Hub needs to ensure that the Advisory Body is adequately informed about the Learning Hub's programme of adoption activity so that it is well-positioned to provide insightful high-level advice when needed. The provision of insightful high-level advice on adoption activities is a crucially important aspect of the Advisory Bodies function. Such advice should always be recorded in writing for consideration by the Learning Hub and or the MOSH Task Force. In this context an early draft of the Learning Hub's proposed annual programme of work should be provided for review, comment and input, including the identification of any new areas considered by the tripartite partners to be in need of focused attention. Regular reports of progress should also be provided for information, review, comment and advice, particularly in regard to the quality of the work and the rate of progress. Reports on completed work should be provided for similar reasons.

16. Provide useful input and support to leading practice adoption: There is scope for the Advisory Body to also provide useful input and support at an operational level, and to the extent that this is possible, this should be done. This would include comment and advice on

the leading practices being promoted, and identification of the types of mines that have good potential to adopt the leading practices in question. Assistance in the identification of new potential leading practices should also be provided through focused discussions about key health and safety concepts, and in particular about practices that have the potential to reduce accidents and occupational health incidents and illness.

17. *Liaise constructively with adoption stakeholders:* Members serving on the Advisory Body have an important facilitating role to play by liaising constructively with key persons within their stakeholder grouping about adoption of the leading practices being promoted. This includes obtaining and reporting input and feedback from such persons that would be helpful to the adoption teams in their work aimed at facilitating widespread adoption of the practices in question. The provision of such input and feedback should extend to advice and recommendations about how better to encourage management and employees at mines to support the adoption of leading practices in their workplaces.
18. *Facilitate complementary regulatory activity:* Given the regulatory function of the Department of Mineral Resources, DMR, the DMR representatives have a special role to play in facilitating complementary activity within the Mine Health and Safety Inspectorate. In particular, in their routine interaction with mines they should assess the level of awareness about the leading practices being promoted, establish whether companies have mechanisms to investigate the potential leading practices being promoted, and identify potential hindrances to the adoption of these practices. Without being prescriptive they should then encourage mines to address any shortcomings that have been identified.
19. *Review and update the Terms of Reference of the Tripartite Advisory Body:* The essence of the above should be captured in a document that sets out terms of reference for the Tripartite Advisory Body. The initial document should be prepared by the Head of the Learning Hub for the Advisory Body to review and update as necessary. The Advisory Body should ensure that its Terms of Reference appropriately cover the roles and responsibilities outlined above, as well as any other important aspects related to its efficient and effective operation. They should then be provided to the Principals of the Tripartite Partners for approval, and thereafter, they should be reviewed and updated as necessary on an annual basis.

A summary version of the approved terms of reference that has been developed for the Tripartite Advisory Body, which is broadly in line with the considerations outlined above, is presented in Reference Doc #66.

Concluding comment

In fulfilling their roles and functions the Task Force and the Tripartite Advisory Body should become important two-way links between the adoption teams and the key industry stakeholders. Together they must ensure that the work of the Learning Hub and the adoption teams is not only well-aligned with the strategic needs of the tripartite partners, but also with the operational needs and capacity of the mining companies. They clearly also have a crucially important role to play in supporting, facilitating and materially assisting in successfully achieving widespread adoption of the MOSH leading practices.

Section 13.3

Roles and functions of the Learning Hub Secretariat

Key outcomes

- Clarification of the role and function of the Learning Hub Secretariat
- Guidance on meeting the identified role and functions of the learning Hub Secretariat
- An effective Secretariat in facilitating and providing process guidance to the adoption teams
- An awareness of the need to maintain the right balance between leadership and facilitation
- Operational arrangements that will enable and reduce the burden of effective participation by industry persons
- Continuous improvement and growth of industry expertise in the process of facilitating the adoption of leading practice
- An awareness of the challenges and processes that must be effectively managed by the Head of the Learning Hub

Background

In developing the concept of an Adoption System it was recognised that its Secretariat needs to serve as the enabling hub of the System. In particular, it must enable the effective involvement of industry persons by reducing the time and burden of such involvement. Furthermore, to be maximally effective the Secretariat needs to facilitate, guide and support the work of the Adoption Teams, without inadvertently assuming a leadership role. This must stay with the Adoption Team Managers in order to ensure long-term success of the Adoption System. Preserving the right balance between facilitation and leadership over time will be one of the major challenges that the Head of the Learning Hub, as well as the Learning Hub Adoption Specialists, must successfully address for Industry to maintain a strong sense of ownership of the Adoption System.

Purpose

The purpose of this section is to:

- Outline the envisaged roles and functions of the Learning Hub Secretariat, and
- Provide guidance on the achievement of these roles and functions.

Roles and functions of the Learning Hub Secretariat

In broad terms the overall role and function of the Secretariat is to facilitate the effective participation of key industry persons and the processes outlined in this handbook: More specifically it is to:

1. **Build in-house expertise:** In-house expertise is needed to facilitate successful implementation of the processes and procedures designed to secure widespread adoption of leading practices for the benefit of industry. This expertise must be built continuously. The Adoption Specialists should in particular grow their knowledge and build their expertise in the areas of behavioural communication and leadership behaviour. They should do this by working closely with the Learning Hub Behavioural Specialist, and with consultants and other specialists engaged by the Hub to assist the Adoption Teams in these areas. More generally, training courses, in-house discussions and workshops should be held from time to time to facilitate the process of building the knowledge base, expertise and skill of all

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

specialists within the Secretariat. Importantly, all specialists must develop their proficiency in applying this knowledge, expertise and skill.

2. *Ensure an appropriate strategic context:* It is important that Learning Hub adoption activity is always planned and executed within an appropriate strategic context. This should be evident from section 1.2, which dealt with the vision, mission and values which need to be embraced by all who play an important role in implementing the Adoption System. It will be important for the Head of Hub to ensure that this vision, mission and value system are periodically reviewed so that they remain appropriately aligned with the industry's needs, including those of the MOSH Task Force and the Tripartite Advisory Body. In facilitating the work of the Adoption Teams the Secretariat needs to ensure that this strategic context is appropriately operationalized in the work of the adoption teams.
3. *Facilitate the establishment of appropriately skilled Adoption Teams:* This key function of the Secretariat is described in detail in section 2.1, which should thus be read in conjunction with this section.
4. *Review and manage the performance of the MOSH Adoption Team Managers:* This key function of the Secretariat is also described in section 2.1. In this instance it is the Head of the Learning Hub who is primarily responsible for performing this management role. The review process should include consideration of the regular reports of progress and achievements by the adoption teams, and one-on-one performance review meetings with the adoption team managers.
5. *Provide an effective scanning function:* A system of systematic and regular scanning to identify potentially useful technologies and leading practices is envisaged. However, it is envisaged that scanning should also cover the identification of relevant information in areas such as behavioural communication, leadership behaviour, communities of practice, occupational health and safety performance in other mining countries, and any other areas of relevance to the Adoption System. Key documents identified through the scanning process should be introduced into the web-based information management system described in section 13.4, with notes being circulated to alert relevant persons of the new information. The operation of such a scanning function is considered in section 14, which also sets out the particular responsibilities within the Secretariat for managing and operating the function.
6. *Facilitate effective implementation of the adoption process:* This is the primary and most wide-ranging role of the Secretariat. In essence, the Secretariat, with the Adoption Specialists playing a very prominent role, needs to facilitate implementation of the adoption processes and procedures outlined in this handbook. In particular this covers the full spectrum of processes identified in the schematics presented in section 3.1, but also various others outlined below, and in other sections of the handbook. The primary objectives that need to be addressed in playing this role are that of reducing the burden for industry participants to meaningfully participate in the process, and to ensure that the processes are implemented fully as intended. The Secretariat Specialists therefore need to become familiar with the contents of the handbook and be skilled both in personally implementing the various processes, and in facilitating their implementation by others.
7. *Provide specialist input into adoption team activities:* A number of the adoption processes will require the input of specialists to be sure that they deliver their full potential. It is

intended that such skills should be made available to the adoption teams through the Secretariat. In most cases the skills should be available in-house from specialists within the Secretariat, but if not, then they should be outsourced by the Secretariat in order to meet the adoption team's needs. The Secretariat should thus establish an appropriate understanding with those external experts most likely to be needed by the adoption teams from time to time. When the need arises it should thus be possible to access such skills readily without undue delay. The Adoption Specialist linked to a particular adoption team should ensure that such skills are brought to bear on the activities of the adoption team whenever such input is needed or appropriate. The specialist skills routinely provided by the Adoption Specialist should ensure that the need to access specialist skills from others, in the Secretariat or outsourced, does not occur too often.

8. *Coordinate the activities of the various Adoption Teams:* Although the adoption teams are all expected to operate essentially independently of each other, there is a need for some coordination of their activities. This applies to the holding of leading practice adoption workshops, the preparation of planning and progress reports, utilisation of the Secretariat's in-house specialist skills, and so on. The Secretariat needs to coordinate these operational issues to minimize disruptions, inconsistencies and conflicts. Regular meetings of the Secretariat, at least once every two weeks, should be held to ensure the necessary coordination and to otherwise facilitate the flow of useful information between the teams. For similar reasons, but also to receive progress reports from the adoption teams, all teams and the Secretariat should meet on a monthly basis.
9. *Facilitate implementation of a strategic communication plan:* The purpose of the supportive strategic communication plan and the role of the Secretariat, particularly the Head of the Learning Hub and the Behavioural Specialist, in facilitating implementation of the plan are described in sections [12.1](#) and [12.2](#). The importance of such a communication plan is often undervalued, but experience warns that the absence of such an activity is usually only recognised when it is too late to rectify the misperceptions and lack of support that can otherwise grow. The Head of Hub needs to ensure that this does not happen, and the coordination meetings mentioned above should be used to ensure that the attention of the Secretariat and the Adoption Team Manager is adequately focused on effectively addressing this important strategic issue.
10. *Assist in the preparation of adoption team documents:* There are a number of documents that the adoption teams need to prepare, some for ensuring that learning and experience are documented, and some for communicating the results of work done to others. In both cases the documents need to be of high quality. The Secretariat needs to assist in the preparation of these documents. In the case of reports or journal publications, the Adoption Specialist should prepare a detailed outline of the document as a basis for discussion. Once the framework has been agreed with the Adoption Team, the Specialist should ensure that the required information and data are gathered and systematically stored for use when needed. The Adoption Specialist should further assist by consolidating the various inputs received from team members into a draft for consideration by the team. Expert writing and editorial support should be sourced if and when necessary, particularly for those documents that are to be submitted for publication or otherwise made publicly available. A similar process, adjusted as appropriate, should be followed in the preparation of other Adoption Team documents, from presentations through to progress reports. The

Adoption Specialists must ensure that all adoption team documents are introduced into the Learning Hub web-based document management system.

11. *Assure the quality of Adoption System outputs:* Given the relatively temporary involvement of industry persons in the adoption teams, an important function of the Secretariat is to assure the quality of the processes that are implemented and of the outcomes achieved. In particular the Secretariat also needs to assure the quality of the reports and publications produced. In some cases, such as the document setting out the value case, the quality assurance should include an external review process. This was recognized in developing the Monitoring and Evaluation Framework presented in Section 14, which requires key adoption team documents to go through an internal peer review process managed by the Monitoring Specialist. In the case of documents where such a peer review is not required, the document should nevertheless be reviewed and edited by the Adoption Specialist. Recognising that the Head of Hub is ultimately responsible for assuring the quality of the work done, the effectiveness of these review processes should be an important consideration in reviewing the performance of the Specialists within the Secretariat. Assuring the quality of the Adoption System outputs, including documentation, should be regarded as a key determinant of the long-term success of the Adoption System.
12. *Develop and operate an effective communication and information management system:* The provision and operation of an efficient and readily accessible system of electronic communication and information management will be important for not only to the operation of the Adoption Teams, but also for the long term success of the Learning Hub. Details of the web-based system being developed for this purpose are presented in section 13.4, which should be read in conjunction with this point. The Monitoring Specialist, who carries oversight responsibility for the system, needs to ensure that all users of the system are provided with a brief overview document explaining its operation and use. Simple guidelines should also be provided to Learning Hub staff concerning document standards and procedures for loading documents into the system. The monitoring Specialist, with the support of the Adoption Specialists and the Head of Hub, needs to ensure that all key documents produced in planning and facilitating the widespread adoption of each leading practice are loaded into the system. The system has great potential to assist Adoption Team Managers in working with COPA members to monitor and document adoption progress at adoption mines. The adoption specialists have a particularly important role to play in facilitating use of this aspect of the web-based system by COPA members.
13. *Develop and implement an effective monitoring and evaluation system:* As indicated in the previous point, the Learning Hub needs to keep track of the extent of adoption that has been achieved in respect of each leading practice that has been successfully demonstrated and presented to Industry for adoption. The extent of adoption will be a key indicator of the success of the Adoption System. It also needs to keep track of progress of the adoption teams in implementing key elements of the adoption process. Section 14, which should be read in conjunction with this point, sets out details of the monitoring and evaluation framework that has been developed for this purpose. It also sets out the particular responsibilities within the Secretariat for managing and operating the system. Proper use of the monitoring and evaluation framework will enable effective tracking and management of the adoption process. It will also enable the Secretariat to keep industry appropriately informed not only on progress with adoption of each leading practice, but also of the impact

of the Adoption System on occupational health and safety performance in the mining industry.

14. *Promote the achievements of the Adoption System:* Allied to the supportive strategic communication activity discussed above, and in section 12.1, the Secretariat needs to appropriately promote the achievements of the Adoption System. This should be done through the preparation and presentation of quality technical papers at conferences and in recognised journals. Importantly, through the presentation of occupational health and safety data, involving both lead and lagging indicators, these papers should bring out improvements achieved at mines that have adopted one or more of the MOSH leading practices. In due course such data should be readily available through the Monitoring and Evaluation Framework presented in Section 14, but in the interim the necessary data should be sourced by the Adoption Specialists with the assistance of the Monitoring Specialist. The Secretariat should also encourage mines to prepare such documents in collaboration with the Secretariat, or independently should they so prefer. The guiding principle in promoting the achievements of the MOSH Adoption System should be that it should be based on the presentation of hard factual information. Anything less could be counter-productive in the long-term.
15. *Prepare the annual programme and budget for the Adoption System:* This is a role of self-evident importance. In preparing the annual programme and budget for submission to the Chamber's Executive Council it will be essential to ensure that the MOSH Task Force and the Tripartite Advisory Body are appropriately involved and that their input is properly taken into account. Given the oversight role of the Task Force, on completion of the document the Task Force must be able to regard the document as its own. In keeping with this, the Chairman of the Task Force should be invited to participate in the presentation of the proposed programme and budget for approval.
16. *Plan and oversee effective development of MOSH trainees:* The productive utilisation and training of MOSH trainees is considered in detail in section 2.6. In that section it was pointed out that the Secretariat could have up to 20 trainees to manage at any one time, and that the responsibility for planning, overseeing and coordinating their training should be allocated to the Behaviour Specialist. However, through appropriate feedback and review at its regular meetings, the Secretariat also has a key role to play in ensuring that the development of trainees does not become a net burden to either the Secretariat or the adoption teams. The nature of the work that they are to do and the duration of their involvement in any one activity should be planned and then carefully monitored to ensure that this is the case.
17. *Provide effective administrative support:* This must cover the usual services and support associated with meetings and project management, including that of taking agreed action or ensuring that others do so. The administrative support would include taking care of the logistical arrangements associated with workshops, including the leading practice adoption workshops, arranging and distributing documents for meetings of the Learning Hub, and other special meetings, recording the essence of such meetings, and so on. In respect of the adoption teams, the Adoption Specialists may well be able, with the provision of such support being seen as just another form of support that the Adoption Specialist is expected to provide to the adoption teams. However, depending on the skills and availability of the

Learning Hub Administrator, it may be possible to acquire assistance in providing some the required administrative support. It will be important for the Head of Hub to appoint a Learning Hub Administrator who has appropriate expertise and skills, with a view to providing meaningful support to the adoption teams.

18. *Ensure continuity and provide institutional memory:* The transient involvement of industry persons in the Adoption System means that the Secretariat has a special role to play in ensuring continuity in the effective execution of the key adoption processes and procedures. A similar comment applies to the development of an institutional memory to prevent needless relearning of hard lessons. To some extent both of these will be addressed by the document management system considered above. However, it is the familiarity developed by the Secretariat and the Head of the Learning Hub with accumulated experience and the archived documents that will prove to be most important in practice. Such familiarity will greatly enhance the extent to which the document management system is effectively used. It also enables undocumented experience to be quickly brought to bear on issues that emerge. With this long-term benefit in mind, the experiences of the Adoption Teams should thus be shared in appropriate detail at meetings of the Secretariat.
19. *Facilitate on-going interaction with key stakeholders:* Although this responsibility is a broad responsibility of the Secretariat, it should become one of the more important personal responsibilities taken on by the Head of the Learning Hub. It should be addressed to a large extent through the supportive strategic communication plan to be led by the Head of the Learning Hub, but opportunities to build on the interactions arising from that plan should be selectively pursued. Most importantly, the Head of Hub should develop a close working relationship with the CEOs of the mining companies and with key persons in organisations such the Mine Safety Inspectorate, major mining equipment suppliers, the Mine Health and Safety Council, research organisations, and heads of mining associations.

Concluding comment

While all of the roles and functions considered above will need to be covered by the Secretariat for it to fully effective, the list above should not be considered exhaustive. Other important roles and functions are likely to be identified in implementing the procedures outlined in this handbook, and in operating the Secretariat. As for the Adoption System as a whole, the Head of Hub should regard continuous improvement of the Specialist Secretariat as both an opportunity and an on-going challenge.

Section 13.4

Outline of MOSH information management system

Key outcomes

- An awareness of the scope and function of the web-based MOSH information management system
- Recognition of the minimal user training needed to use the system
- A willingness to begin using the system to the benefit of the adoption teams, mines and the adoption system
- Awareness of an effective means of communicating and monitoring adoption progress at adoption mines.
- An awareness of the usefulness of the system to many end-users with different user requirements

Background

An important consequence of setting up Adoption Teams comprised of industry members who are based at operating mines will be that the members are geographically widespread. Face to face meetings of all team members will thus be relatively infrequent. Added to this logistical consideration is the planned regular turn-over Adoption Team Managers. These features of the Adoption System add to the importance of establishing and operating an effective information management system for the use of these teams, as well as for others involved in the operation of the MOSH Adoption System. In the piloting phase of the adoption system this requirement was addressed and various systems were investigated, including the Microsoft Sharepoint and Lotus Notes Domino QuickR systems. After initially developing a system using Lotus QuickR, it was decided that a more substantial purpose designed web-based system should be developed.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline the key features of the web-based system that has been developed, and
- Provide guidance on the use of the system.

Key features of the system

In broad terms the system is a web-based system that enables user access through the user's usual internet connection. The system has three important features, as follows:

- A public section, which provides information to any person who accesses the site.
- A protected section, for document storage and access, with password access, primarily by Hub staff, but also by others as necessary, and
- A leading practice adoption guidance and monitoring section, with password access by registered end-users at adoption mines and groups, as well as Hub staff.

The various elements that comprise these three features are presented and explained in the various points that follow.

1. **Homepage:** Access to the various elements within these three different aspects of the system is provided through the web-site homepage located at www.MOSH.jhnet.co.za. A summary of the elements that are accessible through the homepage is summarized in the table provided below.

Key elements of MOSH Website accessible through the Homepage		
No	Element tab	Description

General Access Descriptors

1	About us	Provides a brief description of MOSH and the Learning Hub, including its Vision, Mission and Values
2	Adoption Process	Outlines the circumstances that led to the MOSH Leading Practice Adoption System and provides a brief outline of how the system works
3	Hub	Provides password protected access to the Learning Hub's document management system. It is primarily intended for use by Learning Hub Staff and the adoption teams. Further detail is outlined schematically in the table presented later.
4	Login	Enables a registered user to login with access to content according to the users allocated profile
5	Register	Opens a form to provide user details to the website overseer for use in deciding and allocating an appropriate authority and access profile to the user, as well as the password for login purposes.

Expands -
See below

Risk areas – overview of available leading practices

6	Dust	Clicking on one of these risk areas will open a drop down box which opens the way to further access to information on the listed Leading Practices in the risk area, as well as other information relevant to the risk area in question. It is intended for open public use and for use by end-users in viewing and selecting leading practices for which they wish to register. Further detail is outlined schematically in the second of the tables presented below.
7	Noise	
8	Falls of Ground	
9	Transport & Machinery	
10	Search	Opens a search function to assist users in obtaining access to information they are seeking

Expands -
See below

How it works – access to adoption guidance and monitoring

11	Select	Outlines to the user that the first step in using the website as an aid to adoption is to select the Leading Practice that is of interest. The next step is to complete the registration detail to acquire or update the user profile that is required for access to the selected leading practice
12	Register	Opens the form on which to provide the user details required by the website overseer to check with the relevant adoption team and to allocate an appropriate user profile and password
13	Profile	Opens a description of the four possible user profiles and outlines the intention, scope and limitations of each. Explains that when the profile is opened the user can access adoption guidance and progress information on all leading practices in the profile
14	Download	Explains that some of the activities in the adoption process require that the user download a document that needs to be completed, uploaded and submitted before the activity can be signed off as completed. The user is provided with an option to bypass this requirement, but this is duly recorded
15	Complete	Explains that the steps requiring completion of a downloaded document are particularly important in that together these completed documents constitute a portfolio of evidence indicative of progress and the extent and quality of the adoption process.
16	Upload	Outlines the process of uploading the previously downloaded document and emphasizes the need to ensure that the document properly reflects the extent of what has been done at the mine
17	Submit	Explains that submitted documents will be preserved in the system as a portfolio of evidence in respect of the adoption process undertaken by the mine for the leading practice in question

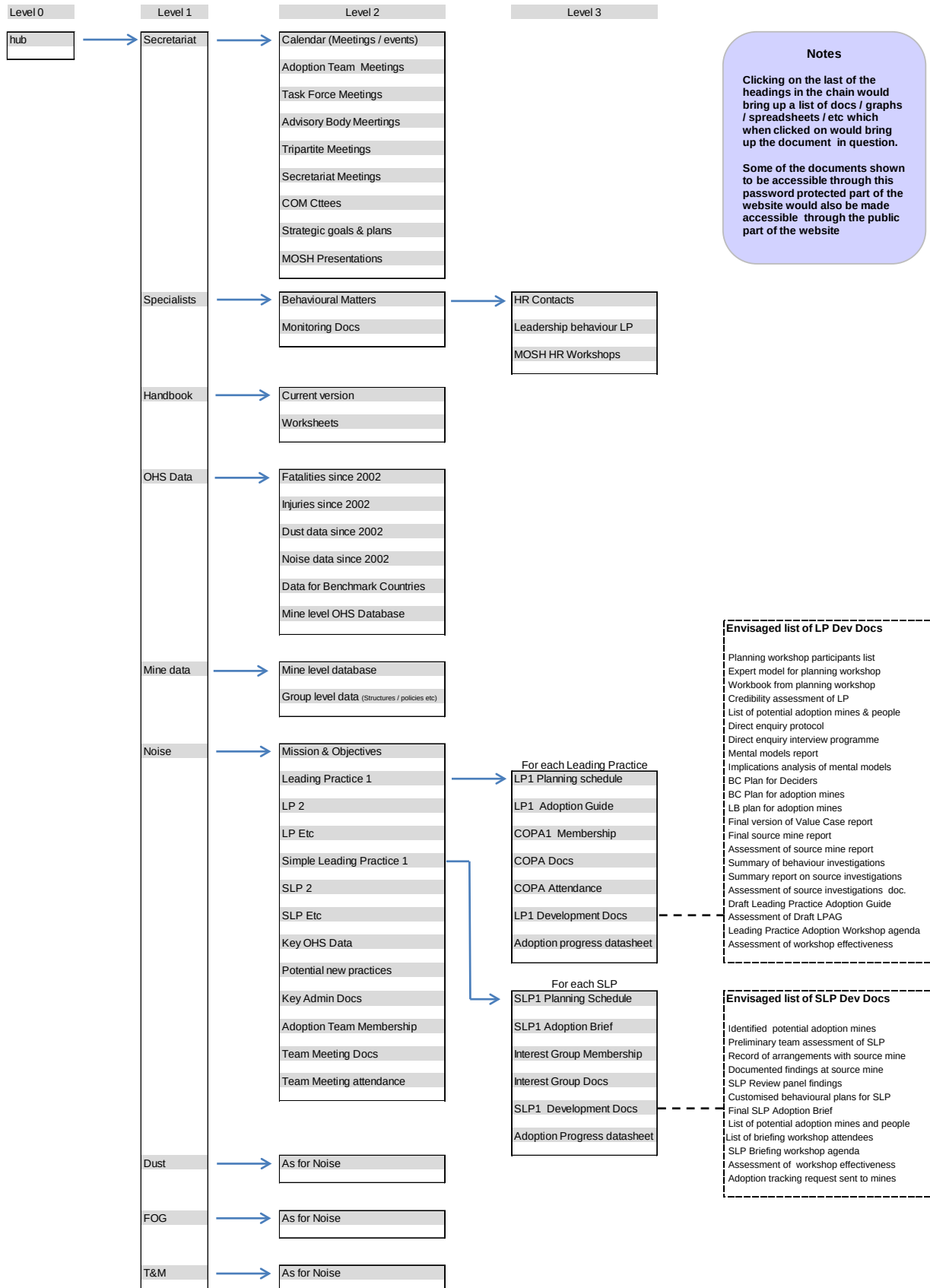
User access

18	My Profile	Provides password protected access to the leading practices that are listed on the user profile for the person who has logged into the website, subject to the authority level and limitations of the user profile that the person has been allocated. It is intended for use by Hub specialists, adoption team managers and key persons at adoption mines and their mining group head offices.

Expands -
See below

2. **Protected document management system:** The document management system that is accessible to authorized users on entering their password is set out broadly in the schematic presented below. Notable points about this schematic are presented immediately after the diagram.

Schematic of Hub web-based document management system, showing the navigation paths and envisaged document storage

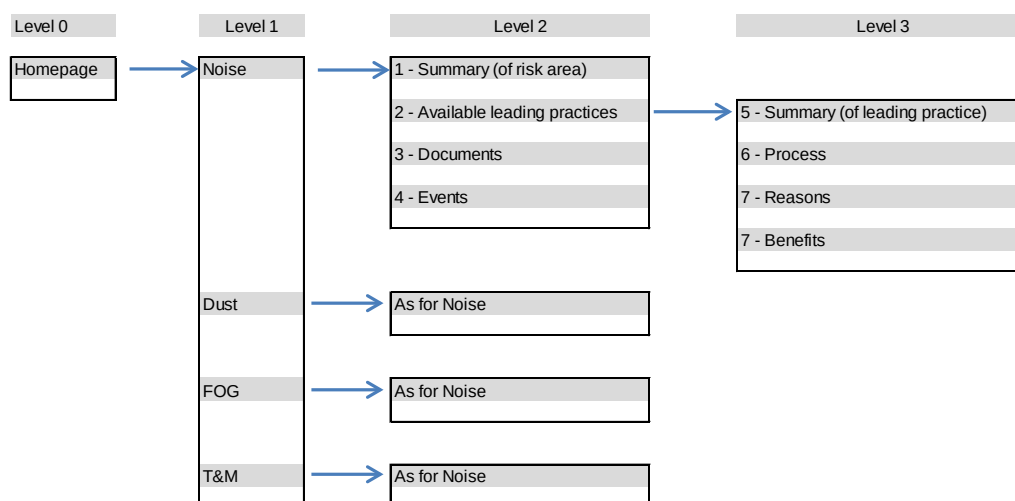


The schematic provides a good indication of:

- The envisaged nature and extent of the document management system.
- The relative ease with which the content and extent of the system can be adjusted or expanded to accommodate new or changed document management requirements.
- The ready means that the system provides to adoption teams for logically storing and accessing all documents of relevance to each leading practice that they work on.
- The ready means available for storing and accessing documents prepared for the many different types of meetings that are an important aspect of the Learning Hub's operations.

3. Public access to view available leading practices: All persons who open the homepage are provided with access to information about the four risk areas being addressed by the Learning Hub. Clicking on any of these areas provides access to a menu for obtaining further information about the risk area, including a list of available and upcoming leading practices. The navigation arrangement is generally as set out below:

Overview of available leading practices - public access



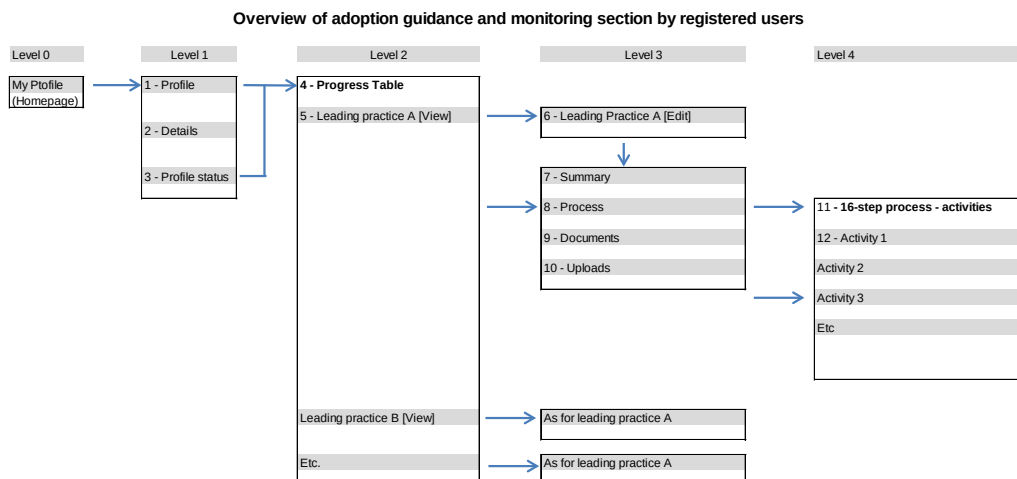
Notes applicable to numbered items in the blocks above

1	Provides a summary description of risk area being addressed by the adoption team
2	Provides a list of available leading practices as well as those being worked upon
3	Provides a list of documents relevant to the risk area and the listed leading practices
4	Provides a list of upcoming events in the risk area in question
5	Provides a summary description of the leading practice - as presented in the Leading Practice Adoption Guide
6	Provides a summary description of the 16-point adoption process outlined in the Leading Practice Adoption Guide
7	Provides an explanation of the specific problem areas addressed by the leading practice
8	Provides a summary of the value case presented in the Leading Practice Adoption Guide

4. Protected adoption guidance and progress monitoring: Access to this part of the information management system is provided to persons who have registered and have been allocated a profile and password that defines their access and authority. Once they have logged in, clicking on "My Profile" provides them with access according to their profile. In particular they will have access to the leading practice guidance and monitoring features for the leading practices within their profile, as well as other related information. Key points about this section of system are as follows:

- It allows persons responsible for the adoption process at a mine to have online access to guidance on execution of all of the adoption activities outlined in the Leading Practice Adoption Guide that has been prepared by the MOSH Leading Practice Adoption Team.
- It provides documents needed by, or useful to the mine in executing the various adoption activities.
- It provides the mine, and the mining group, with a convenient online means of recording and monitoring progress on the leading practices they have elected to adopt.
- It allows different persons to have different degrees of access to adoption activities. A mine manager can thus monitor progress on a number of leading practices at his mine, while a group executive could do the same, but for all leading practices on all mines within his mining group. Similarly, but at a lower level, a project assistant can be authorized to enter progress information on a particular leading practice, but with sign-off authority on the adoption activities being provided only to a designated person, usually the mine adoption team manager, for that leading practice.
- It is similarly useful to the Learning Hub, in that the Specialist and Managers in a MOSH Adoption Team will be authorized to view progress on adoption of all the leading practices that the team has made available to industry for adoption. This would include having access to all documents completed and uploaded by each mine in using the site for guiding their execution of the adoption process. It will thus serve as an important tool in monitoring adoption progress of COPA members.

In broad terms the navigation arrangement and content of the section is generally as set out below:



Notes applicable to numbered items schematic

1	Indicates the number of leading practices accessible through the profile of the person who has logged in - click on the number to access a list of the practices
2	Provides details of the person who has logged in
3	Displays a table listing the leading practices that are accessible on the profile of the person who has been logged in
4	The list of leading practices is in the form of a table that indicates the progress for each leading practice using 10 key indicators of adoption progress
5	Provides the state of progress on the leading practice in question - clicking on [View] provides access to the next level as described in 6 below
6	Provides a summary of the leading practice in question, the same progress data for the practice as in 5, but with an edit option, and four tabs that provide access to adoption guidance and other relevant information. Clicking on the edit option opens the process tab described in point 8 below
7	The information provided on the summary tab is the same as that described in point 6 above
8	Provides a complete list of the 16 adoption steps, along with their various activities, with tick boxes indicating whether or not each activity is complete and signed off
9	Provides a list of documents that need to be considered or used in the process of adopting the leading practice in question - clicking on the document to download it
10	Provides a list of the documents that have been downloaded, completed by the user and then uploaded to indicate completion of a critically important adoption activity
11	The 16-step adoption process, with its various activities are those that have been set out in the Leading Practice Adoption Guide for the leading practice in question
12	Clicking on each activity statement provides access to guidance on execution of the activity. On key adoption activities it also provides access to a pro-forma document that needs to be downloaded, completed and then uploaded in order for the system to register that the activity has been completed. A bypass option is provided but the activity is then not recorded as having been completed.

5. Administrative arrangements: Oversight responsibility for development, updating and maintenance of the web-based information management system should be allocated to the Monitoring Specialist. It is however important to note that in practice this will in effect be a distributed responsibility; the information required for development and effective operation of the system must be provided primarily by the four MOSH adoption teams. Also, through the operation of their COPAs the MOSH adoption teams also need to identify any shortcomings and noteworthy end-user requirements at mines.

More specifically, the following arrangements should apply:

- The Monitoring Specialist should serve as the point of contact between the Learning Hub and the service provider engaged to develop and service the web-based system.
- The Monitoring Specialist should oversee the process of allocating user profiles, and of maintaining records of the profiles and passwords that have been allocated. The allocation of profiles to persons who apply for registration should be done in consultation with the relevant MOSH Adoption Team Manager or Adoption Specialist.
- All documents to be loaded onto the site should be provided to the Monitoring Specialist, who should ensure that they are loaded without undue delay.
- The Monitoring Specialist should ensure that a brief up-to-date and clear user manual for is prepared and made available to all users to assist them in effectively using the web-based system. This must include guidance on the form and format of information needed when introducing a new leading practice into the web-based system.

Concluding comment

The web-based information management and monitoring system that has been developed has a capability greater than that described above, but the above description sets out the essence of the system. The full potential of the system is only likely to emerge as documents are loaded into the system, and as experience is gained in working with the system. Notwithstanding the limitations of the outline provided in this section, the tremendous potential and importance of the system to potential users should be clear.

SECTION 14

Monitoring and review

- 14.1 Requirements of an effective monitoring and evaluation framework
- 14.2 Key performance areas and performance measures
- 14.3 Operation of an effective scanning, monitoring and evaluation function
- 14.4 Annual review of Adoption System performance

Section 14.1

Requirements of an effective monitoring and evaluation framework

Key outcomes

- Recognition of the Learning Hub's facilitation responsibility
- Awareness of the special personal responsibilities associated with facilitation
- Identification of the key users and user requirements of the monitoring and evaluation framework
- An understanding of the considerations and requirements used to guide development of the framework

Background

Much of this handbook is devoted to outlining details of the Leading Practice Adoption System, and to providing guidance on its practical implementation. However well this might have been accomplished, the ultimate question will always be how well the guidance is implemented in practice. It is in this context that an effective monitoring and evaluation framework has an important role to play. While good guidance and the appointment and training of competent persons to undertake the work are clearly very important, experience warns that there is much truth in the comment "*what gets measured gets done*". An effective monitoring and evaluation framework must therefore identify appropriate measures to track progress on key elements of the adoption system, as a basis for regular assessment and decision making that leads to successful outcomes. This statement effectively summarises the more substantive standard descriptions of the monitoring and evaluation concepts provided in the side box below.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to outline:

- Key considerations in developing the monitoring and evaluation framework, and
- Key requirements of the framework.

Key points for consideration

Mission of the Learning Hub:

1. The agreed mission of the MOSH Learning Hub is to identify, investigate and facilitate the adoption, through a people oriented process, of selected leading practices to significantly improve occupational health and safety in the mining industry. In this way the learning Hub seeks to lead the change to zero harm. It is very important to recognise that this mission clearly identifies facilitation as the key responsibility of the Learning Hub.

The nature of facilitation:

2. A facilitator cannot be held directly responsible for achievement of desired outcomes when the responsibility and the means for achieving the outcomes lie with others. This is an important point of principle. Achievement of zero harm is thus a responsibility of the mining companies with operational responsibility.
3. Desired outcomes can however be used as an indirect indicator of the extent to which the facilitation process has been successful. Importantly, when outcomes are used for this purpose they cannot be regarded as a *direct* measure of facilitation effectiveness, since

Monitoring and evaluation concepts

Monitoring: Monitoring is the routine tracking and reporting of priority information about a project or programme, in respect of its inputs, activities, outputs, outcomes and impacts.

Evaluation: Evaluation is a periodic systematic and objective analysis of evidence gathered in monitoring activities, projects and programmes to assess issues such as relevance, performance (effectiveness and efficiency), value for money, impact and sustainability, and to recommend ways forward.

the outcome might have been possible, and indeed achieved, without any facilitation effect at all. Nevertheless, along with other more direct measures, such measures can be very informative and helpful.

Responsibilities of a facilitator:

4. Importantly a facilitator can, and indeed should be held responsible for selecting and applying appropriately effective facilitation techniques designed to prompt others to take the steps necessary to achieve the desired outcome. In the development of the adoption system a number of such techniques were selected and integrated to become the key elements of the MOSH adoption system, and these are presented in the Handbook.
5. In principle, and in practice, Learning Hub management and staff are thus responsible for ensuring that, unless other better techniques are agreed upon, at least these techniques are properly used with a view to facilitating the desired outcomes. Appropriate measures of these techniques will thus provide a more direct indication of the extent of the facilitation being provided.

Other important responsibilities:

6. In addition to the primary responsibility of facilitating widespread adoption of selected leading practices, the Learning Hub may from time to time identify other objectives of strategic importance. In most cases these are likely to be focused on enabling achievement of the Hub's primary responsibility.
7. Whatever their focus, given their strategic importance, Learning Hub staff will need to ensure that progress towards the achievement of these objectives is monitored and evaluated. Appropriate consideration of programmes devised to address these strategic responsibilities should thus also be accommodated within the monitoring and evaluation framework.

Users and their requirements:

8. *Adoption Team Leadership:* From time to time each adoption team needs to plan and schedule the key tasks involved in facilitating the identification, selection and widespread adoption of the leading practice considered at that time to have the greatest potential to improve health and safety in their area of concern. This plan needs to be shared and agreed with the Head of the Learning Hub. The team then needs to monitor and evaluate its own performance against this agreed plan.
9. *Learning Hub staff:* Execution of the adoption team plans and agreed issues of importance to the Learning Hub need to be monitored and reported upon at regular meetings of the Learning Hub staff. This will provide the opportunity for all Learning Hub staff to be kept informed of progress being made on activities that are of particular importance to them and their work. In particular it will provide the Head of Hub with an opportunity to identify issues that warrant more in-depth consideration in follow-up meetings involving key persons.
10. *Head of the Learning Hub:* As the person accountable for effective execution of the Learning Hub's mission, and for reporting performance to higher-level key stakeholders, the existence of an effective monitoring and evaluation framework is of crucial importance to the Head of Hub. The framework needs to provide information that will not only reflect progress against planned activities, but also highlight areas in need of support or corrective action. It also needs to enable information to be processed and summarised into a form suitable for reporting to higher-level key stakeholders.

11. *COPA and Adoption Team members:* Following establishment of the COPA to facilitate widespread adoption of the leading practice, progress on adoption of the leading practice at individual mines and mining groups needs to be monitored and provided for consideration by COPA members, as well as industry members of the adoption team. Such reporting provides a basis for identifying good performers capable of assisting others by explaining the basis of their success. It also serves to identify those in need of assistance in one way or another. It may also create a climate of productive peer pressure.
12. *Executive key stakeholders:* Persons at an executive level who have oversight responsibility for the funding and performance of the Learning Hub have an important monitoring and evaluation function to play, but at an appropriately high level. These stakeholders include the MOSH Task Force, MOSH Advisory Committee, MOSH Sponsors, COM Executive Council and other COM Principal Committees. In particular, the data of interest to them should relate to action and decision making applicable to their level of operation, such as the desired outcomes and impacts that led to establishment of the Learning Hub. In this context, performance data of the individual adoption teams will need to be consolidated clearly bring out the overall performance of the Learning Hub.
13. *Interested key stakeholders:* There is a variety of other key stakeholders who have an interest in the progress being achieved by the Learning Hub in respect of its various activities, as well as progress by industry towards achieving the ultimate objective of zero harm. This includes bodies such as the SACMA, AMMSA, SACEA, AMRE, Unions, and various tripartite bodies such as MHSC and the various regional tripartite consultative forums.
14. *Learning Hub Secretariat:* From time to time the Learning Hub Secretariat needs to plan and schedule activities necessary to address key issues that arise, such as those agreed to in strategic planning sessions. Once planned and agreed, the framework needs to include monitoring and evaluation of these activities.

Levels of monitoring and evaluation:

15. It is important to recognise that monitoring and evaluation can, and indeed should take place at different levels. These levels are as follows:

Levels of monitoring and evaluation	
Level	Description
Inputs:	The financial, human and material resources required for the planned intervention
Activities:	Actions taken or work performed to achieve a desired output or outcome
Outputs:	The direct products, services or physical deliverables that result from action taken
Outcomes:	The effect of activities or delivered outputs
Impacts:	Changes in the broader socio-economic environment

16. The hierarchy outlined in the above table is particularly relevant to the process of identifying key performance areas and indicators. It points to the importance of giving appropriate consideration to each of the levels when identifying these indicators. Given the step-wise nature of the adoption process, it will be evident that the outcome of some steps will clearly serve as inputs to subsequent steps. However, this does not detract from the usefulness of the hierarchy, as outlined above.

17. Both the step-wise nature of the adoption process and the above table also highlight that not all indicators will be relevant on every reporting occasion. As progress occurs, some indicators will become redundant while others may relate to activities sufficiently far in the future to be of no interest at the time of reporting.

Key performance areas, KPA:

18. In developing the framework it will important to identify the areas of activity that are essential to secure a successful outcome. It follows from this, and from points already made, that the desired outcomes and impacts must also feature as key performance areas. It is these outcomes and impacts that provide an indirect indication not only of the effectiveness of the MOSH facilitation process, but also the effectiveness of the leading practices that have been adopted.
19. Key performance areas must therefore cover all of the key steps in identifying, documenting, facilitating and assessing the outcomes and impacts of widespread adoption of a MOSH leading practice.

Key performance indicators, KPI:

20. The ultimate question that must be addressed in developing the monitoring and evaluation framework is that of defining what should be measured to indicate performance or progress in the key performance areas that have been identified. These measurements serve as key performance *indicators*, with each key performance *area* having at least one key performance indicator. The key performance indicators may be quantitative or qualitative, but the measurements must be made consistently in accordance with the definition of measurement.

Effectiveness and simplicity:

21. A fundamental ideal of any M&E Framework is that it should be both effective and simple. In some respects these two concepts compete, but in dealing with the conflict, the interests of one or the other must not be allowed to dominate to the point where the framework is no longer effective in terms of its intended purpose. In this context it must also be recognised that there are different users and uses of the monitored data, each with their own purpose and data requirements. The challenge of developing a monitoring and evaluation framework that is both effective and simple is thus not trivial.

Summary statement of main requirements:

22. Based on the above considerations, the main requirements of an effective monitoring and evaluation framework are summarized below.

The framework should:

1. Identify and track progress on the key elements of the adoption system for facilitating the selection and widespread adoption of high impact leading practices
2. Focus attention on the people oriented aspects of the adoption process
3. Define a set of measurements for monitoring progress, assessing outcomes and identifying / deciding appropriate action on all activities in each key performance area.
4. Enable progress to be tracked and assessed relative to planned completion dates
5. Provide input and reporting arrangements that meet the various user's needs
6. Be as simple as possible, but without compromising effectiveness.

Concluding comment

The Monitoring and Evaluation Framework must be capable of addressing all of the identified monitoring and evaluation needs. Although outcome indicators are likely to be of greatest interest to most, the greatest value is likely to be derived from the lower-level indicators, which are concerned with inputs, activities and outcomes, as it is ensuring effective execution at this level that will lead to achievement of the desired outcomes and impacts. It is the responsibility of Adoption Team Managers and Learning Hub Specialists to execute actions at this level, and the Monitoring and Evaluation Framework must therefore provide an effective means for the tracking progress and deciding operational action at this level.

Section 14.2

Key performance areas, indicators and scorecards

Key outcomes

- An understanding of the key concept and process considerations that shaped development of the framework
- A clear understanding of the terms used in the framework
- Knowledge of the key elements of an appropriate monitoring and evaluation framework for the adoption system
- An appreciation of the scope and potential application of the various elements of the framework

Background

The important roles of an effective Monitoring and Evaluation Framework, as well as the essential requirements of such a framework, were outlined in section 14.1. They provide a sound basis for developing an appropriate M&E Framework. In this context, experience gained through earlier attempts to keep track of success achieved in facilitating the widespread adoption of leading practices is also relevant. In particular, this experience points to ways of tracking progress on adoption at mines, while at the same time exposing the need to monitor and track earlier process work as a basis for understanding and explaining later stage adoption shortcomings. Past experience and a fresh assessment of monitoring and evaluation requirements have thus pointed the way in developing the M&E Framework presented below.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Outline key concept and process considerations,
- Define particular terminology used in the framework, and
- Present the details of an appropriate M&E Framework for the adoption system.

Key points in developing the M&E Framework

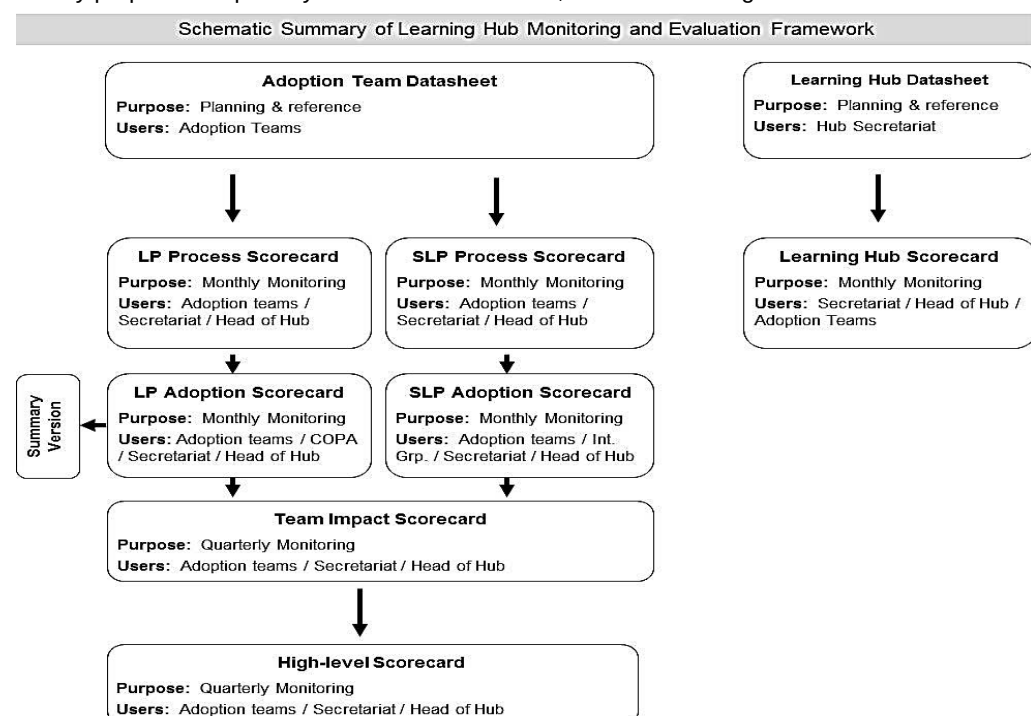
1. *Identification of key performance areas and indicators:* A most important step in developing the framework was to identify the elements that are essential to successful execution of the adoption process. Each of the key performance areas was then assessed in terms of the various levels of monitoring outlined in section 14.1. This resulted in the identification and definition of many activities and key performance indicators. Mindful of the need to strike a balance between simplicity and effectiveness, and based on feedback from those most directly involved in using the framework, only the most useful of the indicators in each of the key performance areas have been selected for routine monitoring purposes.
2. *Value of detailed datasheets:* Notwithstanding the decision to restrict the number of indicators used for routine monitoring, the originally identified activities and indicators remain an important part of the framework. In particular, they identify activities that are likely to be helpful to adoption teams in the detailed planning of their work, and then also in some cases for internal progress monitoring. In addition, the detailed datasheets serve as systematic listing and definition of the basic set of KPAs and KPIs used to monitor the adoption process.

3. *Unique numbering of key performance indicators:* Each key performance area and indicator has been assigned a unique number to help prevent confusion, particularly in those cases where an indicator is used in more than one scorecard. This occurs when the indicator is relevant to different users, and thus appears in more than one of the scorecards that have been designed to meet the different user needs.
4. *Piloting, consultation and feedback:* The process of developing the M&E Framework involved an extensive process of consultation with the primary users of the framework. The process commenced with consideration of an initial draft document outlining the purpose and some of the key concepts of the envisaged framework and continued as the detailed datasheets and scorecards of the framework began to emerge. This included workshops detailed separate consultation with adoption teams and piloting of some of the scorecards, with input being assessed and appropriately taken into account in the development process.
5. *Differentiation between datasheets and scorecards:* During the development process it became clear that the more detailed list of KPAs and KPIs should be clearly differentiated from the shorter set developed for routine monitoring and evaluation. Accordingly, the detailed lists were named datasheets, and the latter scorecards. Although the datasheets remain an important input and reference aspect of the framework, it is the scorecards that constitute the essential operating aspect of the M&E Framework.
6. *Two distinct phases for monitoring the adoption process:* Based on experience gained in piloting use of the Framework, it became clear from a monitoring point of view that the work of the adoption teams fell into two distinct phases. The first phase covers all the work undertaken by the adoption teams in identifying, selecting and documenting the leading practice, up to and including the leading practice adoption workshop. The second covers all the work associated with setting up and operating a successful COPA, including the process of facilitating the progressive widespread adoption of the practice by all identified potential adoption mines. Accordingly, separate scorecards have been developed for each of these two rather different phases.
7. *Use of leading practice specific scorecards:* Experience gained when piloting the scorecards indicated that a separate scorecard should be kept for each leading practice. While it might in practice be possible to include extra columns to include the data for more than one leading practice on a single scorecard, this is likely to be an exception and is generally not recommended.
8. *Different scorecard requirements for SLPs:* Because of the significant differences between the adoption processes applicable to Simple and full MOSH Leading Practices, different process and adoption scorecards are required for monitoring progress on an SLP. Once again, two scorecards are needed, one for the first phase of identifying and documenting the SLP and the other for the monitoring the process of adoption by potential adoption mines.
9. *Definitions of terminology used:* It is very important for all users to have a common understanding of the key terms used in the M&E Framework. Without this, misunderstanding and confusion can easily arise. Definitions of the various terms used in the M&E Framework are set out in the table provided below:

Term	Definition
KPA - Key Performance Area	An area of activity considered to be of particular importance to the realisation of the major objectives of either a MOSH Adoption Team or of the Learning Hub
KPI - Key Performance Indicator	Something within a key performance area that can be assessed / measured in quantitative or qualitative terms to indicate performance or progress within the key performance area.
Input	Resources, in one form or another (staff, skills, information, etc.) required or used in a programme of work to deliver a defined output.
Activity	Action that needs to be taken to within a programme of work to deliver a defined output
Output	The product, service or result that is delivered by the programme of work (project) designed and undertaken expressly for this purpose.
Outcomes	The change, benefit, learning or other effect derived from an output that has been delivered
Definition of Measurement	A statement that defines / explains how the particular measure / assessment is to be made and in what form it needs to be expressed, in order to ensure consistent reporting and understanding.
Data Source	Provides an indication of where the data needed to derive the measure is expected to be, and ought to be available.
Timing for report	Indicates the timing / frequency of reporting on the indicator in question
Target	Indicates the desired level of performance in respect of the indicator in question.
Measure	The reported value for the indicator at the time of assessment, measured in accordance with the definition provided
Date completed	The reported actual date of completion of work in respect of the indicator in question
Planned Completion	The originally planned date of completion of work in respect of the indicator in question, as well as the currently planned date of completion in those cases where the date has been rescheduled.

Elements of the M&E Framework

The above considerations led to the development of an M&E Framework for the Learning Hub that comprises of nine purpose designed elements. A schematic summary of the nine elements that together constitute the Framework is provided below. In broad terms the schematic shows the key purpose and primary users of each element, as well as the logical flow of their use.



Each of the nine elements in the M&E Framework presented in the above schematic is introduced below. This includes presentation of the essence of the various scorecards, which are the core of the M&E Framework. The abbreviated scorecards provide a clear indication of the key performance areas and the measures to be used as key performance indicators. The two datasheets, along with the scorecards, are provided in full detail as Reference Documents in Section 16. Excel versions of these datasheets and scorecards developed for operational use by the various users are available from the Learning hub Monitoring Specialist.

10. **Adoption Team Datasheet:** The datasheet provides a detailed checklist for guidance and use by the adoption teams by adoption teams in planning their work. It is for internal use as they see fit. Planning schedules provided in the Handbook, in section 3.1 and in Reference Doc #16, should however also be used to assist with this planning process. The team's adoption specialist should take responsibility for introducing the datasheet and then using it to the extent decided upon by the adoption team. The datasheet is provided in detail in Reference Doc #54
11. **LP Process Scorecard:** This scorecard includes the indicators most important for reporting progress on identifying, selecting, investigating and documenting a leading practice. It deals with the adoption process right up to the point of initiating the process of facilitating widespread adoption. It therefore covers that part of the adoption process that is largely under the control of the adoption team. It is designed for use by the adoption team in monitoring and evaluating progress in relation to their agreed plan, and for regularly reporting progress at Learning Hub meetings. In that context it also enables the Head of Hub to assess progress and to consider and decide any action that might be appropriate. The team's adoption specialist should take responsibility for preparing and regularly updating the scorecard. The essence of the scorecard is presented below, and in detail in Reference Doc #55.

LP Process Scorecard (essence) – (See Reference Doc #55)				
KPA No.	Key Performance Area	KPI No	Key Performance Indicator	Definition of measurement (See Team datasheet for fuller description) Measure 1 Measure 2
Identification of Leading Practice				
A1	Appropriate persons to select leading practice	T4	Approved participants list	Head of Hub approved list of workshop participants Yes or No Date approved
A2	Appropriate plans for planning workshop	T8	HOH review and approval	Review and approval against checklist at least two weeks before workshop Yes or No Date of approval
A3	Detailed expert model of risk story	T12	Detailed expert models	Detailed drafts of the two expert models ready for workshop Estimate % complete Date completed
		T14	Hub Peer Group assessment	Peer group review of expert model quality Assessment score % Date completed
A4	Leading practice with greatest OHS impact	T19	Credibility of selected Leading Practice	Workshop participants assessment of practice against key criteria (at workshop) Assessment score in % Date assessed
Documentation of Leading Practice				
A5	Adoption mines and key people	T22	Prioritised list of mines and key people	Consolidated prioritised list of adopter mines and key persons at mines, with contact details Estimate % complete Date completed
A6	Direct enquiry protocol	T27	Direct enquiry protocol	Custom designed enquiry protocol signed off by Behaviour Specialist for the leading practice Estimate % complete Date completed
A7	Effective direct enquiry process	T30	Interview process	All planned interviews conducted by trained interviewers Estimate % complete Date completed
A8	Detailed mental models report	T33	Mental models report	Detailed mental models report signed off by Behaviour Specialist Estimate % complete Date completed
		T34	Identification of implications	Documented implications of the identified mental models as input for BC and LB plans Estimate % complete Date completed
A9	BC Plan for deciders	T35	BC plan for deciders (at mines)	Detailed BC plan for deciders signed off by Behaviour Specialist (see T50) Estimate % complete Date completed
A10	Generic BC plan for adoption mines	T38	BC plan for adoption mines	Detailed BC plan for use at adoption mines signed off by Behaviour Specialist Estimate % complete Date completed
A11	Generic LB plan for adoption mines	T41	LB plan for adoption mines	Detailed LB plan for use at adoption mines signed off by Behaviour Specialist Estimate % complete Date completed

A12	Peer reviewed value case report	T47	Final externally peer reviewed report	Final updated version of peer reviewed value case report Estimate % complete Date completed
A13	Implemented BC plan for deciders	T50	Implementation of Decider BC plan	Implementation of BC plan for deciders prior to Leading Practice Adoption Workshop Estimate % complete Date completed
A14	Source mine report	T55	Final source mine report	Updated draft of report based on input from consultations at mine and with adoption team Estimate % complete Date completed
		T56	Hub peer group assessment	Hub Peer Group assessment using an agreed score card for assessing source mine reports Assessment score % Date completed
A15	Source investigations summary report	T57	Summary of behavioural work	A summary report of the work undertaken in developing the generic BC and LB plans Estimate % complete Date completed
		T58	Source investigations summary report	A report that pulls together the separate investigation reports which are appended Estimate % complete Date completed
		T59	Hub peer group assessment	Hub Peer Group assessment using score card for source investigations summary reports Assessment score % Date completed
A16	Draft leading practice adoption guide	T61	Draft LPAG for use at mines	Draft guide for use at adoption mines based on input from source mine and team Estimate % complete Date completed
		T62	Hub peer group assessment	Hub Peer Group assessment of LPAG using agreed score card Assessment score % Date completed
Facilitation of widespread adoption				
A17	Leading practice industry workshop	T65	Workshop programme	Programme for workshop signed off by HoH at least two weeks before workshop Yes or No Date completed
		T66	Effective key presentations	A special workshop assessment form completed at workshop by all participants Assessment score % Date completed
A18	Establishment of effective COPA	T69	COPA modus operandi	Modus operandi agreed with COPA members within 4 weeks of establishing the COPA Estimate % complete Date completed
		T72	COPA membership	To include one originally identified key persons at adoption mine and / or Adoption Team Manager % of mines with required membership No of mines
		T73	COPA attendance	COPA attendance by identified key (required) members % attendance by key members Date of last meeting
		T75	COPA effectiveness - self assessment	A COPA effectiveness assessment form completed six-monthly by COPA participants Assessment score in % Date completed
A19	Working relationship with Lead Adoption Mine	T78	Agreement with Mine Manager	Working relationship agreed with Mine Manager Estimate % complete Date completed
A20	Adoption process at Lead Adoption Mine	T79	Agreed adoption plan	Copy of agreed adoption plan for lead adopter mine with comments for use in updating LPAG Estimate % complete Date completed
		T81	Direct enquiry process	Direct enquiry process using selected interviewees and trained interviewers Estimate % complete Date completed
		T82	Customised BC & LB plans	Customised BC and LB plans involving proper application of customisation process Estimate % complete Date completed
		T84	Monitoring and evaluation plan	Impact and performance monitoring and evaluation plan agreed with the mine Estimate % complete Date completed
		T85	Effectiveness of BC & LB plans	Assessment of effectiveness using standard behaviour modification survey tool Assessment score in % Date completed
		T88	Documented findings	All findings (lessons learnt) at first adoption mine documented and on file Estimate % complete Date completed
		T90	Signed off report on first adoption	Updated report based on input from consultations at mine and with adoption team Estimate % complete Date completed
		T91	Hub peer group assessment	Hub Peer Group assessment of adoption report using an agreed score card Assessment score % Date completed
A21	Final leading practice adoption guide	T93	Final Leading Practice Adoption Guide	Updated final draft of the LPAG based on input from first adoption mine and adoption team Assessment score % Date completed
		T94	Hub peer group assessment	Hub Peer Group assessment of LPAG using an agreed score card Assessment score % Date completed
A21a	Adequacy of adoption process	T94a	Average of peer group assessments	Average value of peer group assessments conducted to date (T14, 15, 56, 59, 62, 75(av), 91, 94) Average assessment score Date all assessments completed

12. **LP Adoption Scorecard:** This scorecard comprises of indicators that track adoption progress at each of the identified potential adoption mines. It is for use at COPA, Adoption Team and Learning Hub meetings in reporting and evaluating progress on facilitating widespread adoption of the leading practice. A simpler summary version of the scorecard is also available for use when the display of progress at individual mines is not necessary. The team's adoption specialist should take responsibility for preparing and regularly updating the scorecard, and for preparing the summary version when required. The essence of both the scorecard and the summary version are presented below, and in detail in Docs [#56](#) and [#57](#) respectively. (Note: that the orientation of the scorecard presented below differs from that in Reference Doc #56, purely for convenience of presentation in this section.)

LP Adoption Scorecard (essence) – (See Reference Doc #56)					
		1	2	3	Etc.
Detail of identified potential adoption mines	Sequential Numbering of mines				
	Name of mine				
	Company				
	Name of manager				
	Commodity mined				
	Region / province				
	Chamber member (yes / no)				
	Name of project leader				
	Email address of project leader				
Key Mine data	Telephone number of project leader				
	Total number of employees at mine				
	Estimate of number of persons to benefit from LP				
	Date adoption initiated				
	Date adoption completed				
	Investment in adoption (Rand value of time & purchases)				
Adoption progress at mine	Learning accommodated (specific provision Y/N)				
	Leading practice investigated for adoption				
	Implementation plan (including M&E)				
	Leading practice procedures customised				
	Mental model interviews				
	Customised Leadership Behaviour Plan				
	Customised Behaviour Communication Plan				
	Risk assessment				
	Training lesson plans				
	Management sign-off (Review process)				
	Roll-out plan in place				
	No of people to train				
	No of people trained				
	Overall progress assessment (not just training)				

(I = in progress, C = completed, S = signed off, N = decided no)

For each mine the highlighted cells are colour coded according to the progress indicator that is entered

Summary LP Adoption Scorecard (essence) – (See Reference Doc #57)				
KPA No.	Key Performance Area	KPI No	Key Performance Indicator	Definition of measurement (See Team datasheet for fuller description) Measure 1 Measure 2
A22	Leading practice adoption	T95	Identified potential adoption mines	Number of identified potential adoption mines No. of mines Date last mine identified
		T96	Leading practice investigated for adoption	No of completed adoption investigation forms returned by mines to adoption team manager Number of mines % of potential adoption mines
		T97	Positive decision to adopt	Number of mines indicating a positive decision to adopt on their completed adoption investigation form Number of mines % of potential adoption mines
		T98	Mine adoption team appointed	Number of mines that have appointed an adoption team and a manager to champion adoption of the leading practice across the mine Number of mines Date appointed
		T99	Investment in adoption	Total of planned investment by mines in adopting the leading practice Cost in Rand Number of person days
		T100	Implementation plan (Including M&E)	Number of mines that have provided copies to MOSH adoption team manager of acceptable implementation plans to adopt the leading practice Number of mines % of potential adoption mines
		T101	Accommodation of learning	Number of mines with approved provisions to accommodate learning during adoption without undue impact on production bonuses Number of mines % of actual adopter mines
		T102	Leading practice procedures customised	Number of mines that report successful customisation of the leading practice to take account of mine circumstances without compromising key elements of the Leading Practice Number of mines % of potential adoption mines
		T103	Mental models interviews	Number of mines that report they have conducted mental model interviews using trained interviewers Number of mines % of potential adoption mines
		T104	Customised BC plan	Number of mines that report they have customised BC plan according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T105	Customised LB plan	Number of mines that report they have customised LB plan according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T106	Risk assessment	Number of mines that report they have implemented a risk assessment on adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T107	Training lesson plans	Number of mines that report they have developed their training lesson plans according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T108	Management sign-off	Number of mines that report management sign-off according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T109	Leading practice piloted	Number of mines that report that they have initiated piloting of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T110	Roll-out plan implementation	Number of mines that report completion of the required mine-wide leading practice roll-out plan according to guidance provided in adoption guide Number of mines % of potential adoption mines
		T111	Completed adoptions of leading practice	Number of mines that have provided documentation confirming adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines

13. **SLP Process Scorecard:** The SLP Process Scorecard differs from the LP Process Scorecard in that it covers the entire SLP adoption process, from identifying and documenting the SLP, right through to facilitating its widespread adoption. As for a full MOSH Leading Practice, it is designed for use by the adoption team in monitoring and evaluating progress in relation to their agreed plan, and for regularly reporting progress at Learning Hub meetings. It therefore also enables the Head of Hub to assess progress and to consider and decide any action that might be appropriate. Once again, the team's adoption specialist should take responsibility for preparing and regularly updating the scorecard. The essence of the scorecard is presented below, and in detail in Reference Doc #58.

SLP Process Scorecard (essence) – (See Reference Doc #58)				
KPA No.	Key Performance Area	KPI No	Key Performance Indicator	Definition of measurement (See Team datasheet for fuller description) Measure 1 Measure 2
SLP Adoption Process				
Identification of SLP				
A23	SLP Adoption	T112	Identified potential SLP adoption mines	List of identified potential SLP adoption mines No. of mines Date completed
		T113	Full Adoption Team assessment of SLP	SLP assessment form discussed and confirmed at meeting of full MOSH adoption team Yes or No Date confirmed
Documentation of SLP				
		T114	Arrangements with source mine	Arrangements for investigation set up and agreed in writing with mine manager Yes or no Date agreed
		T115	Investigations at source mine	Investigations at source mine conducted in accordance with handbook Estimate of % complete Date completed
		T116	Documentation of SLP	Findings from source mine documented and on file in website database Estimate of % complete Date completed
		T117	Formal review by Review Panel	Formal review by duly convened independent review panel Yes or no Date completed
		T118	Customisation of SLP behavioural plans	Standard SLP behavioural plans updated to take account of SLP specifics Estimate of % completed Date completed
		T119	Preparation / external review of SLP adoption brief	SLP Adoption Brief finalised following external review and on file in website database Estimate of % complete Date completed
Facilitation of widespread adoption				
		T120	Potential adoption mines & key contacts	Prioritised list of potential adoption mines with contact details of key persons Estimate of % completed Date completed
		T121	Invitation to briefing workshop	SLP Adoption Brief and briefing workshop invitation sent to key persons at all potential adoption mines Estimate of % complete date completed
		T122	Effectiveness of SLP Briefing Workshop	Standard SLP Briefing Workshop assessment form completed by all attendees to assess effectiveness of workshop Assessment score in % Date completed
		T123	Adoption reporting arrangements	Email to key person at all potential adoption mines requesting participation in monthly tracking of SLP adoption Number of mines invited % participating
		T124	Reported adoptions of SLP	Number of mines reporting adoption of the SLP, as % of potential adoption mines % adoptions Number of potential adoption mines
		T125	Confirmed full process adoptions of SLP	Number of adoptions of the SLP in accordance with the SLP Adoption Brief, as % of potential adoption mines % full adoptions Number of potential adoption mines

14. **SLP Adoption Scorecard:** The SLP Adoption Scorecard is similar in concept to the LP Adoption Scorecard in that it tracks adoption progress at each of the identified potential adoption mines. It therefore contains much more detail than the SLP Process Scorecard. It is for use by the adoption team in keeping potential adoption mines informed of adoption progress by their peers. It is also for use in Adoption Team and Learning Hub meetings in reporting and evaluating progress on facilitating widespread adoption of the leading practice. A summary version of the scorecard is unnecessary since a summary of progress on adoption of the SLP is appropriately presented in the SLP Process Scorecard. Once again, the team's adoption specialist should take responsibility for preparing and regularly updating the scorecard. The essence of the scorecard is presented below, and in detail in Reference Doc #59.

SLP Adoption Scorecard (essence) – (See Reference Doc #59)					
Detail of identified potential adoption mines	Sequential Numbering of mines	1	2	3	Etc.
	Name of mine				
	Company				
	Name of manager				
	Commodity mined				
	Region / province				
	Chamber member (yes / no)				
	Name of project leader / key contact				
	Email address of project leader / key contact				
	Telephone number of project leader / key contact				
Adoption progress at mines	Total number of employees at mine				
	Estimate of number of production persons at mine				
	Date of email request to participate in adoption tracking				
	Date of first monthly feedback from mine				
	Date of reported SLP adoption				
	Date of confirmed adoption according to adoption brief				

15. **Team Impact Scorecard:** This scorecard keeps track of the extent that the various leading practices introduced by the Adoption Team have been adopted across industry, including SLPs. It also keeps track of movement in the parameters expected to best indicate the occupational health and safety benefits derived from adopting the practices in question. The scorecard is designed for use by the adoption teams in quarterly reporting on the outcomes and impacts of the team's work. The team's Adoption Specialist should take responsibility for preparing and regularly updating the scorecard. The Monitoring Specialist should establish and maintain a data base of relevant industry data needed by the adoption specialist in updating the scorecard. The essence of the scorecard is presented below, and in detail in Reference Doc #60.

Team Impact Scorecard (essence) – (See Reference Doc #60)				
KPA No.	Key Performance Area	KPI No	Key Performance Indicator	Definition of measurement (See Team datasheet for fuller description) Measure 1 Measure 2
Industry benefits				
Leading practices adopted (including SLPs)				
P1	LP / SLP Adoption (Name of LP / SLP 1)	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potential adoption mines
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptions Number of reported other adoptions
	LP / SLP Adoption (Name of LP / SLP 1)	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potential adoption mines
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptions Number of reported other adoptions
	LP / SLP Adoption (Name of LP / SLP 1)	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potential adoption mines
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptions Number of reported other adoptions
	LP / SLP Adoption (Name of LP / SLP 1)	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potential adoption mines
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptions Number of reported other adoptions
	Etc.	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potential adoption mines
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptions Number of reported other adoptions
Impact on OHS performance				
P2	Adopter mines: Annual OHS performance / improvement	B3	Lead indicator 1: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B4	Lead indicator 2: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B5	Lead indicator 3: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B8	Lag Indicator 6: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B9	Lag Indicator 7: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B10	Lag Indicator 8: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago

P3	All mines: Annual OHS performance / improvement	B11	Lead indicator 1: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B12	Lead indicator 2: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B13	Lead indicator 3: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B14	Lag Indicator 6: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B15	Lag Indicator 7: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago
		B16	Lag Indicator 8: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago

16. **High-level Scorecard:** This scorecard contains a selection of indicators of relevance to high-level stakeholders in monitoring and assessing the output of the Learning Hub and its impact on health and safety performance across industry. It also contains indicators that track industry participation in, and support of, the adoption process and its structures. The scorecard is designed to enable monitoring and evaluation of parameters crucial to the success of the adoption system and includes parameters that indicate progress towards the ultimate industry goal of zero harm. It is for consideration at Task Force meetings and other relevant high-level meetings. The Monitoring Specialist should take responsibility for preparing and updating the scorecard for presentation at these meetings. The essence of the scorecard is presented below, and in detail in Reference Doc #61.

High-level Scorecard (essence) – (See Reference Doc #61)		
KPI No.	Key Performance Indicator	Definition of measurement Measure 1 Measure 2
Executive leadership		
H40	Group policy supporting MOSH adoption	Number of Groups with explicitly stated policy and procedures to support and facilitate adoption activity within their Group No. of Groups Date of last policy statement
T96	Leading practices investigated for adoption	No of completed adoption investigation forms returned by mines to adoption team manager Number of mines % of potential adoption mines
H38	Group Adoption Coordinator involvement	% of Group Adoption Coordinators who attended the last Leading Practice Adoption Workshop % attendance Date of last workshop
H38a	Group Adoption Coordinator appointments	Number of Groups with appointed group adoption coordinators No appointed % of groups with appointments
H39	Available trained interviewers	Number of Groups with at least two trained interviewers per mine for conducting direct enquiry interviews % of Groups Date measured
T98	Mine adoption teams appointed	Number of mines that have appointed an adoption team and a manager to champion full adoption of the leading practice Number of mines % of potential adoption mines
T101	Accommodation of learning	Number of mines with provisions to accommodate learning during adoption without undue impact on production bonuses Number of mines % of actual adopter mines
H34	Task Force meeting attendance	% of industry members who have attended Task Force meetings over the past three months % attendance Date of last meeting
H35	Annual Hub Review meeting attendance	% of invited industry members who attended the annual review meeting % attendance Date of meeting
H41	Unsuccessful requests for assistance	% of approaches to Groups for assistance over past three months that were unsuccessful (secondees etc.) % Date of last approach
Hub activity		
H15	Unfilled posts	Number of unfilled positions in the adoption teams and the secretariat Estimate % vacant posts Date last position filled
H33	Adoption Team meeting attendance	% of industry members who have attended the adoption team meetings over the past three months % attendance Date of earliest meeting
H36	COPA meeting attendance	% of industry COPA members who attended COPA meetings held by the four adoption teams over the past three months (introduce additional rows if team has more than one COPA) % attendance Date of earliest meeting
H53	Active MOSH trainees	Number of MOSH trainees in service Number in service Date of last appointment
Leading practice adoption		
H57	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoption mines % with approved adoptions
H58	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of potential adoption mines
H77	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of identified potential adoption mines No. of potential adoption mines % adoptions
H29	Overall Impact Assessment	Assessment score in % of MOSH adoption system in contribution towards achievement of zero harm Assessment score % Date of assessment
OHS performance at adoption mines		
H83	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change in past 12 months
H84	Lead indicator 2: Noise exposure levels	No of persons exposed to noise levels > 95 dBA No of persons % change in past 12 months
H85	Lead indicator 3: Noise emission levels	No of items of equipment with noise emission > 110 dBA No of items % change in past 12 months
H86	Lag Indicator 1: Fatalities	Number of fatalities / million hours worked Fatals / million hrs % change past 12 months
H87	Lag Indicator 2: Injuries	Number of reportable injuries / million hours worked Injuries / million hrs % change past 12 months

H88	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change in past 12 months
H89	Lag Indicator 4: Noise induced hearing loss	Number of noise induced hearing loss claims per year Number / year % change in past 12 months
OHS performance at all mines		
H90	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change in past 12 months
H91	Lead indicator 2: Noise exposure levels	No of persons exposed to noise levels > 95 dBA No of persons % change in past 12 months
H92	Lead indicator 3: Noise emission levels	No of items of equipment with noise emission > 110 dBA No of items % change in past 12 months
H93	Lag Indicator 1: Fatalities	Number of fatalities / million hours worked Fatals / million hrs % change past 12 months
H94	Lag Indicator 2: Injuries	Number of reportable injuries / million hours worked Injuries / million hrs % change past 12 months
H95	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change in past 12 months
H96	Lag Indicator 4: Noise induced hearing loss	Number of noise induced hearing loss claims per year Number / year % change in past 12 months

17. **Learning Hub Datasheet:** This datasheet is intended for use by the Learning Hub Secretariat in the detailed planning, monitoring and evaluation of activities that are additional to or in support of activities undertaken by the various adoption teams. This includes strategically important issues that are agreed to from time to time. It also serves the purpose monitoring and evaluating progress on adoption achieved by the teams in more general terms. At the time of agreeing to any new strategically important initiatives, the Monitoring Specialist should update the datasheet to remove activities that are no longer relevant, and to add those newly agreed to. Importantly, those performance indicators that warrant being more routinely reported and evaluated should be included in the Learning Hub Scorecard. A noteworthy feature of both the datasheet and the scorecard is thus that certain of the key performance areas and indicators will change with time as various activities are completed and new ones added. It should be maintained by the Monitoring Specialist as a source of reference, and updated to the extent considered useful. The datasheet is provided in detail in Reference Doc #62.

18. **Learning Hub Scorecard:** The scorecard provides a basis for monitoring and evaluating progress on the key activities that are in addition to the usual activities of the adoption teams. By consolidating data presented by the adoption teams, it also provides a routine indication of progress being made by the Learning Hub. It is for use at Learning Hub meetings to monitor and evaluate progress on key Learning Hub activities in relation to agreed plans. The Monitoring Specialist should prepare and update the scorecard for consideration at Learning Hub meetings. The essence of the scorecard is presented below, with a copy of the fully detailed version being provided in Reference Doc #63.

Learning Hub Scorecard				
KPA No	Key Performance Area	KPI No.	Key Performance Indicator	Definition of measurement (see Hub datasheet for fuller descriptions) Measure 1 Measure 2
Adoption System Enablers				
L1	Detailed strategic communication plan	H5	Approved Plan	Detailed communication plan signed off by HoH Estimate % completed Date completed
		H7	Peer group Assessment	Peer group review using purpose specific score card Assessment score % Date completed
L2	Implementation of strategic communication plan	H9	Progress on Implementation	Number of communication actions / events completed as a % of total planned Estimate % complete Date completed
		H11	Effectiveness	Effectiveness of the implemented plan per purpose designed survey tool Estimate effectiveness % Date completed
L3	Effective learning hub support in place	H13	Effective support service	Competent support person / provider appointed Yes or No Date of appointment

L4	Staffing of teams and secretariat	H14	Credible adoption team managers identified	Potential adoption team managers identified six months before incumbent departs Estimate % completed Date list finalised			
		H15	Unfilled posts	Number of unfilled positions in the adoption teams and the secretariat Estimate % vacant posts Date position filled			
L5	Effective procedures for quality assurance	H17	Peer Assessment process established	Peer Group assessment process agreed to and successfully implemented Estimate % complete Date completed			
		H18	Number of assessments made	Number of assessments made in previous three months Number Date of last assessment			
		H19	Effectiveness of QA procedure	Effectiveness of peer group quality assurance process using custom survey tool Assessment score % Date completed			
L6	Revised handbook in place	H21	Input from MOSH Adoption Team	Workshop held with Adoption teams to obtain input on revised handbook sections Yes or No Date when workshop held			
		H22	Updated handbook provided	Updated handbook posted on the MOSH website data base Yes or No Date posted			
		H23	User satisfaction survey	Assessment of the extent that the revisions meet Secretariat and MOSH team needs Assessment score % Date of assessment			
L7	Shortened adoption process implemented	H24	Implementation workshop	Workshop with Hub staff on implementation of shortened adoption process Yes or No Date workshop held			
		H26	Effectiveness of process	Effectiveness of shortened adoption process per special score card Assessment score % Date of assessment			
Additional strategic plan items							
L8	Stakeholder impact survey on progress towards zero harm	H27	Approved survey tool	Tool to assess MOSH contribution to achieving zero harm discussed and agreed. Estimate % complete Date completed			
		H28	Assessment report	Detailed report on survey to assess MOSH contribution to achieving zero harm Estimate % complete Date completed			
		H29	Overall Impact Assessment	Assessment of MOSH contribution to achievement of zero harm Assessment score % Date of assessment			
L9	MOSH related training courses at key institutions	H31	Signed agreements	Working relationship with at least two key learning institutions agreed to in writing Estimate % complete Date completed			
L10	Industry involvement and participation in MOSH process	H33	Adoption Team meeting attendance	Industry member attendance of adoption team meetings over past three months % attendance Date of earliest meeting			
		H34	Task Force meeting attendance	Industry member attendance of Task Force meetings over past three meetings % attendance Date of last meeting			
		H35	Annual Hub Review meeting attendance	% of invited industry members who attended the annual review meeting % attendance Date of meeting			
		H36	COPA meeting attendance	Industry COPA member attendance of COPAs of all teams over past three months % attendance Date of earliest meeting			
		H37	Special workshop attendance	Invited industry members attendance of MOSH workshops over past three months % attendance Date of last meeting			
		H38	Group Adoption Coordinator involvement	% of Group Adoption Coordinators who attended the last Leading Practice Adoption Workshop % attendance Date of last workshop			
		H38a	Group Adoption Coordinator appointments	Number of Groups with appointed group adoption coordinators % of Groups Date of last appointment			
		H39	Available trained interviewers	Number of Groups with at least two trained interviewers per mine for conducting direct enquiry interviews % of Groups Date measured			
		H40	Group policy supporting MOSH adoption	Number of Groups with explicitly stated policy / procedures to support adoption No. of Groups Date of last policy statement			
		H41	Unsuccessful requests for assistance	Unsuccessful approaches to Groups for assistance over past three months, in % % Date of last approach			
L11	Effective data base web-site	H43	Functional web-site	Website design and development completed and site continuously available for use Estimate % complete date when completed			
		H44	Website updates	Number of new documents uploaded onto the website / month Number uploaded date of last update			
		H45	Utilisation by registered users	Number of visits / month by registered users Number of logins date of last login			
		H48	Site effectiveness	Effectiveness of the web-site using a purpose designed questionnaire Assessment score % Date of assessment			
L12	Implementation plan for MOSH trainees (Goal 2 action 8)	H52	Implementation plan	Final implementation plan developed and budget approved Estimate % complete Date completed			
		H53	Active MOSH trainees	Number of MOSH trainees in service Number in service Date of last appointment			
L13	Identify and use suitable mentors (Goal 2 action 3)	H54	Potential mentors identified	Number of persons who have agreed in principle to serve as mentors to Hub staff Number of mentors Date of agreement made			
		H55	Active mentors	Number of currently appointed mentors Number active Date of latest appointment			
Hub Outputs							
L19	Leading practice 1: Name	H57	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoption mines % with approved adoptions			
		H58	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of pot adoption mines			
L20	Leading practice 2: Name	H59	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoption mines % with approved adoptions			
		H60	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of pot adoption mines			
L21	Leading practice 3: Name	H61	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoption mines % with approved adoptions			
		H62	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of pot adoption mines			
L22	Leading practice 4: Name	H63	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoption mines % with approved adoptions			
		H64	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of pot adoption mines			
L29	SLP 1: Name	H77	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of potential total No. of potential adoption mines % adoptions			
L30	SLP 2: Name	H78	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of potential total No. of potential adoption mines % adoptions			
L35	Annual OHS improvements at adopter mines	H83	Impacts		Timing	Target	
			Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change year on year	Annually	> 20 % better	
			Lead indicator 2: Noise exposure	No of persons exposed to noise levels > 95 dBA No of persons % change year on year	Annually	> 20 % better	
		H85	Lead indicator 3: Noise emission	No of items of equipment with noise emission > 110 dBA No of items % change year on year	Annually	> 20 % better	
			H86	Lag Indicator 1: Fatalities	Number of fatalities to date in current and previous year Fatals to date in previous year Fatalis to date	Monthly	> 20 % better
				H87	Lag Indicator 2: Injuries	Number of LTIs in current and prev. year (reportables) LTIs to date in previous year LTIs to date	Monthly

L36	Annual industry OHS improvement	H88	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change year on year	Annually	0 new cases
		H89	Lag Indicator 4: NIHL	Number of noise induced hearing loss claims per year Number / year % change year on year	Annually	> 20 % better
		H90	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change year on year	Annually	> 20 % better
		H91	Lead indicator 2: Noise exposure	No of persons exposed to noise levels > 95 dBA No of persons % change year on year	Annually	> 20 % better
		H92	Lead indicator 3: Noise emission	No of items of equipment with noise emission > 110 dBA No of items % year on year	Annually	> 20 % better
		H93	Lag Indicator 1: Fatalities	Number of fatalities to date in current and previous year Fatals to date in previous year Fatals to date	Monthly	> 20 % better
		H94	Lag Indicator 2: Injuries	Number of LTIs in current and prev. year (reportables) LTIs to date in previous year LTIs to date	Monthly	> 20 % better
		H95	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change year on year	Annually	0 new cases
		H96	Lag Indicator 4: NIHL	Number of noise induced hearing loss claims per year Number / year % change year on year	Annually	> 20 % better

Concluding comment

It will be evident that the challenge of developing an effective monitoring and evaluation framework for the MOSH Leading Practice Adoption System is not trivial, particularly if it is to help ensure that the right things are done right. Given that the success of the adoption system really depends on properly doing the right things right, the importance of ensuring effective operation of the M&E Framework is clear.

Section 14.3

Operation of an effective scanning, monitoring and evaluation function

Key outcomes

- Recognition of the different levels involved in ensuring effective evaluation of monitored data
- Awareness of the distribution of responsibilities in ensuring the operation of an effective scanning and M&E function
- Awareness of the nature and scope of the role expected of the Monitoring Specialist
- Recognition of the role and benefit of the MOSH website in ensuring effective operation of the M&E function

Background

Having presented the key elements of the Monitoring and Evaluation Framework that has been developed, attention is now given to the challenge of outlining arrangements for its effective operation. In addressing this challenge it was recognized that in order to be fully effective, the monitoring and evaluation framework considered in the previous two sections should be extended to include a complementary scanning function. Accordingly, the operation of an effective scanning function is also covered in this section. The importance of ensuring practical implementation of the operational arrangements outlined in this section is self-evident.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Purpose

The purpose of this section is to outline:

- Key requirements and responsibilities for effective operation of the M&E Framework, and
- Complementary requirements and responsibilities.

Key points for consideration

1. *Acquisition of OHS data from official sources:* It is crucially important that the Occupational Health and Safety data presented in the various scorecards is consistent with that published by the Department of Mineral Resources, and or other official sources, such as the Department of Health. Given the detailed nature of the data required by the scorecards, this calls for special arrangements to be set up with the Department of Mineral Resources to enable ready access to the latest OHS data. Similar arrangements need to be set up with other official sources to enable ready access to data on noise and dust exposure levels, and the incidence of noise induced hearing loss and silicosis. As indicated in the scorecards presented in section [14.2](#), the exact nature of the required data needs first to be established by the MOSH Adoption Teams in consultation with the Monitoring Specialist. Arrangements for ready access to the data then need to be negotiated and set up by the Head of Hub, with the support of the Monitoring Specialist.
2. *Maintenance of up to date OHS database:* Having arranged ready access to data in official databases, the Monitoring Specialist should set up and maintain a database, or set of databases, that enable the MOSH Adoption Teams to readily access the detailed OHS data they need for their various risk investigations and for presentation in their scorecards. The nature and format of these databases should be worked out in consultation with the adoption teams. This agreed OHS database arrangement should then be updated by the Monitoring Specialist on a monthly basis and made readily accessible to the adoption teams through the MOSH website.

3. *Maintenance of up to date mine level data:* A database that contains data about the various mines that are in principle potential adopters needs to be compiled and kept up to date. In addition to listing the names of the mines, the database needs to contain essential detail about each mine, such as the number of production employees on surface and underground, the name and contact details of the mine manager, as well as similar details for the various persons on the mine executive for addressing falls of ground and transport and machinery accidents, and occupational hygiene and occupational health issues. The scope and details of the database need to be agreed in consultation with the adoption teams, with the database being maintained by the Monitoring Specialist. The teams should assist the Monitoring Specialist in establishing and keeping the database up to date, with the database being included in the MOSH website to enable convenient and ready access by the teams. The existence of such a database will greatly facilitate the work of the adoption teams.
4. *Preparation of assessment tools:* An important feature of the scorecards is that they call for a peer review of a number of the most important outcomes from the various adoption activities. Standard assessment tools need to be developed and used to ensure a common approach to undertaking these assessments. To ensure that these tools focus on the most important elements in assessing the quality and usefulness of the outcome in question, they need to be developed by the Monitoring Specialist in consultation with the adoption teams. Such tools need to be reviewed from time to time, updated in the light of operational experience, and circulated to the various users.
5. *Establishment of a practical peer review process:* An active process of learning from peers is an essential aspect of the process of continuous improvement. In the Learning Hub it is also an important means of assessing and ensuring the quality of outputs from adoption teams. Unless carefully designed such a process can however become a distracting and onerous task. A practical but effective peer review process therefore needs to be designed and put in place by the Monitoring Specialist in consultation with those involved in the process. In doing so the following key principles should be taken into account:
 - The responsibility for conducting peer reviews should be shared among Hub staff.
 - Two appropriate peers should be selected to conduct each review. The Monitoring Specialist should also review the document but only in the context of agreed Learning Hub format, style and presentation standards.
 - The review process should be completed within 5 to 10 working days.
 - The process should be centrally managed by the Monitoring Specialist.
 - Conflicts or very poor quality work should be referred to the Head of Hub for consideration.
6. *Identification of completion dates for key adoption activities and outputs:* An important aspect of the adoption process is that of planning the work to ensure that various activities and outcomes are undertaken or completed when appropriate. Experience has shown that certain activities tend to be neglected, or initiated too late, to the detriment of the adoption process. Proper planning and monitoring of progress in relation to the completion dates identified in the various scorecards has the potential to minimize, and hopefully eliminate this shortcoming. Scheduling of the adoption activities and outputs for each leading practice

is clearly the responsibility of the relevant adoption team under the direction of the Adoption Team Manager. However, the Adoption Specialist has a special role to play in this process, by ensuring that the detailed aspects of each activity and output are properly taken into account in arriving at the scheduled completion dates. Finally, it is the responsibility of the Head of Hub to evaluate the mutually agree the final plan with each adoption team. As the adoption process unfolds, it may be necessary to review and adjust some of the planned completion dates, but this should be done by the adoption teams in agreement with the Head of Hub.

7. *Maintenance of up to date leading practice, SLP and team impact scorecards:* Each adoption team needs to ensure that it maintains up to date scorecards for each leading practice (or SLP). This requirement extends also to the team impact scorecard. Although the maintenance of up to date scorecards is a collective team responsibility, the task of collating the necessary data and preparing agreed team scorecards for submission to the Monitoring Specialist according to an agreed schedule should be undertaken by the Adoption Specialist.
8. *Identification of key completion dates for key Learning Hub activities:* The Learning Hub scorecard differs from that of the adoption teams in that it covers a range of activities and outputs associated with what are in effect separate projects assigned to various persons in the Learning Hub. Accordingly, it is these persons who need to plan completion dates for the various activities and outputs. These dates should then be provided to the Monitoring Specialist for inclusion in the learning hub scorecard. In keeping with the procedure for adoption team scorecards, it is the responsibility of the Head of Hub to evaluate and mutually agree the completion dates with the persons responsible for the various activities. As the work proceeds, it may be necessary to review and adjust some of the planned completion dates, but once again, this should be done by the responsible persons for agreement with the Head of Hub.
9. *Maintenance of up to date Learning Hub scorecard:* The Learning Hub Secretariat needs to ensure that it maintains an up to date learning hub scorecard. Because of the involvement of many persons in the various activities covered in the scorecard, this is once again a collective responsibility. However, the task of collating the necessary data and preparing the scorecard for presentation at monthly review meetings should be undertaken by the Monitoring Specialist.
10. *Preparation of high-level scorecard:* Preparation of the high-level scorecard should be undertaken by the Monitoring Specialist using data from the various scorecards, and from any other databases maintained for this purpose. The scorecard should be provided to the Head of Hub for review prior to being circulated for consideration at the meeting it has been prepared for, such as a meeting of the Task Force.
11. *Submission and circulation of scorecards:* It will be important for the Head of Hub to issue a schedule indicating the dates that the various scorecards should be submitted for circulation and consideration at various meetings. This schedule should unambiguously indicate the persons responsible for preparing and submitting the scorecards to the Monitoring Specialist for circulation. Indeed, the preparation and submission of the scorecards on time should become one of the key performance areas of the persons concerned. Although the schedule of submission dates may be prepared by the Monitoring Specialist, it should be issued by,

and with the authority of the Head of Hub. The Monitoring Specialist must then ensure that the Learning Hub scorecard, and other scorecards, such as the high-level scorecard are circulated in good time for consideration at the meetings in question. The important role of the scorecards as a management tool should be clear to all.

12. *Evaluation of monitored indicators:* Monitoring without evaluation and appropriate follow up action is a waste of valuable time, and will soon be considered to be exactly that by those involved in preparing the scorecards. In line with the M&E Framework outlined in section 14.2, The scorecards must therefore in practice serve as an effective management tool at a number of levels, as follows:

- *Individual:* The first, and perhaps most important level, is at the level of the person responsible for the activity. Monitored of data that falls short of that planned or expected should immediately trigger the identification of remedial or corrective action for the activity in question. Much of this may be identified and implemented in a relatively informal manner. However, in the absence of such a comparison, which is a feature of the scorecards, such corrective action may often not occur. This important and valuable benefit of the M&E Framework may not always be appropriately recognized.
- *Team:* The next level is at team level, where the team must collectively consider the completed scorecard prior to its submission. At this level, under the leadership of the Team Manager, the team should consider and collectively plan remedial or corrective action, for presentation at the meeting at which the scorecard is to be considered. This applies to both adoption teams and, analogously, to the Learning Hub Secretariat.
- *Hub:* In a formal management sense, the most important evaluation is that which must be undertaken by the Head of Hub. All scorecards circulated for consideration at meetings should be critically reviewed by the Head of Hub prior to the meeting at which the scorecard is to be considered. The meetings should then serve the purpose of ensuring that appropriate remedial or corrective action is being taken in those cases where such action is necessary. In those cases where agreeing such action is not possible during the meeting, special arrangements should be made to consider the issue in more detail outside of the meeting. Importantly, the meetings should also be used as an opportunity to appropriately recognize particularly good performance by individuals or teams.
- *Stakeholder:* In meetings such as that of the Task Force, or a COPA, or other high-level meeting, the scorecards will in most cases be used as a vehicle to identify areas for discussion, often with a view to eliciting or proposing specific supportive or corrective action on behalf of those attending the meeting. However, even in those cases where no specific action is being sought, a crucially important purpose of the scorecard must be that of presenting information that will engender general support by key stakeholders for the work of the Learning Hub.

13. *Identification of appropriate risk specific OHS indicators:* A notable aspect of the scorecards presented in section 14.2 is that the responsibility for identifying the most appropriate risk specific health or safety indicators for each leading practice lies with the adoption teams. Some suggestions have been made in respect of progress toward meeting the tripartite agreed milestones, but identification of the most appropriate lead and lag indicators must be made by the adoption teams. In doing so the Monitoring Specialist should be consulted

regarding the practicality of sourcing the required data. The Adoption Specialist is expected to take a leadership role in this process, but this may not always be the case. The selected indicators should be presented to the Head of Hub for endorsement prior to them being introduced into the scorecards for routine use.

14. *Ad hoc mine level OHS investigations:* From time to time the adoption teams may need to acquire detailed mine-level data to more deeply investigate prevailing risks, or to more clearly establish the effect of introducing a particular leading practice. Such ad hoc investigations are additional to the standard M&E Framework, but should be considered an important aspect of an effective scanning, monitoring and evaluation function. The responsibility of planning and implementing such investigations must rest with the adoption team in question, but with the input of the Monitoring Specialist, and other out-sourced specialists if necessary. The responsibility for acquiring and analyzing the data should similarly be that of the adoption team. In most cases it should be possible for the team to arrange basic data collection using resources available at the mine or mines in question. However, in other more specialist investigations, or in analyzing the data, it might be necessary to obtain assistance from the Behaviour Specialist, or to use outsourced expertise, depending on the nature of the investigation.
15. *Implementation of annual survey of adoption status:* Designing and implementing an annual survey of all mines to identify the extent to which the various leading practices have been adopted, and are still in use, is a particularly important element of the M&E Framework. This should be regarded as one of the key annual tasks of the Monitoring Specialist. The design of the survey should be undertaken by the Monitoring Specialist in consultation with the adoption teams. Importantly, it should be finalized by the Head of Hub in consultation with the Task Force, on the clear understanding that each Task Force member will support and pave the way for its completion and timeous return by mines within their company. It is important to obtain this undertaking from Task Force members before circulating the survey document for completion by mines.
16. *Maintenance of meeting attendance registers:* Experience has highlighted the importance of keeping an accurate record of persons who attend the various adoption team and Learning Hub meetings. Lack of attendance, and changes in the person, or the level of person who attends, have all emerged as problematical issues that are not readily addressed without the availability of reliable meeting attendance registers. The adoption teams should ensure that attendance registers are kept for all adoption team and COPA meetings, and the Monitoring Specialist should ensure that such registers are kept for all meetings organized by the Learning Hub. These registers should be filed in the website document archival system.
17. *Scanning for promising R&D outputs and potential leading practices:* The primary responsibility for identifying promising R&D outputs and potential leading practices lies with the adoption teams. All members of the team share this responsibility, with the adoption specialist carrying the prime responsibility. However, the Monitoring Specialist has an important supportive role to play. In particular, reports and publications from prominent R&D organisations and mining journals should be routinely scanned to identify R&D outputs, processes and equipment that may have potential as a leading practice. These should be brought to the attention of the relevant adoption team, and if then requested by the team, essential details of the identified item should be added to the list of potential leading practices being maintained by the team within the MOSH website.

18. *Archiving of scorecards and other key documents:* Although the benefit of the monitoring and evaluation system lies primarily in the evaluation and consequential action taken in response to the monitored data, the scorecard and other key monitoring documents should be systematically archived for later review and convenient access when necessary. The MOSH document archival website has been designed with this in mind, and the scorecards and other key documents, such as meeting attendance registers, should be provided to the Monitoring Specialist for archiving.
19. *Review and updating of scanning and M&E Framework:* Consistent with the concept of continuous improvement, the scanning arrangements and the monitoring and evaluation framework should be critically reviewed, and updated if necessary, on an annual basis. In the first instance, with a view to preparing an appropriate summary document for discussion, the Monitoring Specialist should invite suggested improvements from the adoption teams, the Learning Hub Secretariat and the Task Force. A summary of the suggested improvements should then be considered at a special meeting convened by the Head of Hub for this purpose. The scanning and M&E Framework should then be updated by the Monitoring Specialist in accordance with any updates that are collectively agreed to.

Given below for convenience is a summary tabulation of the key responsibilities outlined above. The item numbers correspond to the numbered points above:

Summary tabulation of primary scanning, monitoring and evaluation responsibilities						
MS: Monitoring specialist, AS: Adoption Specialist, ATM: Adoption Team Manager, Oth: Other, HoH: Head of Hub X = primary responsibility, o = supportive responsibility						
No	Activity	MS	AS	ATM	Oth	HoH
1	Set up arrangements for access to official OHS databases	o				x
2	Maintenance of up to date OHS database for use within Learning Hub	x				
3	Maintenance of up to date database of key mine level data	x	o	o		
4	Preparation of tools for peer review assessment process	x	o	o		
5	Establishment of practical peer review process	x				
6	Identification of completion dates for leading practice activities and outputs		o	x		
7	Preparation of leading practice, SLP and team impact scorecards		x			
8	Identification of completion dates for key learning hub activities	x			See text	
9	Preparation of Learning Hub scorecard	x				
10	Preparation of high-level scorecard	x				o
11	Establishment of schedule for submission of scorecards	o				x
11	Submission of scorecards for circulation		x			
11	Circulation of scorecards to meetings for consideration	x				
12	Evaluation of monitored indicators		x	x	See text	x
13	Identification of risk specific indicators	o	x	o		
14	Ad hoc mine level OHS investigations	o	o	x	See text	
15	Annual survey of status on adopted leading practices	x				o
16	Maintenance of meeting attendance registers	x	o	x		
17	Scanning for promising R&D outputs and potential leading practices	o	x	o		
18	Archiving of scorecards and other key documents	x			See text	
19	Annual review of scanning, monitoring and evaluation framework	x			See text	

Concluding comment

The scanning monitoring and evaluation arrangements outlined in this and the two preceding sections should provide a sound basis for ensuring that the right things are done right and on time. The challenge will be to ensure that the arrangements outlined here *deliver helpful pre-emptive action*, and not just an historical record of work undertaken without constructive critical review.

Section 14.4

Annual review of Adoption System performance

Key outcomes

- Recognition of the need for an annual review process
- Awareness of the key success factors for long term success of the Adoption System
- Identification of the persons who should participate in the annual review process
- Guidance on the key issues that need to be considered in an annual review of Adoption System performance

(Doc #67)

Background

Ensuring that the monitoring and evaluation arrangements outlined in the previous sections *deliver helpful pre-emptive action* and not just an historical record of work undertaken is an important management challenge. It is in this context that an annual review of adoption system performance is particularly important. Depending on how it is structured it has the potential to identify in broad terms whether the right things are been done right and in good time, and whether the direction of the Learning Hub continues to be well aligned with both the needs and circumstances of industry. This requires that the review involves key industry persons with relevant experience with the Adoption System. Involvement of such persons in the review process can also make an important contribution to engendering a sense of industry ownership in the adoption system.

Purpose

The purpose of this section is to:

- Outline key objectives of the annual review process, and
- Provide guidance on the envisaged review process.

Adoption System success criteria

In the process of developing the adoption system, a number of success criteria were identified, as follows:

- The key elements of the system should be simple and clear
- The Adoption System and the adoption process must engender industry ownership
- The adoption mechanism must be effective
- The System must facilitate attention being focused on top-level priorities
- The time required of industry persons must be minimized and free of undue complexity.

These criteria were very important from the perspective of designing a system acceptable to industry, and they are now important from an operational point of view. However, given the primary purpose of the Adoption System, and its important linkage to the Culture Transformation Framework, it is clear that a review of Adoption System performance should also include consideration of the following two criteria:

- The System must significantly contribute to an OHS improvement in industry
- The System must significantly contribute to the creation of an OHS culture across industry.

From time to time other criteria may also be important, but in general terms it is likely that the above criteria will remain a good basis for structuring the annual review of the Adoption System.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	
Monitor and review adoption	Review

Objectives of the review

Against this background the annual review should be conducted to achieve the following primary objectives:

- A meaningful dialogue between key persons from industry and the Learning Hub
- Awareness of the full extent that the system has addressed industry OHS needs, and
- Identification of Adoption System issues that need to be addressed for continuous improvement.

Industry involvement in the review process

The annual review process should involve the following persons from industry:

1. *MOSH Task Force members:* As the persons selected by their mining companies to represent the company's interest in governing the Adoption System, it is important that all members of the MOSH Task Force attend the annual review workshop. Should they not be able to do so, a well-briefed alternate from the company should attend in their place.
2. *MOSH Tripartite Advisory Committee:* In keeping with their advisory function, all members of the MOSH Tripartite Advisory Committee should be invited and encouraged to attend the workshop
3. *Industry members of MOSH Adoption Teams:* Industry members of the four MOSH adoption teams should be invited to attend the workshop along with their MOSH Task Force member.
4. *Key stakeholders:* Persons considered to be key stakeholders of the MOSH Adoption System who are additional to the above should be identified and invited to attend. This may include persons from the Mine Health and Safety Inspectorate, the Mine Health and Safety Council, Organised Labour, Research Organisations and others.
5. *MOSH Adoption Team Sponsors:* The four MOSH Adoption Team Sponsors have a crucial role to play in guiding the work of the MOSH adoption teams and in communicating the work and achievements of the teams to their high-level colleagues. They should be invited to provide a brief statement of key issues that they consider worthy of being noted or addressed during the course of the workshop.
6. *Learning Hub staff:* All Adoption Team managers and Learning Hub Specialists should attend the workshop.

All persons invited to the workshop should be provided with the workshop agenda and associated documents at least 10 days prior to the workshop.

Review process / procedures

Given that the envisaged review process requires the participation of high-level industry persons, it is important that the process be kept as brief and efficient as possible. As indicated in the example agenda presented below, a half-day workshop is envisaged.

Indicative Agenda for Annual Review of Adoption System performance			
Timing	Programme	Responsibility	Comment
0730-0830	Arrival and refreshments		
0830-0840	Welcome and Introduction	Task Force Chairman	
0840-0900	Presentation of Adoption System Scorecard	Head of Hub	Circulate beforehand
0900-0930	Input from Adoption Team Sponsors	Sponsors	About 5 min. each
0930-0945	Progress update	HoH / Managers?	See point 11

0945-1015	Discussion	Facilitator / HoH	
1015-1045	Tea		
1045-1100	Objectives and Breakaway process	Facilitator / HoH	
1100-1200	Breakaway sessions	Task Force members	Specialists to support
1200-1300	Report back and consolidation	Facilitator / HoH	Specialists to support
1300-1330	Summary and discussion of major findings	Facilitator / HoH	
1330	Closure and lunch	Head of Hub	

The envisaged process and procedures for conducting the programme outlined in the above Agenda are as follows:

7. *Venue*: The venue for the review workshop should be readily accessible to the invited workshop participants and appropriately equipped for the envisaged workshop breakaway sessions.
8. *Adoption System Scorecard*: The High-level Scorecard presented in Reference Doc #61 was designed to provide a one-page indication of the performance of all key aspects of the Adoption System. Accordingly, the scorecard should be completed in detail and provided to all workshop participants at least 10 days before the workshop for review prior to the workshop. Presentation of the scorecard at the workshop can then be structured to focus on a selection of the more noteworthy performance indicators or those that may warrant discussion.
9. *Preparatory document*: To facilitate their preparation for the workshop, at the time that participants are sent the scorecard and agenda, they should be provided with a document similar to that shown below. A more complete copy of the one-page document is provided in Reference Doc #67.

Assessment of Adoption System Performance						
No	Key success factors	Very Poor	Poor	Satisfactory	Good	Very Good
	Participants should indicate their rating for each of the key success factors indicated below, and then suggest how performance of the Adoption System might be improved in any area considered to be in need of improvement. Suggestions for improvement could be in any area and not only those listed here. The suggested improvements in the table below should then be numbered in priority order.					
1	The key elements of the system should be simple and clear					
2	The Adoption System and the adoption process must engender industry ownership					
3	The adoption mechanism must be effective					
4	The System must facilitate attention being focused on top-level priorities					
5	The time required of industry persons must be minimized and free of undue complexity.					
6	The System must significantly contribute to OHS improvement in industry					
7	The System must significantly contribute to the creation of an OHS culture across industry					

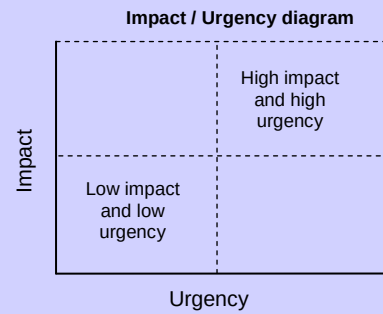
Suggestions and priority order for possible improvements to Adoption System		Priority order

In asking participants to rate adoption system performance against the key success indicators presented earlier, the document helps focus their thinking on issues vital to the long term success of the Adoption System. However, it purposely does not constrain their thinking as they are encouraged to provide suggestions in respect of any aspect of the system. It is important that they prioritise their suggestions so that their most important suggestions are brought forward first in the breakaway sessions. As indicated in Reference Doc #67, the documents will be collected during the breakaway sessions with a view to ensuring that all suggestions receive due consideration following the workshop.

10. *Input from Adoption Team Sponsors:* The Adoption Team Sponsors should be asked to prepare a five minute presentation setting out their assessment of Adoption System performance, based on experience with their respective teams, along with any suggestions for possible improvement. They should not in any way feel constrained in preparing their input, but since they should also have been provided with all documentation for the workshop, Reference Doc #67 may serve to provide helpful guidance.
11. *Progress update:* Since not all participants will be familiar with work in all areas, a brief presentation of progress over the past year should be presented. Importantly, this should include presentation of progress on key issues identified in the previous annual review of Adoption System performance. As indicated in the above agenda, in order to keep it brief, it is envisaged that this should be delivered by the Head of Hub. However, provided that the welcome is moved 15 minutes earlier, then the progress update could be based on five minute presentations from each of the Adoption Team Managers, as well as a five minute introductory overview from the Head of Hub.
12. *Breakaway sessions:* The breakaway sessions are a very important aspect of the review process. They therefore need to be carefully set up and managed. It is envisaged that six breakaway groups should be used, with a Learning Hub specialist being allocated as a recorder to each of the six groups. Each group should be chaired by a Task Force member. These Task Force members should be identified beforehand and the procedure to be followed during the breakaway session should be discussed with them prior to the workshop. Key points in respect of these sessions are as follows:
 - The objectives of the breakaway sessions should be clearly explained by the Head of Hub / Facilitator prior to the breakaway.
 - Workshop participants should be randomly allocated to the breakaway groups. Name tags should be colour coded for this purpose.
 - In each group the best and worst assessment recorded in the group for each of the success factors should be established and clearly recorded on a display card for feedback purposes.
 - Each person should be separately asked to put forward their top suggested improvement that has not already been covered by others. Each new suggestion should be recorded briefly but clearly by the Learning Hub Specialist on a display card and positioned in a list according to its assessed priority relative to those already identified.
 - The top ten suggestions from this process should then be used as input into the feedback session that follows the breakaway sessions.
13. At the end of the breakaway sessions, the specialist should ensure that the preparation documents are collected from all participants for later analysis. *Report back and consolidation:* It is important that all participants be given the opportunity to view and comment on the input from other breakaway groups. The top ten suggested improvements identified by each group should thus presented by the chairman of the breakaway group. Each display card should be stuck / pinned onto a display board with similar / related suggestions being logically grouped. The 6 Learning Hub specialists should assist in this display and grouping process. In most cases it should be possible consolidate the input received into less than ten such groupings. Each of the groupings should then be appropriately named and numbered. The grouping names should then be positioned on a

pre-prepared four quadrant impact - urgency diagram as an aid to deciding their priority for implementation. An example of such a diagram is shown in the side-box.

14. *Summary and discussion of major findings:* The concluding workshop session should involve a summary and discussion of the key workshop outcomes. The summary should be kept brief. It should cover the key points that emerged from discussion of the Adoption System Scorecard and input from the Adoption Team Sponsors, as well as the five suggested improvements on the impact-urgency diagram with the highest priority for implementation.



Suggested improvements should be plotted onto an impact – urgency diagram such as this, as an aid to deciding their priority for implementation

15. *Summary record of workshop outcomes:* Following the workshop a brief document of no more than two pages should be prepared to provide a summary record of the major outcomes. The document should be prepared and circulated to all workshop participants within two weeks of the workshop. It should also be provided to the MOSH Task Force for consideration at their first meeting following the workshop.
16. *Review of the annual review process:* At the meeting of the MOSH Task Force consideration of the summary record of the workshop outcomes should lead on to a review of the effectiveness of the annual review process itself. This will ensure that the review process is itself subject to a process of continuous improvement.

Facilitation of the process

17. *Practical considerations:* The procedures and processes outlined above are relatively straight forward, and may be undertaken or facilitated by the Head of Hub. However, in practice it may be preferable to engage the services of an independent facilitator to manage the discussions and oversee the breakaway sessions and process. This will enhance the credibility of the process. The decision of whether or not to engage the services of an independent facilitator is one that the Head of Hub may wish to take in consultation with the Chairman of the MOSH Task Force.

Concluding comment

Just as it is important to review the performance of the Adoption System, so too will it be important to review the effectiveness of the annual review process, and to update and improve the process as experience develops and needs change. This is in keeping with the concept of continuous improvement, which is the focus of this annual review process.

SECTION 15

Supporting reference sections

- 15.1 Originally envisaged scope of the Adoption System
- 15.2 Company activities that enable / enhance adoption of leading practice / technology
- 15.3 Explanatory note on behavioural communication
- 15.4 Explanatory note on leadership behaviour
- 15.5 Strategic communication plan developed for piloting of the Adoption System
- 15.6 Direct enquiry and customisation of behavioural plans

Section 15.1

Originally envisaged scope of the Adoption System

Key outcomes

- An awareness of the potential to extend scope and impact of the MOSH Adoption System in due course
- An understanding of the original concepts and thinking behind the MOSH Adoption System being implemented
- An appreciation of the scope to further develop the concept and practice of industry-wide enabling leadership
- Stimulation in the direction of continuous improvement of the MOSH Adoption System

Background

With a view to accelerating progress toward the achievement of the agreed MOSH milestones, the MOSH Task Force established a working group to investigate how best to improve technology transfer in the mining industry. Service providers with expertise in this area were engaged to assist in this investigation. This involved drawing on experience in technology transfer and behavioural communication techniques to first assess the challenge, and to then formulate an appropriate system to address the identified challenges.

Significantly, the system that emerged was focused on the adoption of identified leading practice, as opposed to the more general concept of technology transfer. Following consideration of the proposed system by the CEOs of the major mining companies, it was agreed that a system focused on facilitating the widespread adoption of leading practice should be piloted by the Chamber of Mines under the direction of the MOSH Task Force. Based on the positive experience during this piloting phase, it was agreed that the system being piloted should form the basis of establishing a Chamber based Learning Hub for at least the next five years.

Purpose

The purpose of this section is to:

- Provide an outline of the originally envisaged scope of the adoption system, and
- Serve as a source of reference and guidance in respect of aspects of the system that may warrant being included within the Learning Hub at a later stage.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

From sharing to widespread adoption of technology and best practice to improve occupational health and safety in mines

Final Report
J M Stewart Consulting
June 2007

Executive Summary

The nature and scope of what is involved in facilitating the widespread adoption of technology and or best practice, with a view to bringing about significant improvement in occupational health and safety performance is outlined. A system for achieving the required facilitation is put forward. It draws on insights gained from a review of past work and present practice, and takes account of findings from the mental models research that was conducted to identify barriers and aids to the sharing and widespread adoption of technology and or best practice.

Key success factors are presented. It is pointed out that the key elements of the proposed system must be clearly evident so that Industry Executives are able to consider and agree to them as a basis for implementing the system. In broad terms the key elements of the proposed system are as follows:

- The establishment of an enabling climate for the widespread adoption of technology and or best practice by company Chief Executives collectively agreeing to implement the identified key leadership dictates in their organisations.
- Continued existence of the Milestones Task Force, to identify the key issues that should be addressed to achieve the improved performance being sought, and to ensure that the system remains focussed on the identified priorities.
- Use of the various mechanisms and processes that have been outlined in ways best suited to addressing the key issues identified by the Task Force.
- The establishment of a small specialist secretariat governed by a brief that requires it to facilitate operation of the system that has been outlined, and to provide the support required by the various teams of industry persons that need to be established for effective operation of the system.
- Collaborative funding of the activities of the specialist secretariat by all Chamber members, but with mines being responsible for demonstration projects conducted at their operations.
- Piloting of the proposed arrangements as a basis for testing the effectiveness of the system and for refining the system prior to progressively implementing the agreed system elements.

It is pointed out that the specialist secretariat, which may be seen as a key enabling element, could be established either as a Chamber function, or outsourced by arrangement with an organisation that may already have most of the necessary expertise and interest, or a combination of the two.

It is proposed that Industry should first decide whether it is prepared to make the investment necessary to shift from sharing to adoption. In the event that this is agreed, it is proposed that the Task Force conduct a workshop to consider issues related to practical implementation of the system, including that of how best to pilot the system, and to formulate a proposal for consideration by the Chamber's Executive Council.

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1 Introduction

The South African mining industry is committed to continuous improvements in occupational health and safety performance as it strives to achieve the milestones and targets that have been collectively agreed to at Chief Executive level. Recent performance trends have led to the recognition that a fresh approach would need to be adopted if the sought after improvements are to be achieved. The Milestones on Occupational Health and Safety Task Force ('Task Force') was established to address this issue. The Task Force identified the greater use of available technology and best practice as one of the means for bringing about such performance improvements, and this is the focus of the present work.

There is a long-held perception by many that industry has not adequately benefited from the considerable effort that has been devoted to the development of improved technology and practice in the area of mine occupational health and safety. This comment applies in particular to R&D funded through the Mine Health and Safety Council's SIMRAC programme, but also to the industry's use of technology that has been developed on mines, by suppliers, or in other R&D programmes, both locally and internationally. It is also contended that many mines have developed effective practices, but that industry has not collectively benefited from these innovations to the extent that it should have, despite the various efforts that have been made to share this knowledge. In essence, it is felt that although considerable knowledge exists, and that much of it is shared, the sharing process does not adequately lead to adoption of the knowledge in practice.

Objective: The primary objective of the work is thus to develop a system to facilitate widespread adoption of technology and best practice, in order to bring about significant improvements in the occupational health and safety performance of the South African mining industry.

In addressing this objective it became clear that there are three quite different opportunities that need to be considered separately. They are to facilitate the identification, sharing and widespread operational adoption of:

- *Worthwhile* best practice,
- *Worthwhile* technology, such as that emerging out of the SIMRAC research programme, and
- A combination of practices and technologies specially identified to address a *priority area* of occupational health and safety concern.

The proposed mechanisms and processes need to cater for each of these requirements within a simple system that will allow any one, or all of them to be pursued separately at any given time. The development of such a *system* is thus an important elaboration on the above statement of the primary objective of the work.

It also became clear that it would be important to consistently use a simple term that would clearly and simply describe the nature of the required system. It was decided that the term *adoption* best describes what the system seeks to accomplish and it is thus the term used throughout this report.

Critical success factors: Based on the review of past and current approaches to technology and best practice transfer, which is considered below, the critical success factors for the proposed *Adoption System* are as follows:

1. The key elements of the proposed system must be simple and clear so that Industry Executives are readily able to consider and adopt them as a basis for enabling implementation of the system.
2. The adoption mechanisms and system must engender a sense of Industry ownership, particularly for any aspects that might be centrally sponsored or located.
3. The adoption mechanisms must be able to accommodate the different approaches that may be required for the adoption of technology and or best practice.
4. The system must facilitate focused attention being devoted to the few top-level priorities identified by industry.
5. The time spent by industry persons in working with the system must be minimised and free of undue complexity.

2 Enabling prior work

It is important to note that the proposals presented later are based on substantial prior work. It is thus appropriate that the nature and scope of that work be adequately brought to light. The key elements of the enabling prior work are presented below.

Review of past work: A great deal of experience has been accumulated in the many initiatives aimed at bridging the so called “innovation gap” as others have sought to convert knowledge gained into practical application. The work on technology transfer done previously through the industry’s collaborative efforts^{1 2} as well as similar work done by the National Advisory Council on Innovation³ was reviewed to distil out experience, in the form of insights of relevance and value to the present work⁴. These insights were endorsed and expanded upon through an investigation of the approaches currently in use by leading organisations that depend on the effective use of technology. A selection of the most instructive of the 108 insights presented in the earlier reports⁵ is given in appendix 1. These and the other insights form the basis of much of what is proposed later.

Investigation of current processes: In recent years organisations have placed a much greater emphasis on the application end of the innovation process. The huge advances in information technology in recent years are central to the more holistic approach that organisations have adopted to knowledge management. Leading organisations have realised that their future competitiveness depends on effective knowledge management, and in particular, on the acquisition and application of new knowledge. The various approaches adopted by a substantial number of leading organisations were thus investigated to identify relevant experience and mechanisms for bringing about the adoption of technology and best practice transfer. Much useful information was gathered and the insights gained provided strong guidance in selecting the mechanisms presented later. The organisations investigated and the various mechanisms and systems identified are listed below, with further details being provided elsewhere⁵.

Table No.1: Organisations investigated and mechanisms identified

Organisations investigated		
Implats	Sandvik	Wits university – School of Mining and Centre for Sustainability in Mining and Industry
Eskom	Sasol Chemicals	Chamber of Mines – Coaltech 2020
World Association of Nuclear Operators	Sasol Mining	International Council on Mining and Metals
Anglo American plc	Anglo Platinum	Engen
Reunert Systems	BHP Billiton	Gold Fields
Australian Minerals Industry Safety and Health Centre	SIMRAC	Western Mining

Mechanisms identified		
Stand-alone organisation	Communities of practice	Charter based holistic health and safety management system
Benchmarking database	Project based steering committees	A central facility for demonstration projects
Steering committees involving key stakeholders	Global peer group review mechanism	Electronic information systems
Specialist focus groups	Local peer group review mechanism	Incident driven identification of technology and best practice
Mandatory company standards	Partnerships with suppliers	Centrally co-ordinated technology management system
Manager level presentations and visits to share best practice	Focused high-level task force	Round table forum to facilitate improved equipment from suppliers

Mental models research: The Task Force recognised that the present work needed to be underpinned by a fundamental understanding of the barriers and aids to sharing and operational adoption of technology and best practice. A programme of mental models research was thus undertaken to acquire this fundamental understanding. This work was undertaken in parallel with the above investigations.

The research recognises that people's judgements about complex issues are guided by their mental models, which are the tacit webs of belief that people draw on to interpret and make inferences about issues that come to their attention. They cannot be determined without empirical research and they must be addressed through communication, in its broadest sense, to change people's attitudes, beliefs and behaviours. The process involves identification of the key issues and influences involved, in the form of an influence diagram, termed an expert model, which is then used as an analytical framework to guide open ended interviews of key people directly involved in the issue being investigated. The expert model developed in the present study is given in Appendix 2.

Embedded in the expert model is a sub-model that deals with the concept of innovation, which is the term that most appropriately describes the complete process of technological advance, from origination of a new idea, right through to its application in practice. It is thus a concept that includes *adoption*, but which extends upstream right to the beginning of the R&D process. The sub-model, and the concept of innovation, which underpin much of the work presented in this report are also given in Appendix 2.

A summary of the mental models research methodology as well as the major findings that emerged from the research is presented in Appendix 3. These findings are consistent with the insights developed in the earlier review work and they add further support to the system outlined in this report. Key findings from the mental models research is summarised below:

- *Aids to successful adoption:* Communicating with management and the workforce, and demonstrating personal commitment were identified most often as aids to successful adoption of technology and best practice. This was followed by the provision of active support to implementation activity and ensuring that appropriate technology was being adopted.
- *Barriers to successful adoption:* The barriers to successful adoption identified most often were the resistance to change factor, cost constraints, the workforce not seeing the benefit of the of the technology or best practice, the technological challenge involved and a lack of management buy-in.
- *Effective communication:* Effective communication was identified by 95% of those interviewed as the key to successful implementation of technology or best practice. The means of effective communication most often identified was personal interaction, meetings and workshops, and underground site visits.

The research confirmed that the most significant challenge is not a failure to identify or develop technologies or best practices, but rather to address the difficulty of achieving adoption of technologies or best practices. According to interviewees, the focal point for achieving adoption by mine employees at all levels is overcoming resistance to change by workers who do not readily see the benefits of change. At the leadership level, the primary challenge is getting “buy-in,” in order to get the capital funding and resources required to implement the technology or best practice. For leaders and workers alike, the research results indicate that the challenge of achieving adoption in organizations is fundamentally a behavioural one.

Although the mental models research was focussed on the identification of aids and barriers at the company level, the key findings are considered directly relevant to the industry-level focus of this report.

3 A coherent system of mechanisms, processes and structures

The enabling prior work has made it clear that there is no single mechanism to convert existing knowledge into widely adopted operational practice. Various mechanisms and processes may deliver good results in particular circumstances, but fail badly in others. This observation explains the diversity of views on how to achieve the adoption of technology or best practice. It also serves to highlight that a systematic approach to technology and best practice adoption needs to be put in place. This systematic approach, in the form of a coherent system of mechanisms, processes and structures, will need to enable the appropriate set of mechanisms and processes to be configured, and be used as appropriate, depending on the circumstances.

The key elements of the proposed system for facilitating the adoption of technology and best practice are presented in the diagram given below. In each case the primary purpose or role of the element is briefly stated in the diagram, but the various elements are elaborated upon in the sections that follow.

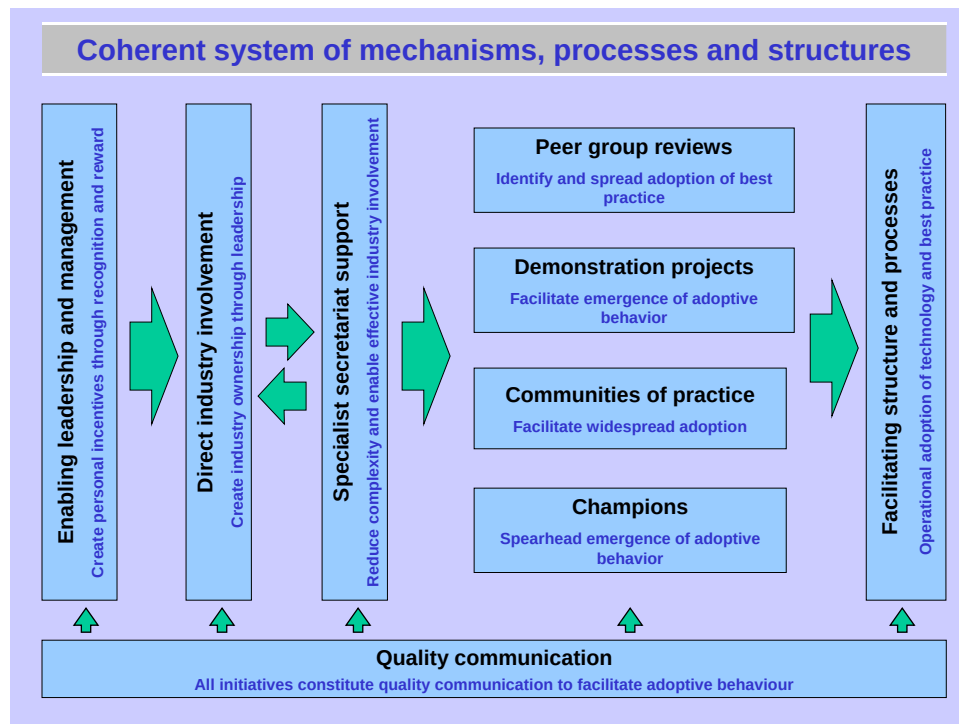


Figure 1: Key elements of the system for facilitating the adoption of technology and best practice.

3.1 Enabling and reinforcing leadership and management

The mental models research has highlighted the important influence of leadership orientation towards technology and best practice adoption, and identified the need to foster a climate that enables adoption. It pointed out that creating a climate supportive of people working within the adoption system could be critical to improving OH&S behaviour (and results) over the long term. Defining the values of the organization, setting the priorities, leading by example, and demonstrating respect for employees at all levels are critical leadership roles, with strong personal communications (primarily dialogue) and high visibility and engagement of leaders with employees being important reinforcing elements. It suggested that employees at all levels should be engaged in the identification of OH&S issues and opportunities and involved in the process of adopting technologies and best practices specifically suited to the operating conditions of their mines. Furthermore, it highlighted that they should be appropriately recognized and rewarded for their involvement in identifying OH&S problems and opportunities, participating in the identification of technology or best practices, and supporting the adoption of these.

It is thus abundantly clear from the enabling prior work that management orientation towards the adoption process is of fundamental importance, and that an unfavourable orientation represents a serious barrier. Experience indicates that in many, if not most cases, an unfavourable orientation is a barrier that can, and very likely will lead to failure of an adoption initiative. Appropriately, Figure 1 illustrates that leadership and management need to create an environment that is enabling and reinforcing of adoption activity, and personally rewarding to those engaged in the adoption process. To make a difference, the enabling and reinforcing effect needs to impact significantly on such individuals. In particular, they need to be recognised and rewarded for behaviour that facilitates adoption, even if others originally developed the idea. Reward should not be confined to the

generation of a new technology or practice that improves health and safety performance, or for otherwise bringing about improved occupational health and safety performance. It is important to recognise the difference between these contributions and to ensure that not only the latter two are rewarded. Equally, behaviour that obstructs adoption should be recognised and acted upon, as should poor occupational health and safety performance.

The above represents a challenge to a company operating under a single executive management structure, and becomes a major challenge when considering consistent implementation of such requirements across a number of companies, each with its own independent executive management structure. However, if this fundamentally important enabling step is set aside, or treated inappropriately, the risk of variable innovation performance, and ultimate failure of any otherwise agreed collaborative effort will simply increase.

In principle this challenge may be addressed by the Chief Executives of the collaborating companies agreeing to a manageable set of principles for implementation within their respective companies. This approach appears to work well in situations when companies voluntarily agree to collaborate to achieve a jointly agreed goal. It is accordingly put forward as the approach that should be adopted to meet the occupational health and safety goals that have been jointly agreed to in this instance. The set of principles to be considered for adoption is as follows:

1. Companies to declare occupational health and safety technology and practice as an area for openness and collaboration.
2. Performance recognition and reward arrangements will explicitly include recognition of, and reward for, individual behaviour that facilitates adoption. This will be separate from, and in addition to, recognition and reward for the achievement of improved occupational health and safety performance.
3. Individuals responsible for behaviour that obstructs adoption, or for operations with a poor, and particularly worsening occupational health and safety performance, will be identified and appropriate action taken.
(It is noted that in some companies such action already includes disqualification from promotion, and even dismissal for repeat serious incidents, which are viewed as being indicative of an operation out of control.)
4. Companies will provide their staff participating in industry level activities to facilitate adoption with adequate time to fully participate in such activities.
5. Staff members released to participate in industry level activities to facilitate adoption will not be unfairly discriminated against in respect of their career development.
6. Companies to commit to implementing the above policies as soon as is reasonably possible, but within three years. This time allowance recognises the complexities that may need to be resolved in regard to the implementation of 2 and 3.

The above points illustrate the important influence that a positive leadership and management orientation can have on action to advance the transfer and widespread adoption of technology and or best practice.

3.2 Direct industry involvement

The importance of achieving industry ownership and buy-in for the successful adoption of technology and or practice has emerged as one of the most strongly and consistently expressed views in the enabling prior work. It is clear that any system devised to facilitate the widespread adoption of technology and best practice will need to satisfactorily address this issue. It is a primary success factor, and a most important insight.

A message that also comes out strongly from the enabling prior work is that the key people involved in the identification and adoption of new technologies and practices need to be involved in the process at the earliest possible stage. In the context of the present work this would be at the point where an Adoption Team is established to plan and oversee any particular innovation initiative. The primary purpose of such teams would be to facilitate widespread adoption of the technology and or best practice.

It is proposed that the establishment of such teams should become the primary mechanism for bringing about direct industry involvement at an early stage of the adoption process. They are then also a primary means for achieving the industry ownership required for successful technology and best practice adoption. Importantly, this needs to be borne in mind when setting up the team, as is illustrated below.

Adoption Teams: The following criteria should be met in setting up and operating an *Adoption Team*:

1. Membership of the teams to be voluntary with participants free to withdraw at any stage.
2. The teams to have a scheduled date for termination of their activities.
3. The teams to be composed of key people from industry who have indicated that they will be able attend meetings and participate as full team members.
4. The teams to include the person or persons that have agreed to act as champions.
5. The teams should not be larger than about 20 persons from industry.
6. The chairman of the team should have a vice chairman from a different company. The chairmanship should rotate among members on an annual basis.
7. The chairman and the champion should not be the same person.
8. Each team to have a person at company CEO level who has agreed to act as the “sponsor” of the team. The sponsor would not be a member of the team but would be available to help overcome any difficulties that seriously threaten the continued existence or successful functioning of the team, particularly those that might be sensitive.
9. The primary function of the team will be to ensure that the facilitation programmes are appropriately planned and focused, and that they remain that way.
10. The work of the team is to be supported by a specialist secretariat that will help ensure that the time required of industry members is kept to a minimum and that past experience is appropriately taken into account in the planning and facilitation work of the team.
11. The team would meet according to a schedule determined by the needs of the work. Such meetings would enable industry leadership, engender the industry ownership needed for success, and facilitate the emergence of early adopters from among its membership.

A few of the above points warrant further elaboration, as follows:

Firstly, it is important that industry, or the members of the team do not perceive the team as being part of an initiative driven by, or dominated by, a single company. Within the size, and the commitment and voluntary membership constraints imposed for efficient performance, the team should thus involve as many companies as possible, with the principle of rotating chairmanship being observed as an important priority. The Chamber has itself demonstrated both the viability and importance of this latter point.

Secondly, the identification of a high-level “sponsor” must not be regarded as a violation or subversion of normal line responsibility, either within the Chamber or the mining companies. It is simply the advance creation of an informal channel to help address sensitive or otherwise difficult issues that the team or its chairman is unable to resolve directly. It is a mechanism for removing blockages that are best not taken up formally through line management.

Thirdly, in addition to members indicating that they will be able attend meetings and, as far as is reasonably practical, to participate fully in the work of the team and they should commit themselves to remain as members of the team through to completion of its work. Experience warns that the disruption of team performance due to lack of continuity of team members can be crippling, and unfortunately, sometimes fatal.

Finally, in direct company involvement, the underlying principle that it must be that the involvement is driven by the simple business principle of seeking a valued net benefit for the company. Ideally, the involvement should thus be the expression of a core business imperative.

3.3 Peer group reviews

The primary purpose of the peer group review mechanism is to identify and spread the adoption of good practice. In essence the mechanism involves the use of peer group review teams to conduct detailed reviews of the operations of participating organisations, at their request, or at the request of industry, to identify both best practice, as well as areas in need of improvement. Best practice from others is put forward in a confidential report on the review as a means for addressing the identified weaknesses. Best practices identified during the review are documented and openly communicated to other participating mines.

The key elements of the mechanism and its operation are as follows:

1. *Participating mines:* The participation of mines in the peer group review process must be on a voluntary basis.
2. *Leadership and management:* An Adoption Team would be established to provide high-level management and to oversee the process.
3. *Establishment of review teams:* Participating mines would each identify a range of experts capable of commanding credibility as a peer group reviewer on other mines. This is a critical requirement. The names and contact details of those identified would be provided to the specialist secretariat set up to support the review process. The review team leader and the review team specialists in various areas would be drawn from this list. The secretariat would make the necessary arrangements to bring the peer group review team together, to appropriately brief them, and to

make the necessary arrangement for the review to be conducted. In addition, the team leader would meet the head of the operation to be reviewed beforehand to initiate communication and to discuss the review process.

4. *Focus of the reviews:* The focus of the peer group review teams in conducting their reviews would be guided by the priorities established by the Occupational Health and Safety Task Force through the annual workshop that they would convene and lead. This workshop is dealt with in more detail later.
5. *Selection of mines to be reviewed:* In most cases the mines to be reviewed should be self-selected, in that they should approach the secretariat with the request that they be reviewed. They would thus usually be mines experiencing occupational health and safety difficulties. However, an important function of the Adoption Team and the secretariat would be to identify mines with particularly noteworthy performance in various areas, with a view to arranging that they be reviewed in order to identify and document new good practices. The benchmarking arrangements being established at the Centre for Sustainability in Mining and Industry at Wits University should be used to assist in the identification of such mines, but a key input would also come from the members of the Adoption Team. The identified mine would then be approached with a view to arranging an appropriate review.
6. The identification of a mine or number of mines to be reviewed could also be driven by an initiative to identify practices relevant to a priority issue that industry has decided to address. In such cases a similar process would be followed, although in close collaboration with the Adoption Team responsible for the programme of work designed to address the special issue.
7. *Reporting:* During the review the team would note strengths that may be useful to other mines, as well as areas in which improvements could be made to improve health and safety on the mine being reviewed. Within two weeks of completing the review, the team should issue a draft of its confidential report to the mine that has been reviewed. The report will identify weaknesses that need to be addressed and ways in which this might be done, using good practice identified and documented at other mines. All of the recommended actions should have first been discussed with the relevant persons at the review mine so that there are no surprises. In parallel the review team would also document the good practices that were identified as being potentially useful to other mines. These would be communicated to the other participating mines, and introduced into an accessible electronic database.
8. *Accessible electronic database:* The secretariat would maintain an electronic database that would house all of the identified good practice and which would be readily accessible not only to participating mines, but also to all mines. The database should use or have links to other similar sites, such as the MIRMgate system operated by the Australian Minerals Industry Safety and Health Centre⁶.
9. *Facilitation of widespread adoption:* Widespread adoption of particularly important and beneficial best practices may need to be further facilitated by other means. The first would be through workshops held from time to time to present and discuss such best practices with interested persons from other mines. In addition, the workshops would be used to identify the interest and

need for the establishment of any Communities of Practice, or Demonstration Projects, and to initiate their establishment if considered necessary. Although it is expected that the need for best practice demonstration projects would seldom arise, they may be warranted in some cases, particularly if the best practice originates in another mining sector or mining country. Communities of Practice and Demonstration Projects are considered later. The workshops would also identify the need for any best practice guidelines and the secretariat would initiate an appropriate process for such guidelines to be prepared and in due course made available.

10. *Technical assistance:* From time to time a mine may need technical assistance in implementing a best practice that it has decided to adopt. The secretariat would assist in arranging such assistance, either in the form of a small team of experts in the area in question, or in the form of a secondment or personnel exchange.

A summary of the key points associated with peer group reviews is presented in Figure 2.



Figure 2: Summary of key points for peer group reviews

3.4 Demonstration projects

The primary purpose of demonstration projects is to initiate the process of facilitating widespread adoption of the technology and or best practice being demonstrated. The mechanism involves selecting a mine that has the potential to benefit significantly from the technology and or best practice in question, and that is willing to implement the project. The project serves as a means for creating familiarity with the technicalities of the application, and for identifying and communicating the information needed by other operations to make informed decisions leading to progressive adoption of a successful innovation across industry. It is a multi-purpose mechanism for reducing risk and achieving effective communication.

The key elements of the mechanism and its operation are as follows:

1. *Leadership and management:* Demonstration projects would be undertaken as a major component of the work of an Adoption Team that has already been established, and that team would thus provide leadership and overall management of the project.

2. *Preliminary considerations:* The decision to undertake a demonstration project must be preceded by considerations that fully take account of previous experience in conducting such projects. This is facilitated by way of a checklist that raises the key questions and issues that need to be considered. Such a checklist is provided in Appendix 4. Key questions include issues as fundamental as whether the technology or practice has been adequately developed for use in such a project, or whether the project should be run in partnership with the equipment supplier, or whether special training or organizational structures are needed for a successful project, and so on. The preliminary considerations serve the purpose of identifying the broad approach and scope of the project, and the mines that are expected to benefit most from the innovation.
3. *Selection of host mine:* The preliminary considerations would help identify the mines that are best suited to host the envisaged demonstration project. In particular, the host mine needs to be one of the mines that have the greatest potential to benefit from the innovation. It should also be a mine that is profitable and not under undue production or cost pressure. The mine should thus have the organizational capacity to take on the commitments associated with running a successful demonstration project. Having satisfied these criteria, the mine should also be willing and keen to host, and fund the costs involved in conducting the demonstration project.
4. *Special collaborative funding:* In special cases, where the potential benefits are particularly large, but where the risk of failure is such that neither a mine nor a supplier can be realistically expected to shoulder the financial risk associated with the demonstration project, other interested mines may be prepared to collaboratively underwrite the costs of the project. The secretariat would facilitate the establishment of such arrangements.
5. *Technology champion:* A condition for hosting the demonstration project should be that the mine would identify and appoint a person to champion application of the technology or best practice, firstly at the mine, but then also more widely in industry. The mine would adequately free the appointed person from his operational responsibilities so that the role of technology champion can be adequately fulfilled. The role of technology champions is presented later.
6. *Project management team:* The host mine would appoint a project management team to plan and oversee the detailed execution of the project. The secretariat should ensure that the detailed plan is consistent with the broad approach and project scope identified by the Adoption Team. The leader of the project team could be the Technology Champion, but this should not be a requirement. The Technology Champion should however be responsible for reporting progress on the project to the Adoption Team, and to all parties that have expressed an interest in receiving such information, as well as to key people on the mine.
7. *Reporting of performance outcome:* The performance outcome of the demonstration project would be written up by the Technology Champion in terms that make sense to the mine, but also in a way that would enable other mines to interpret the results in the context of their own circumstances. The report would be made available to the Adoption Team and on request to interested mines not represented on the Adoption Team.
8. *Facilitation of widespread adoption:* Widespread adoption of the technology and or best practice would be further facilitated through a workshop open to all mines. The workshop would also be

used to identify those interested in forming a Community of Practice, to discuss and overcome implementation problems, and to further develop the innovation, and to spread its adoption. The workshop would thus serve as an opportunity to initiate the establishment of a Community of Practice, which would be carried through by the secretariat.

9. *Technical assistance:* There are two aspects to the technical assistance that might be needed. The first is the assistance that might be needed during the demonstration project. Working through the checklist would identify whether this was necessary and in that event the secretariat would make an arrangement with the appropriate parties to secure the availability of technical support before the demonstration project starts. The second is the assistance that might be needed by other mines that have decided to adopt the technology and or best practice. On completion of a successful demonstration project the secretariat would ensure that technical support is available from one or more appropriate parties. In those cases where the Technology Champion, or the host mine is unable to provide the necessary assistance, or where it is inappropriate for them to be asked to do so, the mine would approach the parties identified by the secretariat for that purpose.

A summary of the key points associated with demonstration projects is presented in Figure 3.

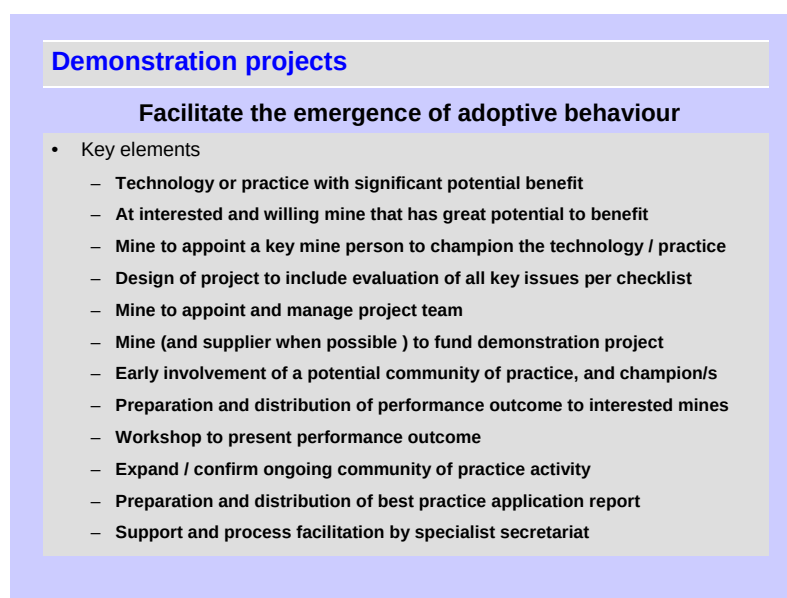


Figure 3: Summary of key points for demonstration projects

3.5 Communities of Practice

The primary purpose of the Communities of Practice is to spread improved adoption of the technology and or best practice being demonstrated. The mechanism involves the establishment of a group of individuals who voluntarily elect to interact in a relatively informal way to share information on a particular technology or practice with a view to improving its performance, and through their activities to widen its adoption across industry. Communities of Practice do not have the formal task orientation of the Task Force or Adoption Teams.

The key elements of the mechanism and its operation are as follows:

1. *Voluntary participation:* Membership of a Community of Practice would be on a voluntary basis with members free to withdraw at any stage. The Adoption Team covering the area in which the Community of Practice is to be formed would agree to its establishment.
2. *Chairmanship:* the Adoption Team would appoint the Chairman of the Community of Practice, and would decide whether Chairmanship needs to rotate among members on an annual basis.
3. *High-level sponsor:* The person acting as the sponsor of the relevant Adoption Team would also assist in addressing problems that the Chairman of either the Community of Practice or the Adoption Team are unable to resolve at their level of operation.
4. *Technology Champion:* The Adoption Team would identify a suitable person to serve as an Industry Champion for the work of the Community of Practice. The person would need to meet the criteria for the appointment of a Champion, as indicated later. More than one Champion might be appointed, depending on the interest expressed.
5. *Common interests:* The members of the Community of Practice should all be interested in sharing information on a particular technology or practice with a view to improving its performance, and through their activities to widen its adoption across industry. It would continue to operate for as long as its membership continued to grow and its members continued to gain benefit from their involvement.
6. *Informal processes:* The Community of Practice would operate in a relatively informal manner, but there should be regular meetings, which could be per teleconference. Much of the communication would be via electronic means.
7. *Guidelines and reports:* At an appropriate point the Community of Practice would decide when it was in a position to prepare a report to document the improved practice that had emerged as a result of its activity. The input into the preparation of such a document would come from members but the secretariat would facilitate preparation of the document. In some cases the document to be prepared would take the form of substantial guidelines for effective implementation of a technology and or practice.
8. *Termination:* The activities of the Community of Practice would be terminated when either its members, or the Adoption Team decided that it would be appropriate to do so.

A summary of the key points associated with Communities of Practice is presented in Figure 4.

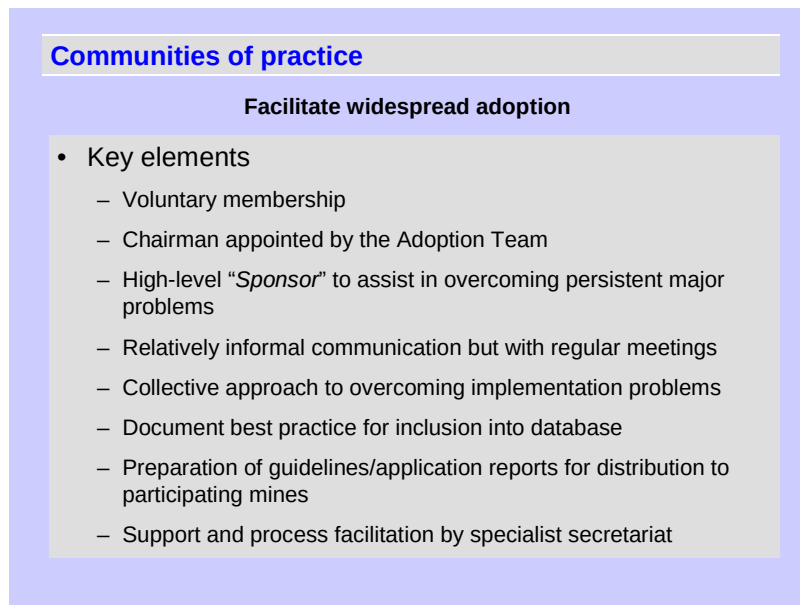


Figure 4: Summary of key points for Communities of Practice

3.6 Champions

The primary purpose of appointing Champions is to energize and spearhead the progressive growth in the adoption of the technology and or best practice that they are championing. In essence the mechanism of Championship involves leadership to overcome implementation difficulties, as well as effective communication of relevant information to enable other operations to decide to adopt the technology and or best practice in question.

The key elements of the mechanism and its operation are as follows:

1. **Credibility:** An essential requirement for success is that the Champion should be credible. An appropriate person should thus be selected. Ideally, the person should be an individual with good levels of knowledge, energy, leadership, communication skills and personal credibility. The person should also be drawn from within industry.
2. **Involvement:** Having selected a person with the right potential, it is essential that the person be sufficiently released from normal operational responsibilities to adequately perform the function of Championship. To do this the person needs to become deeply involved in the details of the technology and or best practice to appreciate the issues and problems, and to assist in, or be knowledgeable about their solution.
3. **Leadership:** An important role of the Champion will be that of providing leadership in overcoming implementation problems that arise, and in particular to energize lagging aspects of the process. The Champion would also provide input into the development of strategies and plans for the progressive adoption of the technology and or best practice at both the mine and across industry.
4. **Communication:** Perhaps the most important role that the Champion needs to play is that of being an effective spokesperson for the technology and or best practice being championed. To do this the Champion would accumulate key data and with the assistance of the secretariat prepare appropriate documents and presentations to communicate such performance and technical data

to interested parties. In particular, the Champion would become deeply involved in the preparation of reports or papers concerned with performance of the technology and or best practice. The champion would seek out opportunities to present such information, including workshops, conferences, technical journals, meetings of professional societies, internal meetings, and so on.

A summary of the key points associated with Championship is presented in Figure 5

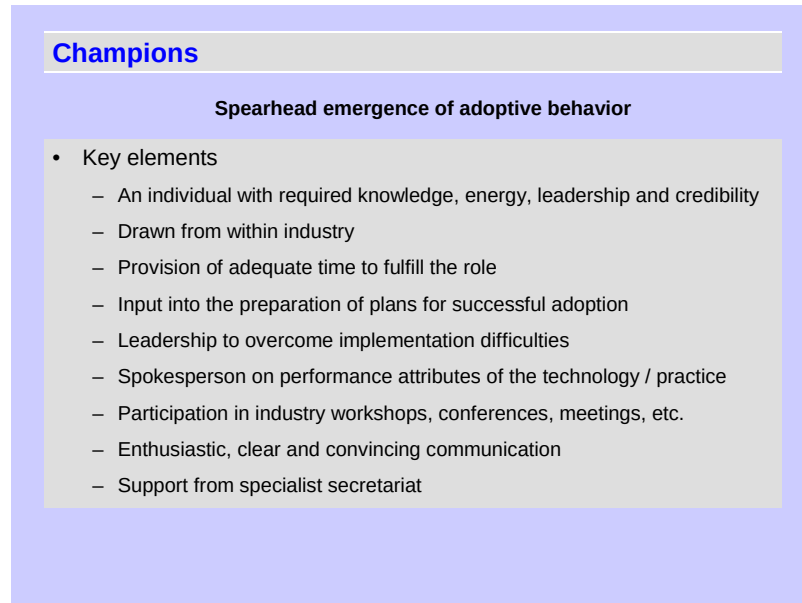


Figure 5: Summary of key points on Championship.

3.7 Specialist secretariat support

The primary purpose of the specialist secretariat support is to facilitate effective industry involvement by reducing the time and complexity encountered by industry persons participating in the system. In essence the secretariat is a mechanism that enables the time spent by key industry persons to be focused on making the industry input that is essential for success, without being unduly distracted by time consuming and sometimes complex process and administrative considerations that can be undertaken by a specialist secretariat

The key elements of the mechanism and its operation are as follows:

1. *Expertise:* The secretariat should consist of a small number of persons who understand the issues involved in facilitating the sharing and widespread adoption of technology and or best practice, and who have expertise in facilitating potentially complex processes. While many of the processes may become relatively simple routines, there will be exceptions, and understanding and expertise will be required to ensure that these exceptions are appropriately handled.
2. *Scanning function:* An important facilitating function of the secretariat would be to run an effective scanning function to identify the emergence of promising technology and best practice, such as that emerging out of the SIMRAC research programme. This would at times serve as valuable input into the work of the Adoption Teams.

3. *Process facilitation:* The secretariat would take responsibility for facilitating the various processes of the Adoption Teams, including workshops and special meetings, the arrangements for the peer group reviews, and the detailed planning of demonstration projects.
4. *Data management:* The various facilitation processes will give rise to a substantial need for effective electronic communication and data management. The secretariat would take responsibility for ensuring the establishment, maintenance and operation of an appropriate electronic data management system, outsourcing expertise as necessary.
5. *Report writing:* Much of the work undertaken will need to be written up in reports or other documents to record key outcomes and to serve as a vehicle for communicating such information. The secretariat would take responsibility for preparing draft documents for consideration by industry, and for finalizing and distributing such documents as required.
6. *Administrative management:* The secretariat would be responsible for the usual administrative management requirements associated with meetings and project management, including that of taking agreed action, or ensuring that others take such action.
7. *Continuity and institutional memory:* An important incidental function of the secretariat would be to provide continuity of approach and purpose as new teams are established from time to time, and the inevitable changes in industry representation occur. In the longer term the secretariat will also become a base of institutional memory.
8. *Funding:* It will be necessary to fund the secretariat on an ongoing basis. The basis for doing this will need to be agreed by industry. It is proposed that the usual approach to funding activities undertaken by the Chamber on behalf of its members be adopted.
9. *Location:* The secretariat could be established either as a Chamber function, or as an outsourced function by arrangement with a body that may already have most of the necessary expertise and interest, or as a hybrid involving both.

A summary of the key points associated with the proposed specialist secretariat support is presented in Figure 6.



Figure 6: Summary of key points on the specialist secretariat support.

3.8 Quality communication

The key principle that underlies the design of the system described above has been that of identifying and involving the key persons involved in the adoption process, to ensure that they acquire the understanding and key information needed for them to make well-informed decisions and take appropriate adoptive action when justified. The system is thus a special means of ensuring that *the right people receive the right information in the right way at the right time*. The findings of the mental models research, which are presented in Appendix 3, have pointed to the importance of this aspect of the system.

In particular the findings of the research were found to be consistent with other research and experience, which has shown communications to be the most powerful influence on people's decision-making and behaviour. Effective communications – leaders' deeds and their decisions plus their messages – supported by appropriate formal and informal communications is critical to encouraging, supporting, and reinforcing adoption behaviour at all levels. The mental models research thus suggests that behaviour-focused communications processes, methods and tools have scope to be deployed by industry as a best practice. Noting that behaviour-focused communications include all communications, messages and interactions that can influence behaviour, the proposed Adoption System would become an example of best practice to other industries.

4 Processes and structures

The above mechanisms need to be selected and applied in particular ways to achieve the widespread adoption of either technology, best practice or combination of the two in the case where an integrated approach is taken to addressing an identified priority issue. It was earlier pointed out that these were the three quite different opportunities that need to be considered separately. The present work has included the preparation of process flow charts to guide the approach to be taken in addressing each of these three opportunities.

The particular approach that needs to be adopted for the case where both technology and best practice are combined in an integrated approach to address an identified priority issue is illustrated in the figure presented below.

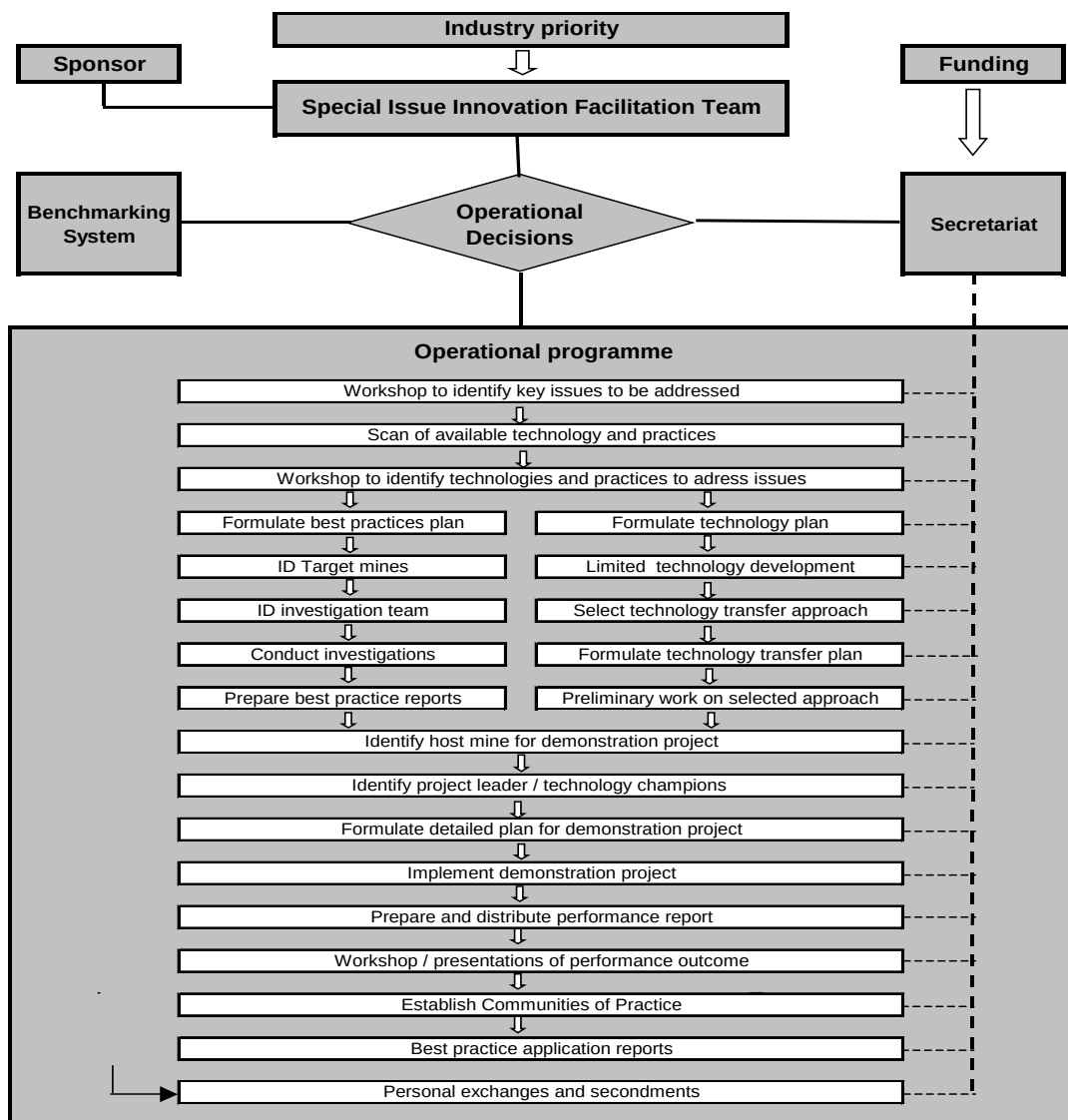


Figure 7: Schematic representation of proposed approach to facilitating the widespread adoption of technology and best practice to address a priority issue identified by industry.

It will be evident from a study of this figure that application of the various mechanisms to address the identified priority issue need to be implemented through a coherent process located within an appropriate structure. The point is further illustrated in appendices 5 and 6, in which similar schematics are presented for facilitating the widespread adoption of best practice and technology respectively. Given that the details of the various mechanisms have been already presented, the various elements in the operational programmes presented in these figures are not elaborated upon.

It is however appropriate to point out that there is scope for these flow charts to become the basis of guidelines (protocols) prepared for use by the secretariat and the Adoption Teams in addressing these opportunities. It is envisaged that the establishment of guidelines and protocols for these and other opportunities would be one of the functions of the secretariat.

In regard to the structure indicated in Figure 7, attention is drawn to the important leadership role of the Task Force.

Operational leadership: A crucially important role that the Task Force needs to play is that of providing leadership in the identification and prioritisation of the occupational health and safety issues to be addressed. It also needs to take an oversight responsibility for ensuring that the identified priority issues are appropriately addressed. It is envisaged that the identification and prioritisation of the issues that need to be addressed would be undertaken in an annual workshop process that is convened and led by the Task Force. It is envisaged that the workshop process would involve the following:

1. Participation of selected experts and leaders in the field of occupational health and safety management.
2. Facilitation techniques that will ensure the emergence of soundly thought through issues in need of attention.
3. The development by the secretariat of a more detailed statement of the scope and planning of the processes and work required to address the identified issues.
4. Consideration and prioritisation of the identified issues in the light of the scoping and preliminary planning that has been done.
5. Within the mandate of the Task Force, deciding upon the work that should be undertaken, or otherwise arranging that the initiation of such work be included within its mandate.

From the above it follows that the Task Force may wish to pursue a number of priority issues in parallel in order to bring about the significant and continuous improvements in occupational health and safety improvements being sought. This would require that a number of appropriate Adoption Teams be established to address the identified issues. Given the significant resources required to set up and successfully run an Adoption Team it would be unwise for more than five such teams to in operation at any one time. The structure required for coordinating and supporting these teams is illustrated in the following figure.

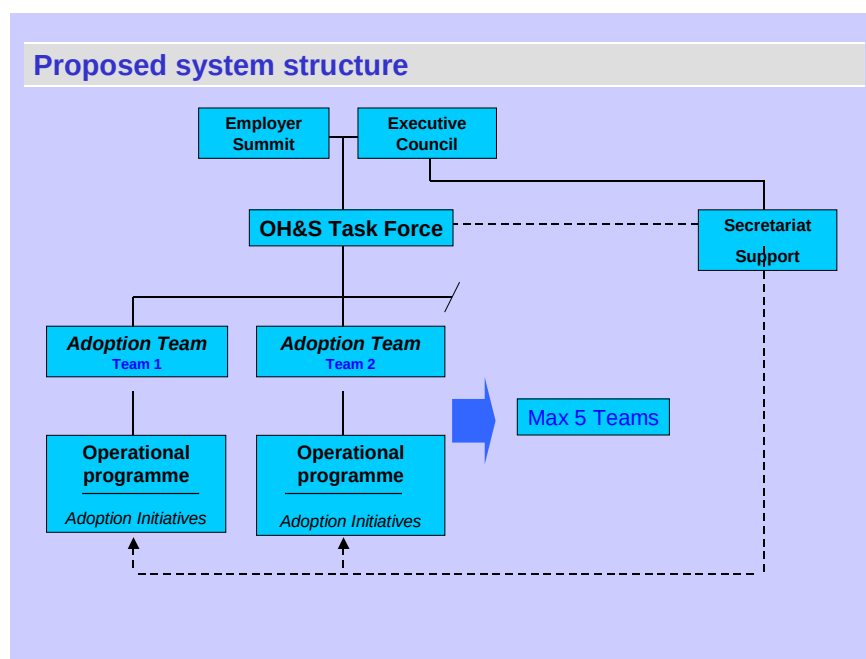


Figure 8: Schematic representation of the proposed system structure

The system envisages continued existence of the present Annual Occupational Health and Safety Employer Summit, and of the Occupational Health and Safety Task Force, until such time that industry meets its occupational health and safety performance goals.

5 Change management: support for a systematic approach to adoption

Changing OH&S performance in a way that is sustainable over the long term calls for recognizing and supporting a systematic approach to the adoption of technology and best practice. People at all levels of the organization are part of the system of adoption, and they will need to embrace the proposed adoption system. It will be evident from the outline of the system presented above that the approach is in some respects quite sophisticated and rigorous, and this will need to be supported at all management levels and functions that interact with the system. It follows from the mental models research that significant barriers may need to be overcome should the prevailing mental models of these people not be well disposed towards the approach embedded in the proposed Adoption System. Effective communication will thus be a critical feature of the change management process.

It is in this context that the intention to pilot the system as a first step towards implementation of the Adoption System is particularly important, in that the process of piloting the system will become the primary means for achieving the required effective communication. This should be a key consideration in the planning of the piloting exercise, which should be regarded as a demonstration project, and approached in the same way that has been advocated earlier for such projects.

6 Broad overview

Having exposed the nature and scope of what is involved in facilitating the sharing and widespread adoption of technology and or best practice, it is necessary to address the key success factor that requires the key elements of the proposed system to be clearly evident so that Industry Executives are able to consider and agree to them as a basis for implementing the system. In broad terms the key elements of the proposed system are as follows:

- The establishment of an enabling climate for the widespread adoption of technology and or best practice by company Chief Executives collectively agreeing to ensure that the identified key leadership dictates are implemented in their organisations.
- Continued existence of the Task Force to identify the key issues that should be addressed and to ensure that the system remains focussed on the identified priorities.
- Use of the various mechanisms and processes that have been outlined in ways best suited to addressing the key issues identified by the Task Force.
- The establishment of a small specialist secretariat governed by a brief that requires it to facilitate operation of the system that has been outlined, and to provide the support required by the various teams of industry persons that need to be established for effective operation of the system.
- Collaborative funding of the activities of the specialist secretariat by all Chamber members, but with the mines being responsible for funding their own participation as well as demonstration projects conducted at their operations.

- Piloting of the proposed arrangements as a basis for testing the effectiveness of the system and for refining the system prior to progressively enlarging its scope of activity.

As has already been pointed out, the secretariat could be established either as a Chamber function, or as an outsourced function by arrangement with an organisation that may already have most of the necessary expertise and interest.

7 The next steps

It is proposed that the next steps should be as follows:

1. Presentation of the proposed system to industry at the Employer Summit, to identify whether industry supports going ahead with the proposed Adoption System. The system would be refined to take account of input received at the summit.
2. A workshop arranged by the Task Force to review the practical issues associated with implementation of the system, and to identify and prioritise the issues that should be addressed through the proposed arrangements. In particular, the Task Force would identify the issue that should be used as a basis for piloting the proposed arrangements.
3. Identification of the key issues that need to form the basis of a proposal to be submitted to the Executive Council of the Chamber for approval.
4. Subject to the necessary approval being obtained, the system should then be piloted, refined to take account of the experience gained in the piloting exercise, and implemented further in accordance with the mandate received from the Executive Council.

8 Conclusion

The identification of mechanisms and processes currently used by mining companies to facilitate adoption of technology and best practice indicates that such systems are often extensive and well developed within these companies. Unfortunately, in some respects this has the potential to very much work against adoption of, and commitment towards, the industry wide system proposed in this report, either on the grounds that it is unnecessary, or as a manifestation of the “not invented here” syndrome. Conversely, the proposed system has the potential to greatly enhance the effectiveness of the in-house systems, and to expand the benefit individual companies, and industry as a whole, derive from implementing new and better technology and practice. These are competing dynamics, with the former having the potential to outweigh the latter, unless strong leadership is expressed to create the enabling climate required for successful operation of the proposed system. The key determinant will thus be the extent to which the Chief Executives of the mining companies are able to agree the key elements of the system, as well as the key enabling principles for implementation within their companies. It will clearly also depend on the success achieved in piloting the system. Focussed attention will need to be given to these issues.

Appendix 1: Key insights from past work

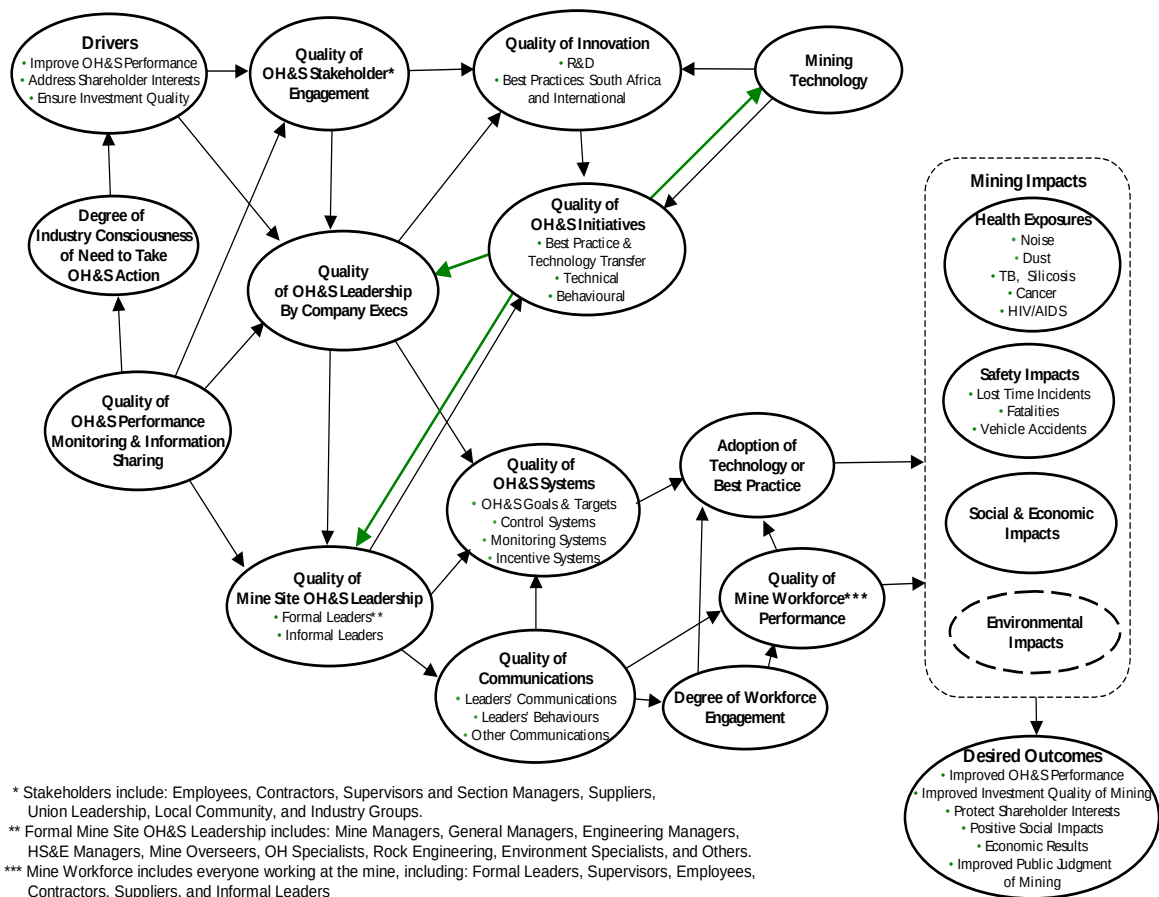
Given below is a selection of the more important and interesting insights and concepts identified in the enabling prior work.

1. Technology transfer needs to be seen as comprising two distinct phases; the first phase is to provide sufficient understanding of the technology and its performance to place potential recipients in a position to decide whether or not to adopt the new technology, while the second phase is to transfer the knowledge and skills necessary to implement the technology.
2. The potential recipient of a technology or best practice needs to experience a real business incentive to embark upon the acquisition and implementation of the new technology or practice.
3. Recipients of the new technology need to be assisted, and to have access to expert assistance at an early stage of the transfer process.
4. The recipient organisation needs to have a person at an appropriate level to facilitate and champion the technology transfer and implementation process.
5. The technology champion needs to be adequately supported by both his/her superiors and the technical experts of the technology or best practice provider.
6. Champions need to be innovative and have credibility and integrity, placing successful implementation above personal ambition.
7. Where the risk of implementing a new technology is too great for a potential recipient organisation to bear it alone, some form of underwriting or joint risk sharing may be necessary to enable successful transfer and implementation of the new technology.
8. Each technology transfer and implementation plan needs to ensure that all of the issues known to be crucial for successful technology transfer and implementation are considered, as well as any other issues identified as potentially important.
9. Access to venture capital for finalising development and commercialisation through equipment trials, undertaking demonstration projects and setting up the necessary technology supply capacity, including the creation of technology specific spin-off companies, needs to be facilitated.
10. People at all levels must see the benefits of the technology, as well as its successful implementation, to themselves.
11. Peer communication of applications and benefits of new technology and best practice should be facilitated as it enables and generally assists the process of technology and best practice transfer.
12. The first recipient organisations to implement a new technology should be those that have the greatest need and potential to benefit from successful implementation.
13. Institutional support may be necessary to manage and facilitate the technology and best practice transfer process.
14. Special reward and recognition arrangements for individuals may be needed to overcome negative competitive dynamics, including the *not invented here* (or *by me*) syndrome. Such arrangements could include measures in personal performance contracts that are linked to successful adoption and implementation of new technologies and practices that benefit the organisation.
15. The organisational climate needs to be tested to establish its conduciveness for the adoption and implementation of new technologies and best practice.
16. A mind set that is favourable towards the identification of user needs, and the development, adoption and implementation of new technology as a basis for addressing those needs should be stimulated.
17. Technology brokers should be considered as a means for identifying technologies or practices developed and applied for other industries that have the potential for beneficial application in the mining industry.
18. The introduction of new expensive technology should be done on a mine experiencing success and growth. In times of hardship mines are risk averse and stick to known technologies.
19. A primary cause of technology transfer failure is a lack of change management. Change management skills in industry are poor.
20. For success in sharing best practice and technology there is a need for an abundance mentality approach, but this makes it very personality dependent.
21. Secondment of people to different mines provides a good basis for sharing technologies. People assigned to help operations in other mines come back stimulated, and with new ideas for their own operations.
22. For industry level success in facilitating technology transfer, leadership is crucial – captains need to take collective leadership position – they need to properly resource a technology transfer operation – they need to make key staff available as champions on secondment – and somehow to collectively agree to set up creative tension in their respective companies (sanction/reward system for poor/good technology transfer performance).
23. With some technologies it is better to provide a service to mines rather than sell them the equipment/technology, so that problems of operation and maintenance can be invisible to the mine and dealt with efficiently by others especially skilled to do the job.
24. Groups have the perception that better results come from their own efforts. This perception acts as a barrier and is consistent with the not invented here syndrome.
25. Managers have too much on their plate and the communication and understanding of any new system therefore needs to be simple, logical and straightforward.
26. Key first step in rolling out technologies is to get support of and train mine management – the manager – section engineer – engineering manager – maintenance foreman.
27. A key success factor for communities of practice is to ensure that no one person or group dominates – a rotating chairperson should be used with the secretary coming from another company.
28. It is essential to get project buy-in at a host operational site. If this is not possible then the project should be discarded.
29. In planning the cycle of peer group reviews it is essential to allow enough time for the affected operations to implement improvements, and for the available staff to be able to competently cope with the programme.
30. Too much technology change is due to fashion and not hard numbers based on performance and costing. People are too busy to generate the needed information and plans for effective technology transfer.
31. Partnerships represent a good way of getting development done as well as for achieving good transfer and implementation of technology and practice.
32. Groups and mines are not sufficiently mature for meaningful cooperative action – cooperation tends to be in less promising areas with worthwhile things being kept to themselves. This dynamic applies even between mines within a single group.
33. When line people are battling then chances of successful technology transfer drops to zero. Under-performing shafts struggle – they stick to tried and tested technologies. Shafts performing well tend to be the quick and easy new adopters.
34. Task teams need to be run by a coordinator with a full time commitment, and not as an add-on to someone's existing job.
35. Levying demands and imposing strong expectations can quickly convert a Community of Practice into a project team focused on tasks and deliverables. The team will drive towards satisfying the boss instead of producing and sharing new knowledge. Communities of Practice should not be confused with teams or task forces.
36. In technology transfer attention should be focused on the early adopters, as they are key in achieving a critical mass of best practice users.

Appendix 2: Expert models

Expert Model of Mining OH&S Performance

The simple expert model developed by Decision Partners to guide the mental models interviews and to interpretation of the input received is presented below:



Influences on Mining OH&S Performance – Simple Expert Model developed by Decision Partners

Expert model on Innovation

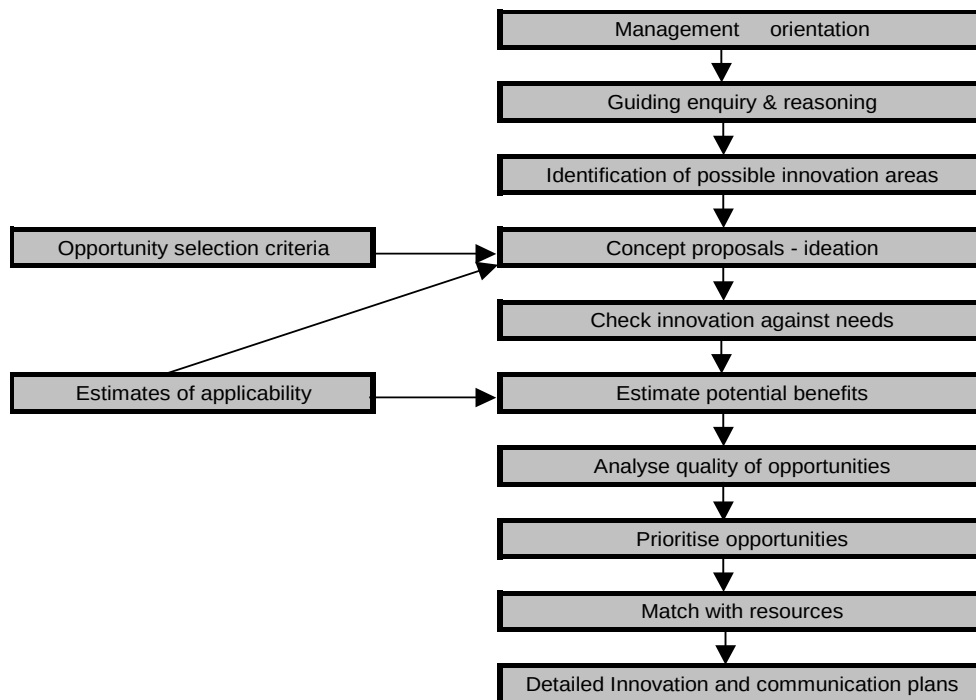
Although innovation is sometimes confused with simple invention, it must be emphasised that the process of identifying, sharing and then operationally adopting technology and or best practice is what the concept of innovation specifically covers. More generally, the concept of innovation involves the following:

The concept of innovation: *Innovation involves the creation, exchange, evolution and application of knowledge, in whatever form, for the success of an organisation, the vitality of a nations economy and the advancement of society as a whole. Innovation cannot therefore be claimed in the absence of successful application.*

The process of developing the expert model for the mental models research included the development of a basic model of the innovation process. This model has significantly added to the guidance

provided by the reviews of past and current work on technology and best practice transfer described in the report.

Key points of influence in the innovation process: Given below is the simple expert model of innovation that has been developed. It identifies the key points and flows of influence during the innovation process. The model has provided useful guidance during the development and presentation of the processes and arrangements that have been proposed.



Basic model indicating key points of influence in the innovation process

Appendix 3: Summary of mental models research and key findings



Improving Adoption of OH&S Technology & Best Practice: Mental Models Research Final Report

June 2007

A. Introduction

Members of the Chamber of Mines of South Africa recognize there is no shortage of useful knowledge about technology and best practices on health and safety management that could contribute to improving health and safety performance. The challenge is to ensure that such knowledge is adopted throughout the industry.

With this in mind, the Chamber of Mines asked Decision Partners to help generate insight into the aids and barriers to adopting OH&S best practices and technology at the company level. Decision Partners conducted science-based mental models research with key executives and mine-level leaders in six South African mining companies to discover their perceptions of OH&S adoption practices. Insight obtained from the research will be used by the Chamber of Mines to guide the development of strategies on this issue.

This report highlights key findings and considerations from the mental models research. More detailed information is contained in the full report.

B. Overview of the Approach

Methodology

Decades of research have shown that people's judgement about complex issues is guided by their mental models. The concept of mental models is well-established in psychology and has been the focus of extensive research. A person's mental model can be thought of as a tacit, complex web of deeply held beliefs that affect how an individual defines a problem, reacts to issues, forms judgements, and makes decisions about a topic. The mental models research method seeks to reveal and characterize in-depth these complex webs of belief.

Mental models research involves conducting individual, one-on-one interviews, during which participants are guided through a semi-structured agenda of topics framed by expert understanding of the context. This expert understanding is often represented by an expert model, which summarizes everything that a community of experts knows or believes about a topic. These experts may include managers in various functions and at different levels in an organization. They can also include subject matter experts across a wide range of fields. In this case, the expert model was developed by Decision Partners based on discussions with Chief Executives, a Meta-Analysis of ICMM Safety and Health Conference presentations and inputs from Chamber consultants John Stewart, Nancy Coulson and May Hermanus.

Research Sample

Decision Partners conducted 31 interviews by telephone with corporate executives and mine leaders in 6 companies namely Anglo Platinum, Lonmin, Anglogold Ashanti, Gold Fields, Sasol Mining and BHP Billiton Energy Coal SA. The interviews averaged 50 minutes in length, ranging from 34 to 71 minutes.

The Key Executives (Corporate) category included people in the following positions: Senior Rock Engineering Consultant, Safety and Risk Manager, Engineering Services Manager, Operations Manager, and Rock Engineering Manager.

The Mine Leaders category included General Managers, Operations Managers, Production Managers, Mine Overseers, SHE and Occupational Health Managers, Rock Engineers, Engineering Managers, Concentrator

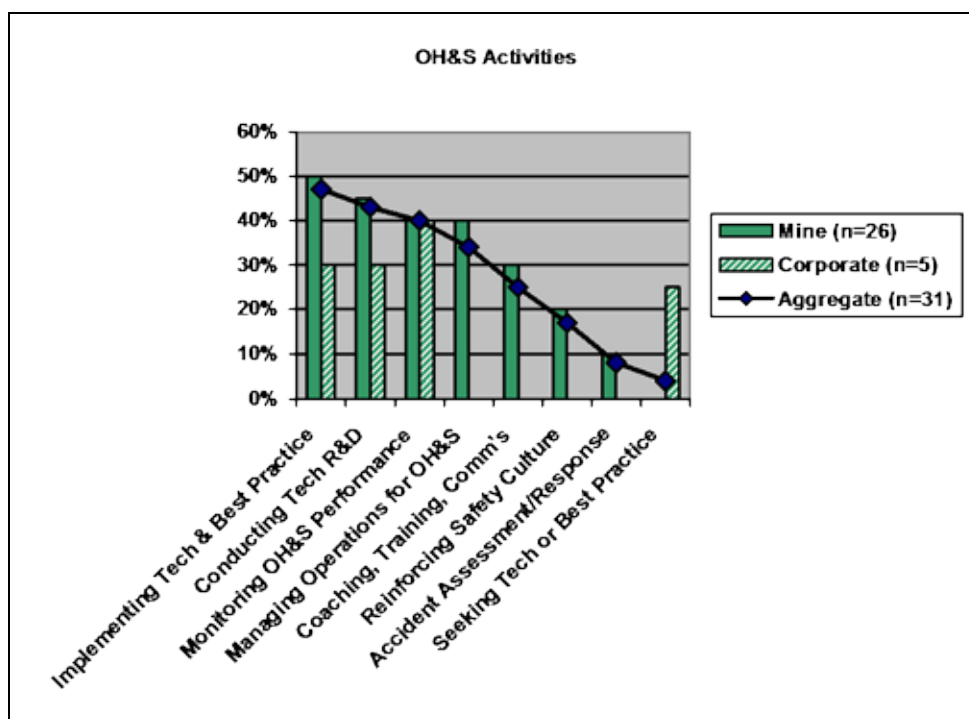
Managers, Chief Rock Mechanics, Underground Environment Specialists, Technology Specialists, Occupational Health Specialists, and Other Specialists.

A discussion guide was used to help focus the interview conversations. It offered each participant an agenda of topics in a manner that allowed researchers to identify and understand people's views and their underlying rationale. Questions in the guide encouraged free expression on the part of interviewees and their elaboration on topics in an effort to reveal unanticipated views and individual thinking in depth.

C. Research Highlights

Leadership OH&S Activities

Interviewees were asked to identify OH&S activities that are practiced within their organizations. Their responses are summarized by the following chart:



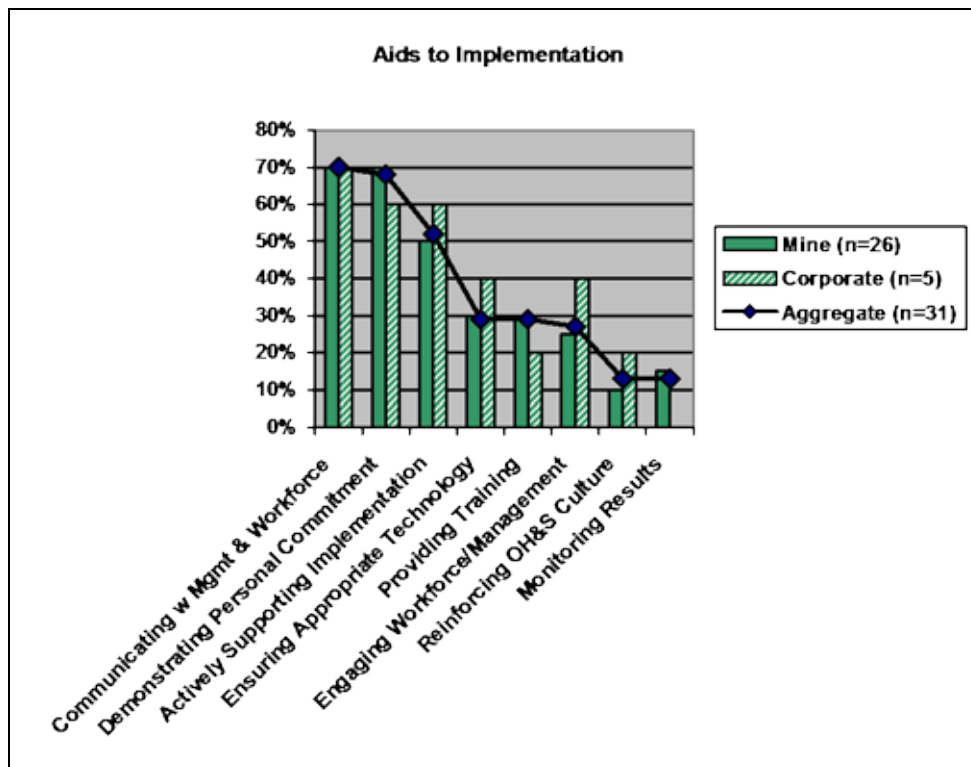
Explanatory notes:

1. *Implementing Technology and Best Practice* – At the corporate level, supporting or “driving” the introduction or implementation of technologies and best practices at the mine. Mine leaders mentioned being more involved in the actual implementation of new OH&S initiatives.
2. *Conducting Technology R&D* – Conducting research and development into new technologies that are available or in need of development.
3. *Monitoring of OH&S Performance* – Includes monitoring, auditing, and benchmarking activities and using the results to identify the required OH&S initiatives.
4. *Managing Operations for OH&S* – Managing the operations to ensure OH&S performance is adequate, targets are met and equipment is properly maintained.
5. *Coaching, Training, Communications* – Coaching, training, communicating about OH&S technologies and best practices.
6. *Reinforcing Culture of Safety* – Reinforcing the values and standards of a safety culture within the organization.
7. *Conducting Accident Assessment/Response* – Investigating and responding to incidents.

8. *Seeking Technology or Best Practice* – Finding and distributing technologies and best practices among mine sites and mining companies.

Aids to Successful Implementation of Technology or Best Practices

Interviewees mentioned a variety of ways that they and other leaders can enable the successful implementation of technology and best practices as illustrated on the following chart:



Note: Given the small size of the corporate cohort, variances between the cohorts in this and the charts that follow are not significant.

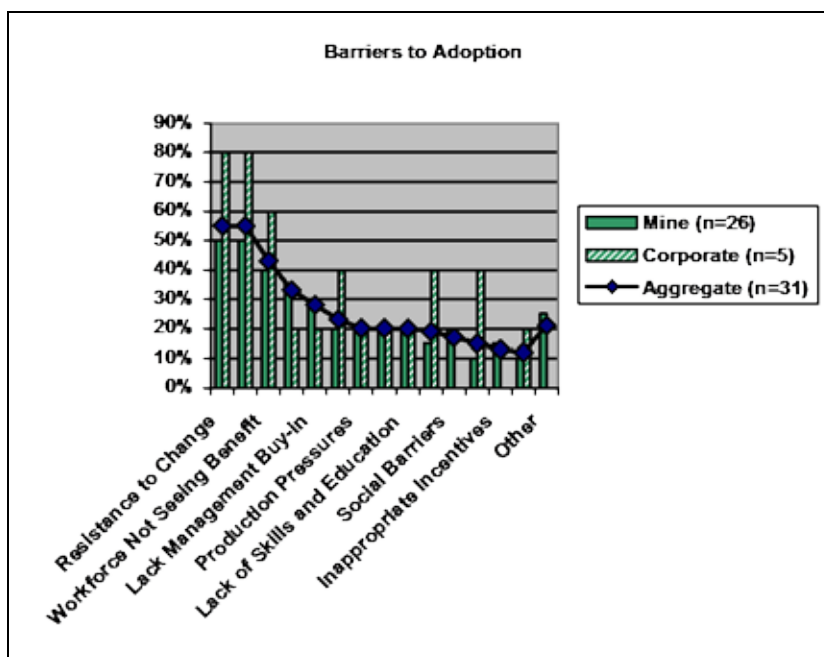
Suggested actions included the following. (Note: These aids to successful implementation arose spontaneously during the conversations with interviewees; they were not prompted.):

1. *Communicating with Management and Workforce* – Most interviewees discussed the importance of communications in ensuring successful adoption. Some also stressed the importance of listening. The importance of communication, particularly personal, face-to-face communications with employees, was a major theme throughout the interviews. Dialogue and the ability to get employee feedback were emphasized by some.
2. *Demonstrating Personal Commitment to Project* – Most interviewees said that in order for adoption to be a success, leaders must show personal commitment to what is being implemented. Several said they had to show they were “passionate” about the initiative.
3. *Actively Supporting Implementation* – Many said they actively supported the implementation of the technology or best practice through their operational roles, often as “champions.”
4. *Ensuring Appropriate Technology* – Some interviewees noted that technologies must match the needs of the mining operation and must be appropriate for the conditions at that mine.
5. *Providing Training* – Some interviewees discussed the importance of conducting training and/or providing coaching to facilitate change.
6. *Engaging Workforce/Management* – Some interviewees said engaging the workforce and/or management in the planning process was critical to obtaining “buy-in.”

7. **Reinforcing OH&S Culture** – A few interviewees discussed their role in reinforcing an organizational culture in which OH&S becomes everyone's responsibility. They believed that a culture of continuous improvement and continuous learning was important and that health should be emphasized along with safety.
8. **Monitoring Results** – A few Mine Leaders spoke about the importance of this.

Barriers to Successful Implementation of Technology of Best Practices

Interviewees raised a number of barriers that they or others face when attempting to implement a new OH&S technology or best practice as illustrated on the chart below:



Barriers to the successful adoption of technology and best practices identified in the mental models research included the following (Note: These barriers arose spontaneously during the conversations with interviewees; they were not prompted.):

1. **Resistance to Change** – Many interviewees said they had faced “resistance to change” from leaders and workers at various levels or from others, including unions and contractors. Most who mentioned resistance to change went on to specify beliefs about the causes the resistance, including leaders or workers who didn’t see the potential benefits, production pressures, etc. (discussed below).
2. **Cost** – Many said that cost is often a barrier to technology and best practice adoption. About 25% said that the cost of a project or obtaining the necessary capital investment had been a personal challenge in the past year.
3. **Workforce Not Seeing Benefits** – Many interviewees suggested that a key challenge is people in the workforce who do not immediately see the potential benefits of a change, which creates a barrier to implementation.
4. **Technological Challenges** – Some mentioned technology and infrastructure challenges.
5. **Management Buy-in** – Some interviewees said that insufficient buy-in at various levels of management posed a barrier. A few mentioned the challenge of getting supervisor buy-in or the need for a solid “business case” to “sell” the initiative.
6. **Training Capacity** – A few noted that labour shortages throughout South Africa were affecting training capacity and, consequently, the level of workforce skill.
7. **Production Pressure** – Some interviewees mentioned production goals as barriers.
8. **Workforce Buy-in** – Some said that getting individual workers to implement the new behaviour was a

challenge.

9. *Lack of Skills and Education* – Some indicated that a basic lack of skills, caused by a lack of education within the workforce, posed a critical barrier.
10. *Organizational Culture* – Some mentioned their organizational culture as a barrier.
11. *Social Barriers* – A few interviewees mentioned social considerations that can prevent workers from performing well. Barriers here included poor living conditions, inadequate nutrition, family crisis, and sleep deprivation.
12. *Lack of Time* – Inadequate time for implementation was mentioned by a few interviewee.
13. *Generation Gap* – A few mentioned the generation gap or differing value systems between older and newer workers as a barrier.
14. *Inappropriate Incentives* – The lack (or inappropriateness) of recognition and rewards for implementing technologies or best practices was seen by some as a barrier to adoption. While the ranking as a barrier appears low here, it likely reflects on Resistance to Change and the Workforce Not Seeing the Benefits.
15. *Other* – Other barriers discussed included the “Not Invented Here Syndrome”, a lack of visible leadership support, difficulties with contractors or suppliers, the difficulty in implementing new practices developed elsewhere, lack of a systematic approach to identifying needs and identifying solutions, and an unstable business environment.

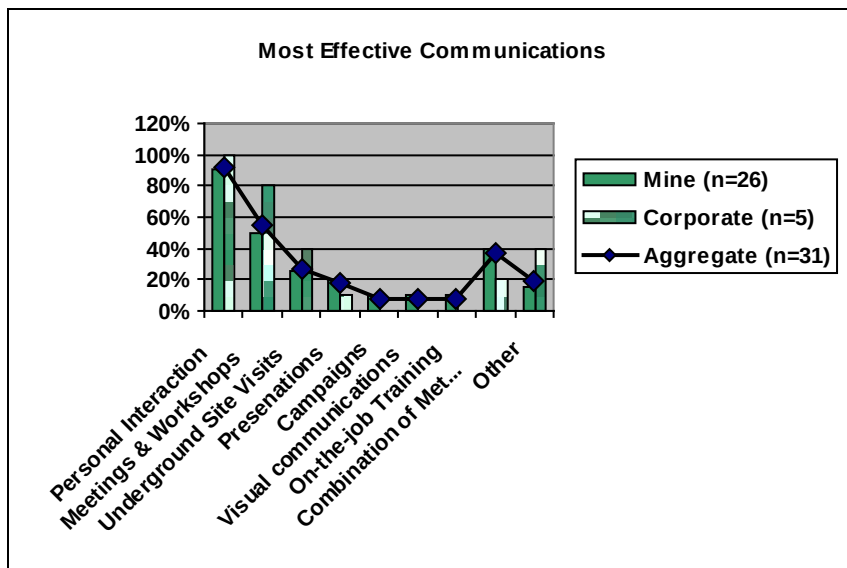
Effective Communications

Throughout the interviews, interviewees stressed the importance of communications in achieving workers' commitment to and ownership of their roles in health and safety. The majority (95%) suggested that effective communications is the key to implementing a technology or best practice: “It's the most important aspect of implementing technology.” Communication was understood by most as comprising the actions of leaders (engaging workers through dialogue, actively demonstrating commitment, etc.) as well as the messages. The importance of effective communications was stressed as a defining element of quality leadership at all levels.

When interviewees were asked to identify the most effective forms of communication, the majority (90%) mentioned dialogue and personal interaction (“one-on-one,” “face-to-face,” or “two-way” communications). About half (50%) mentioned meetings or workshops as effective methods of disseminating important information that also allowed for immediate feedback and interaction with workers.

Interviewees were also asked to think about less effective forms of communication. Impersonal, “one-way,” or “directive” communications were mentioned as ineffective, because “people can't see the reasoning behind it” and leaders “don't get the buy-in.” Written or mass-delivered communications (e-mail was mentioned specifically by 50%) were identified as ineffective methods of communication.

The most effective communication methods as identified by the interviewees are illustrated in the following chart:



D. Considerations from the Research

The research revealed that from OH&S Leaders' perspectives, the most significant challenge is not a failure to identify or develop technologies or best practices. Rather, it is the difficulty of achieving adoption of technologies or best practices. According to interviewees, the focal point for achieving adoption by mine employees at all levels is overcoming resistance to change by workers who do not readily see the benefits of change. At the leadership level, the primary challenge is getting "buy-in," in order to get the capital funding and resources required to implement the technology or best practice.

For leaders and workers alike, the research results indicate that the challenge of achieving adoption in organizations is fundamentally a behavioural one. The following quotes – from interviewees in three different companies – illustrate some dimensions of the challenge:

- "We are trying to implement first-world standards, while living in a third-world country."
- "Our company has come a long way already, from a military style of management to a caring culture. The biggest change in safety will be as a result of change in people's attitudes and behaviours towards safety."
- "If you talk about technology, we can spend millions of rands designing machines, but I think the answer would be in addressing the behaviour of people, and that's a very, very different challenge to overcome."

Based on our consideration of the research results, we offer the following as effective ways for industry leaders to address behavioural challenges at both the leadership and the worker level.

Shift to a People-Centred Enabling Culture

The research findings suggest that some companies are working to shift their OH&S focus to a more people-centred model, in which the value of people and their well-being is the core of the organization's values. Interviewees engaged in this process indicated that the focus on "Zero Harm" has resulted in a change from a production-orientation to what the interviewees described as a "people-focused culture." They reported significant improvements in OH&S behaviour within their operations. (Note: It would be interesting to correlate their perceptions of improvement with OH&S measures at their sites.)

Support a Systematic Approach to Adoption

Changing OH&S performance in a way that is sustainable over the long term calls for recognizing and supporting a systematic approach to adoption. People at all levels of the organization are part of the system of adoption. Addressing the behavioural component of the system calls for behaviour-focused communication designed to foster the behavioural change required. This is addressed below.

On the process side – taking a page from successful practices in other business functions – features of a

systematic approach to adoption would include:

1. Using a disciplined, scientific reasoning process throughout all management levels and functions. The day to day work of individuals and groups in the initiative should tap current understanding in the relevant disciplines (such as risk perception and risk communication), be guided by new knowledge (such as that produced by the mental models research) and protocols, including decision tools, anchored in readily measurable objectives.
2. Identifying and selecting appropriate new opportunities using selection criteria that reflect strategic and tactical business objectives blended with values-based safety and health performance objectives.
3. Dynamic matching of resources to opportunities.
4. Guiding realization of opportunities by determining the total critical requirements for success (adoption) in sufficient depth and precision prior to any significant expenditure.

The engagement of employees through effective communication would be a critical feature of the system.

Foster a Climate that Enables Adoption

Experience suggests that creating a climate that supports people working within the adoption system could be critical to improving OH&S behaviour (and results) over the long term. Defining the values of the organization, setting the priorities, leading by example, and demonstrating respect for employees at all levels would be critical leadership roles. Strong personal communications (primarily dialogue) and high visibility and engagement of leaders with employees would be important reinforcements of the organization's OH&S values.

In such organizations, employees at all levels would be engaged in the identification of OH&S issues and opportunities and involved in the process of adopting technologies and best practices specifically suited to the operating conditions of their mines. They would be appropriately recognized and rewarded for their involvement in identifying OH&S problems and opportunities, participating in the identification of technology or best practices, and supporting the adoption of these.

Enable Adoption Behaviour through Effective Communications

As research and experience show, communications is the most powerful influence on people's decision-making and behaviour. Effective communications – leaders' deeds plus their messages – supported by appropriate formal and informal communications will be critical to encouraging, supporting, and reinforcing adoption behaviour at all levels of the organization.

Behaviour-focused communications processes, methods and tools could be deployed by the industry as a best practice. The purpose of such communications is to build shared understanding that enables individuals to make well-informed decisions and take appropriate actions. Behaviour-focused communications would include all communications messages and interactions that can influence behaviour.

The industry could draw on relevant disciplines, such as psychology, decision science, risk communications and risk management, along with over 40 years of research in risk perception to develop a state-of-the-science approach tailored to the specific needs of the industry.

With the appropriate tools and training in behaviour-focused communications, leaders at all levels of the industry could become OH&S champions, enabling adoptive behaviours throughout the industry and within their organizations. This approach could be readily adopted and practiced by people involved in mechanisms for adoption such as peer group reviews, demonstration projects, communities of practice and acting as champions of various initiatives. Their early adoption could be a strong demonstration, and signal, of the industry's significant commitment to improving OH&S performance through the widespread adoption of technology and best practice.

Contact information:

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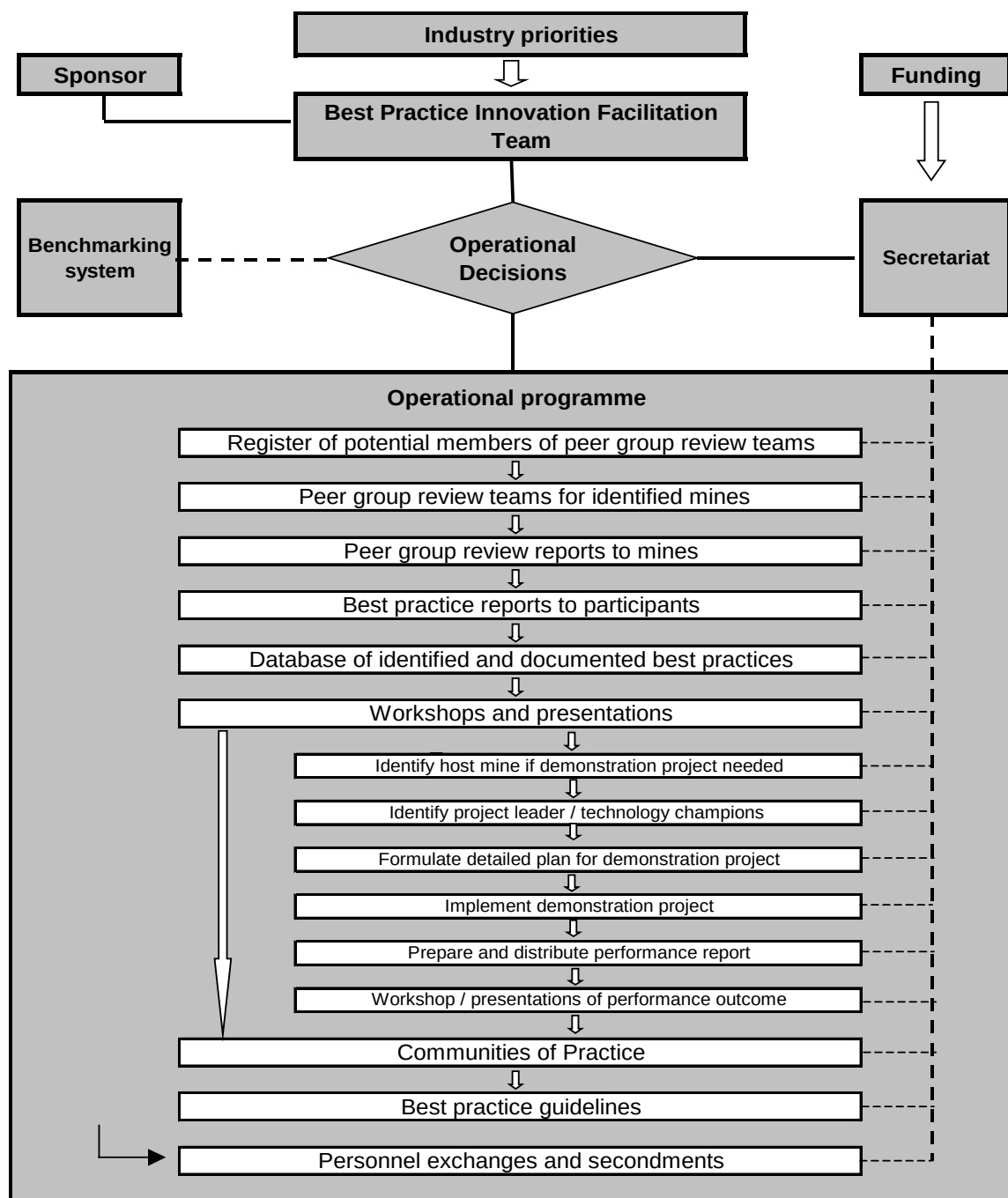
Appendix 4: Checklist for demonstration projects.

The following checklist should be worked through at the time of considering and planning a demonstration project:

1. Is there still a need for the new technology or practice?
2. Is the technology, practice or knowledge ready for transfer and adoption by industry?
3. Is further development required to arrive at a commercially and practically viable technology or practice?
4. Has the equipment to be tested been adequately designed to withstand the harsh underground environment?
5. Has the operation of the technology or practice been adequately simplified for mine application?
6. Is a demonstration project warranted or will a desktop study provide adequate performance information?
7. Which mines would benefit most from adoption of the technology or practice?
8. Which of those mines are interested in hosting the demonstration project and are prepared to pay for it?
9. Which persons in potential host mines have the incentive and attributes necessary for championing the technology or practice?
10. Has the mine appointed an appropriate champion?
11. Which persons on the host mine need to be brought into the planning of the project at the earliest stage possible, and has this been done?
12. Which persons should be invited to join an oversight group to assist in spreading the adoption experience?
13. Has the mine staff responsible for the demonstration project been provided with adequate time and resources to successfully undertake the project?
14. Who will take responsibility for documenting and writing up the outcome of the project for communication to others?
15. What technical support is needed to assist mine staff with the adoption process?
16. Are new skills or organisational structures needed to achieve successful adoption?
17. Will the equipment supplier be able to meet industry's needs in the even of a successful demonstration project?
18. Can or should the technology or practice be implemented as part of a larger more beneficial system?
19. What are the possible unintended consequences of the technology or practice and how will they be addressed if they arise?
20. Do the risks warrant consideration being given to setting up arrangements to underwrite the demonstration project?
21. Has adequate time been allowed for the demonstration project to be undertaken to its proper conclusion?
22. What are the criteria for the demonstration to be considered complete and successful?
23. What are the criteria for the technology or practice to be considered a success once adopted?
24. Which persons or mines are going to be most affected by adoption of the technology or practice?
25. What steps need to be taken to ensure proper communication about the new technology or practice in regard to its application and its positive and negative impacts?
26. What special training is necessary for mine staff to facilitate successful adoption?
27. Which persons on the host mine could make or break the project and how have they been accommodated?
28. What will be the benefits to the various people on the mine who are or will be affected by adoption of the technology or practice, in particular the workers and first line supervisors?
29. What measures, in addition to training, need to be adopted to gain support of the workforce for the new technology or practice?
30. Which persons will be negatively affected and how have their concerns been taken into account to secure their support?

Appendix 5: Best practice - mechanisms and processes

The system of proposed mechanisms and processes for best practice identification, sharing and widespread adoption is shown schematically in the following figure:



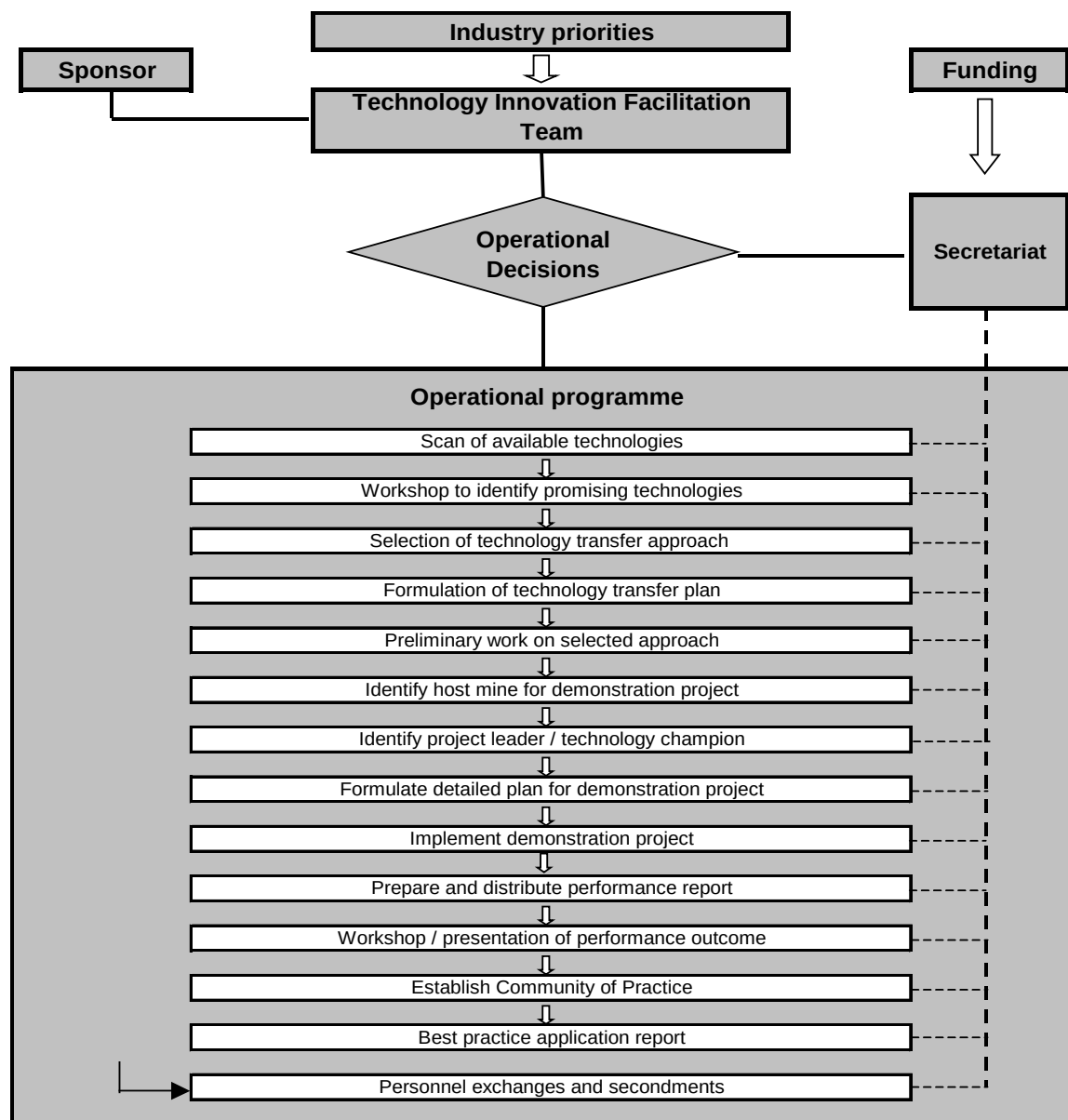
1.1 Schematic representation of proposed best practice transfer arrangements

The above system draws on the successful system developed and used by the World Association of Nuclear Operators, WANO⁷. Given the outline of the various mechanisms presented in the body of the report, the various elements in the operational programme presented in this figure are not elaborated upon here.

It is possible that the best practice arrangement outlined here could be implemented in conjunction with the benchmarking group at the Centre for Sustainability in Mining and Industry at Wits University.

Appendix 6: Technology - mechanisms and processes

The proposed set of mechanisms and processes for the identification, transfer and widespread adoption of promising technology is shown schematically in the following figure:



Schematic representation of proposed technology transfer arrangements

The proposed system envisages an ongoing process that would be overseen by a Technology Adoption Team. The Team would be established to operate for at least three years but not more than five. Given the outline of the various mechanisms presented in the body of the report, the various elements in the operational programme presented in this figure are not elaborated upon here.

It is possible that the technology adoption arrangement outlined here could be closely linked with the efforts of the Mine Health and Safety Council to secure adoption of worthwhile technology and practice developed through the SIMRAC research programme.

References

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- ¹ Chamber of Mines: *Draft position paper – industry arrangements to promote and facilitate the implementation of research and development results*, March 1994.
 - ² Chamber of Mines: *Research Advisory Committee Circular – implementation of research findings in the mining industry*, November 1987
 - ³ National Advisory Committee on Innovation: *Utilisation of research findings – Extent, dynamics and strategies*, October 2003.
 - ⁴ Chamber of Mines: *Key concepts and insights from past work on technology transfer*, March 2007.
 - ⁵ Chamber of Mines: *Current processes and mechanisms for technology and best practice transfer*, May 2007.
 - ⁶ Minerals Industry Safety and Health Centre: *Minerals industry risk management gateway*, www.mirmgate.com
 - ⁷ World Association of Nuclear Operators: *Peer review programme*, www.wano.org.uk

Section 15.2

Company activities that enable or enhance adoption of leading practice

Purpose

To identify and outline company activities that may enable / enhance adoption of best practice / technology and to provide guidance on how these might be used to the benefit of the adoption process.

Scope

Explain that development of the adoption system involved a review of work being undertaken within mining groups to achieve technology and best practice transfer and adoption. Highlight the important cross group dimension that the adoption system brings, bringing out the value that it adds. Point out the scope for synergistic activity and provide guidance on how the mining companies and the adoption teams should work together to realize this potential synergy.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	
Document the identified practice	Implement & Check
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Section 15.3

Explanatory note on behavioural communication

Key outcomes

- A conceptual understanding of the difference between behavioural communication and other forms of communication
- A understanding of what a mental models is and how it is used to devise communications to change behaviour
- A broad understanding of the steps involved in developing a behavioural communication plan
- Knowledge of the key elements that should be covered in a behavioural communication plan
- An ability to explain the concept of behavioural communication to others

Background

One of the most important aspects of the Adoption System is the attention devoted to the people who are responsible for adoption the leading practices in question. The system recognises that without their involvement and contribution, the potential of the carefully selected leading practice of bringing about a significant improvement in occupational health and safety performance will not be realised. It is their behaviour that is crucial to the success of the adoption system. Decades of research and experience demonstrate that communications are the most powerful influence on people's decision making and behaviour, and behavioural communication is the system of communication employed within the adoption system to foster behaviour aligned with successful adoption of the leading practice in question.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Explain the concept of behavioural communication, and
- Outline the key elements in presenting a behavioural communication plan.

Key points

1. The basic concept of behavioural communication:

- Everywhere and every day people make a wide variety of decisions that affect their interests. In many if not most cases these decisions are taken without complete knowledge of all the factors that are relevant to the situation at hand. Clearly, in the absence of complete knowledge people's decisions can only be based on what they are able to deduce from what they know, however imperfect that knowledge might be.
- What people know exists in their heads in the form of a web of beliefs along with information derived from their past experience, observation and learning. It is this web of beliefs and knowledge that is referred to as a mental model. Information that causes a change in this mental model therefore has the potential to lead to a long-term adjustment of a person's behaviour.
- In broad terms any communication that seeks to influence the way people behave might be thought of as behavioural communication. However, in the context of the adoption system, the concept of *behavioural communication* is much more specific. It

is communication devised from an analysis of the mental models of the key people involved in the adoption process.

- In the adoption system the mental model of a group of people is determined through a process of direct enquiry involving one-on-one interviews structured around the risks, the way they are being addressed and the adoption of a leading practice to better address them. The interviews provide a basis for identifying what the group correctly knows about the risk and of how the leading practice might best be implemented.
- Communications are then devised to address the various knowledge gaps and misperceptions about the risk, as well as particular knowledge, values and beliefs that could give rise to behaviour that would either inhibit or enhance adoption of the leading practice. Derivation of the communication content from a systematic process of direct enquiry is thus a fundamentally important distinguishing feature of behavioural communication.
- It is important to recognise this point. Without a clear and strong appreciation of this point, a carefully developed behavioural communication plan could superficially appear to be similar to a communication plan that has been intuitively developed. It may also involve message content similar in form to other communications, and the modes and tools used to deliver the communications may also be similar, yet the plans are fundamentally different due to the very different approaches used to derive them. Failure to clearly understand and appreciate this point is largely responsible for the difficulty that many have in distinguishing between behavioural communication and other forms of communication.
- As a practice, behavioural communication reflects the natural science of how risks are created and controlled and the social science of how people comprehend and respond to risks. At its centre are commitments to the scientific facts of risk, the empirical understanding of human behaviour and the need for open, effective communication that is results-oriented in terms of behavioural outcomes from communications.



Facilitator explaining the concept to adoption teams

2. The weakness of other informal approaches to influence behaviour:

- People have long attempted to influence the behaviour of other people in preventing and dealing with risks, such as home fires and infectious disease. For the most part, however, and as practiced today, much communication concerning decision making and behaviour is surprisingly ad hoc, even if very earnest.
- Most approaches to communication are “hit-or-miss” in nature, with the design of strategy, plans and messages driven primarily by intuition and conventional wisdom

among those designing the communications about people's decision-specific information needs and how they will interpret messages of various kinds.

- Typically, strategies and messages are not derived from a clear analysis of what needs to be communicated to whom, or solid evidence that messages have achieved their intended outcomes. Nor can one find tested procedures for ensuring the credibility of communications.

3. Typical goals for behavioural communication

- The primary focus of behavioural communication is enabling people to make appropriately informed decisions that they then act on responsibly. In order to make sound decisions, people must have good quality information; that is, information that is relevant and useful for decision-making purposes. Sometimes, people just want a trustworthy expert to tell them what to do. Sometimes they want to make their own choices but need quantitative details (such as probabilities or prices) to do so. Sometimes, they want help in organizing their thinking.
- Because time and attention for communication are always limited, such information has to be carefully selected and clearly conveyed. Such communications must be designed to contain, in readily comprehensible and useable forms, the information people need to make independent informed judgments. It is such judgments that enable effective management of the situations and conditions they need to address, including in particular the management of risks.
- Broadly, the goals for behavioural communication can be summed into the creation of an adequate mental model for people of the situations and risks that they are confronting, so that they know which information is relevant and useful for decision making purposes. The mental model should help people interpret new facts that come their way, including their own observations, with their attention focused on that information which makes the greatest difference in successfully adopting a leading practice to address the risks.

4. The need for a science-based systemic approach in behavioural communications:

- To be effective in addressing decision making, communications must focus on the things that people need to know but do not know already. This simple norm is violated remarkably often in the design and implementation of communications.
- The design and implementation of a communication strategy is typically complicated by a wide variety of confounding and counterproductive practices. Often, for example, communicators ask subject matter experts or managers what they think people should be told in the form of "messaging" in communications instead of conducting a systematic analysis of what people believe and what information they need to make the decisions facing them.
- Rather than subject communications to rigorous evaluation by individuals like those who will use them, communicators pass around draft communications to other communicators or subject matter experts for approval. Those passing judgment on the

communications may often know very little about either the knowledge or the needs of those for whom the communications are intended.

- Behavioural communication used in the adoption system is designed to overcome these shortcomings by following a four-step science-based systemic approach to the design of the communication strategy, plans and content.

5. A four-step approach to developing detailed behavioural communication plans:

Step 1

Understand in-depth and appreciate the situation and risks inherent in it

- Work in this step involves developing an in-depth understanding of the system people are experiencing on a given topic or situation and the nature and magnitude of the risks that characterize that system.
- A key activity in this step is identifying “stakeholders” for communications. The term “stakeholders” typically describes individuals and groups who may be subject to the risks involved to various degrees. They may be people who are directly at risk or experiencing a gain or loss of some type. They may also be people who are responsible for minimising or managing the risks, or otherwise have an interest in influencing how risks may play out, affecting themselves or others. Within the stakeholders, the small group of persons at a mine who make the initial strategic level decision to adopt the leading practice are especially important. They are called the “deciders”. Another group who are equally important are those persons who are directly responsible for adopting the leading practice at the operational level. They are called the “adopters”
- In all cases, stakeholders are people who likely believe they have a significant interest or “stake” in how they or others may be affected by risks. They are therefore likely to also have a strong interest in influencing the management of those risks.
- Stakeholders are entirely different from “audiences” for communications purposes. Audiences comprise people who have no stake in the risks and no potential sacrifices to make in managing them.
- In the adoption system this in-depth understanding of the risk situation is achieved through the development of an “Expert Model”. The development of such expert models is described in detail in section 3.5, which also provides guidance on their development. An expert model is developed using the best available knowledge, so that it represents the best description of the situation that is currently possible.
- The critically important expert model used in the adoption system is the causal chain risk summary described in section 3.5. It is expressed in the form of a table as shown in the side-box. The summary brings out the linkages between the various elements

Risk summary: Table of related factors – causal chain					
Part A – Description of the causal chain					
No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure
	Description Information here includes substances (such as a chemical, mineral or metal) or phenomena (such as high decibel sound) or an event that comprise the hazard. Also, actions that can be taken to eliminate or reduce the hazard in some way		Description Information here includes detail about what types of workers are exposed to the hazard and details about them (ex: gender, age, typical fit-for-duty levels), and how workers can be exposed, levels of exposure required to affect the physical safety, physiology or health of workers. Also, actions that can be taken to reduce or eliminate exposure in some way.		Description Information here includes all the ways in which workers might be affected and harmed by exposure to the risk including biological or physiological affects (with or without evident harm) and safety or health effects (ex: crushing injuries to head or chronic numbness of hands – nerve damage, or chronic obstructive pulmonary disease, COPD). Also, action that can be taken to reduce or eliminate the likelihood of outcomes from occurring.

that together constitute the risk situation being addressed. It is this understanding that provides the basis for identifying gaps or misperceptions in the understanding of the key stakeholders. In this context, the section also covers the development of an influence diagram that brings out the interaction between key stakeholders and the other elements within the system that influence outcomes.

Step 2

Reveal and characterize stakeholder mental models

- Stakeholders for communications typically lack a complete understanding of the system in which they are subject to risks, or of the risks inherent in it. Yet, for many situations, people have some relevant beliefs they will use in interpreting communications. They may correctly understand some facts and features of the system and risks. They may also have consequential gaps in their knowledge. Typically, they want to be satisfied on issues important to them involved with the risks.
- They also inevitably make judgments about the trustworthiness and competence of the people, organizations, and communications involved in managing the risks.
- As decades of research and experience have shown, people will assemble their fragmentary knowledge and beliefs into what has come to be called a “mental model”, which they will then use to guide their decision making.
- No one can accurately describe the mental models of others without proper insights from formal research into them. Nevertheless, many often do so by predicting or guessing about how people think about certain situations, their information needs and how they will interpret and act on communications that come to their attention.
- An appropriate research method for revealing mental models comprises semi-structured, confidential one-on-one interviews with a small sample of individuals guided by a carefully prepared series of open-ended questions. The research method is thus based on a process of direct enquiry to acquire the needed information. The process is described in detail in section [5.7](#).
- For various technical reasons, polling and use of written questionnaires are not suitable methods for revealing mental models. Neither are focus groups. However, mental models research results are often used to develop confirmatory questionnaires that can be deployed over large populations. They can also be used to structure appropriate group interview and discussion research.

Step 3

Draft communication strategy and content.

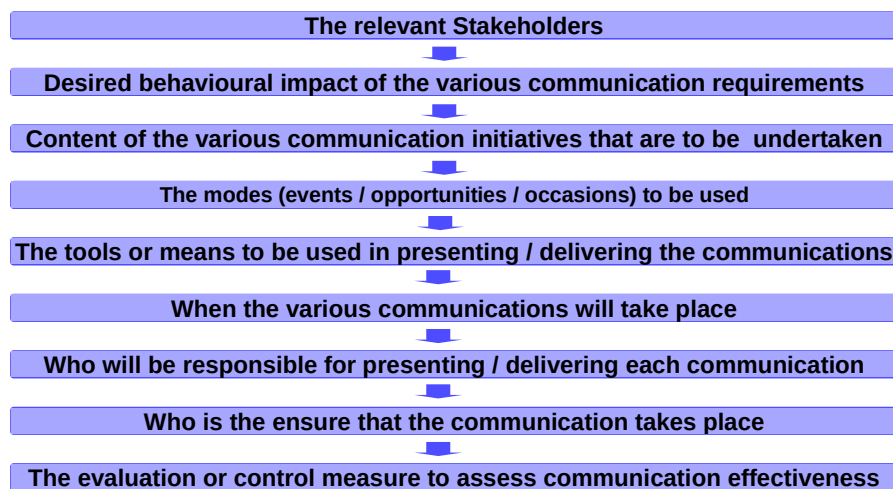
- Results of mental models research are analyzed against the understanding developed and captured in the causal chain risk summary form of expert model described in Step 1.
- The systematic analysis determines which knowledge gaps and which of their beliefs (misperceptions about the risk) need most to be corrected to enable well-informed decision making.
- From this analysis, strategies for communication and draft content for communications in various modes are prepared. This process is described in detail in sections [5.8](#). and [5.9](#)

Step 4**Evaluate strategies and communications to assure effectiveness**

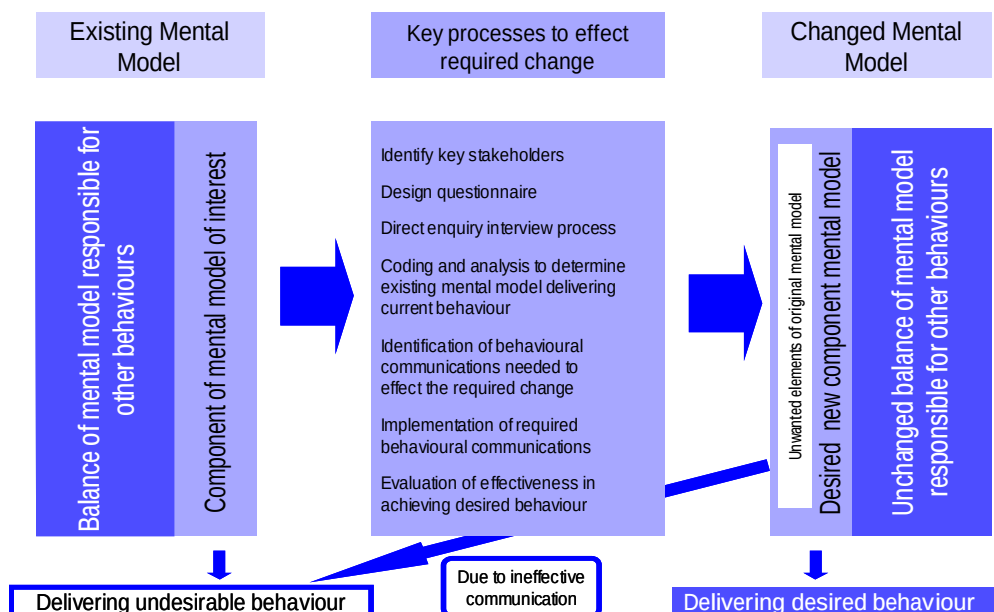
- To assure that the envisaged communications will have their intended effect on stakeholder thinking and decision making, the strategies and content are tested with individuals selected from the key stakeholder groups. Strategies and content can be refined through such testing until they are understood as intended.

6. The essential elements of a behavioural communication plan

- The following diagram sets out the essential elements that need to be covered in presenting the behavioural communication plan that has been developed from a careful consideration of the mental models of the key stakeholders.



- A good example of a behavioural communication plan is provided in sections [5.9](#) and [5.12](#).
- In essence, the outcome that the behavioural communication plan seeks to achieve may be illustrated schematically as follows:

Behavioural communication: Schematic of mental model based approach to changing behaviour

7. Value case and advantages

- Many organizations spend significant amounts on self-promotion of one sort or another in the form of advertising, public relations, brand management and similar efforts, many of which are often deployed against risk management and behavioural communication challenges.
- The attractiveness of any investment into practicing behavioural communication depends on the consequences of ill-informed decision making, misunderstanding and inappropriate action or failure. Such consequences and their weight vary with the situation, the stakeholders and the risks being addressed. Many decisions resulting in unwanted behaviour, especially those associated with safety, health and environmental risk management, involve huge sums of money.
- More than two decades of experience has shown that a tiny fraction of such amounts invested into helping stakeholders become better informed decision makers returns much larger amounts of value by avoiding or reducing the human and financial toll involved with regulatory conflict, work stoppages, production losses, lawsuits, needless injuries and casualties, loss of confidence in leaders, unnecessary alarm and many other costs associated with avoidable problems stemming from ill-informed stakeholders.
- This approach will improve the ability of leaders to learn from experience, while its tools offer a means for collecting the evidence. Finally, the practice of behavioural communication creates modular solutions that can easily be used to address new problems effectively.

Concluding comment

Behavioural communication provides ways to avoid or resolve frustrating, and potentially unnecessarily expensive differences of opinion about what strategies and communications are optimum in seeking to bring about changes in behaviour. It provides a means for leaders to collect information necessary to better understand the work situation and to apply expert experience fully. Its structure offers a systematic way to pool what is learned and to organize work in ways that are efficient and satisfying.

Section 15.4

Explanatory note on leadership behaviour

Key outcomes

- An appreciation of the potential for using leadership behaviour strategically to achieve business and operational objectives
- A understanding of the use of the Antecedent / Behaviour / Consequences (ABC) approach in the Adoption System
- A broad understanding of the steps involved in developing a leadership behaviour plan
- Knowledge of how to structure a clear statement of a leadership behaviour plan
- An understanding of the difference between the use of leadership behaviour techniques in the adoption system and their use in behaviour based safety
- An understanding that should enable the concept of leadership behaviour to be clearly explained to others

Background

The adoption system recognises that successful adoption of an identified leading practice is critically determined by the behaviour of the key persons responsible for adopting and using the system. In section 15.3 it was explained how this behaviour may be influenced by the mental models of the people involved, including leaders and subordinates. This section is concerned with the effect that leaders exert on the behaviour of their subordinates. The mental models research conducted during the investigations that led to the development of the adoption system showed clearly that people in virtually all functions and of all ranks believed that the behaviour of leaders in their organizations, along with communications of various kinds, strongly influenced the outcome of technology transfer initiatives. To some extent this finding explains long experience in technology transfer, which points to the importance of having an effective Technology Champion lead the technology transfer initiative. However, it also points to the importance of the behaviour of all leaders who have the potential to influence the adoption process. Most importantly, the research suggested that leaders did not fully understand or appreciate the power of their behaviour on others, and that they did not manage their behaviour *explicitly and strategically* as a means of influencing the behaviour of others to yield desired performance.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	Review
Facilitate widespread adoption	
Monitor and review adoption	

Purpose

The purpose of this section is to:

- Explain that leadership behaviour is in practice a strategic instrument that all leaders have for helping assure successful adoption of leading practice in the workplace, and
- Outline the framing of leadership behaviour to help facilitate the adoption of leading practice.

Key points for consideration

1. Behaviour is key to achieving adoption of leading practice:

- Behaviour is anything a person says or does, good or bad. It is also what a person does not say or do. The science that explains why people do what they do, and say what they say is called “behavioural science” or more technically “applied behavioural

analysis". It comprises careful observation, data collection, reliability of occurrence, repeatability, measurement, analysis and interpretation, and so on.

- Applied behavioural analysis has been increasingly used over the past decade in a wide range of organizations as a primary means for managing change through improved leadership and management of people. In the adoption system it is used to facilitate adoption of leading practice for safety and health performance improvement, but it has the potential to facilitate improved performance in other areas too.
- Based on experience in using applied behaviour analysis to guide leadership behaviour there are three important principles that are particularly relevant to the challenge of achieving adoption of leading practice. They are presented in the points that follow.

2. Behaviour is the enabler that translates strategy and processes into actual effort:

- Sound strategy, plans and supporting behavioural communications for achieving adoption of leading practice are considered essential to enabling successful adoption of leading practice. They must be in place.
- Explicit management of behaviour is however the primary means of translating the intention represented by strategy and plans into the required implementation actions. Behavioural communications, as explained in section 15.3, has a similar influence.
- In virtually all organizations, the effectiveness of leaders is measured by the effect of their actions, not the quality of their intentions. For leaders to be effective, the key is for them to manage not only the behaviour of others, but also their own behaviour in ways that will lead to outcomes that closely match those that were intended.

3. Leaders' and subordinates' thinking and behaviour can be understood and should be addressed strategically and respectfully:

- It is generally recognized that mentally healthy and able people are responsible for their thoughts and actions. They are considered to be able to control their thinking and behaviour.
- From behavioural science, it is clear too that behaviours can be readily identified using appropriate analytical methods, and then understood in relationship to the things that enabled the behaviour (called "antecedents") and experiences that re-enforced it, positively or negatively (called "consequences").
- Antecedents are one or more things that precede or prompt behaviour. Antecedents have a short-term influence on behaviour and less impact on sustaining behaviour than consequences. Examples of antecedents that are relevant to the adoption of leading practice include: training; job aids; proper equipment; including crew members in the design of procedures;

ABC: Antecedents, Behaviours and Consequences

Antecedents are one or more things that precede or prompt behaviour. Antecedents have short-term influence on behaviour and less impact on sustaining behaviour than consequences. Examples of antecedents that are relevant to adoption of leading practice include: training; job aids; proper equipment; including crew members in the design of procedures; individual abilities; and past events.

Behaviour is anything a person says or does, good or bad. It is also what a person does not say or do. Behaviours should not be subject to interpretation, they should be measurable, repeatable and specific.

Consequences are events that follow behaviour that serve to increase, maintain or decrease behaviour. They have great influence on whether behaviour is likely to be repeated. Positive consequences are more desirable than negative consequences. Examples of consequences include: positive feedback from supervisors and congratulating or celebrating crew member efforts with small or symbolic rewards.

individual abilities; and past events.

- Consequences are events that follow behaviour that serve to increase, maintain or decrease behaviour. They have great influence on whether behaviour is likely to be repeated. For reasons explained later, positive consequences are more desirable than negative consequences. Examples of consequences that are relevant to the adoption of leading practice include: positive feedback from supervisors and congratulating or celebrating crew member efforts with small or symbolic rewards.
- Antecedents and consequences, many of which can also be behaviours, can be provided, and therefore deliberately managed. They can thus be managed strategically with respect to achieving clear goals.
- Doing so in ways that achieve a safer and healthier work environment can be considered an ethical imperative and fundamentally respectful of people, their interests and priorities, and their culture.
- Providing people with information that enables them to better understand and respond to their work environment, and with skills, guidance and incentives to deliver improved performance seeks to change people's behaviour, but not the people. This is an important distinction, in that the latter would be unethical in principle. It is however incumbent upon leaders to create through their own actions work place environments that foster and reinforce the behaviours needed to enable the success and well-being of people within them.

4. Sustained adoption of leading practice results from discretionary effort, not compliance:

- Discretion is a person's ability to make his or her own judgments and choices. Discretionary effort on the part of a person or group can be thought of as people's actions that arise from them wanting to do something, as opposed to acting because they feel they are being forced or compelled in some way. It is the difference between commitment – doing something because people genuinely want to – and compliance – doing something because they feel they have to in order to avoid punishment.
- Research and experience in applied behavioural science show that discretionary performance will also occur when behaviour is positively rewarded or reinforced. Removal of this positive feedback could in due course result in less desirable behaviour, particularly if the benefits experienced in the work place from adopting the leading practice are only marginal. Sustained adoption of a leading practice is thus best achieved when people do something because they want to. Ideally, to be confident of long-term adoption, the practice should not rely on rewards and reinforcements that are not intrinsically a part of the operational system.
- In particular, if people do only enough to avoid experiencing punishment or some sort of negative reinforcement, discretionary effort will not occur, and the compliance behaviour will cease as soon as the threat of punishment is absent or becomes ineffective.

5. Leveraging the effect of behaviour systematically

- Within the Adoption System, the identification and use of explicit leadership behaviour to achieve adoption of leading practice is approached strategically. This involves clear outcome-oriented considerations and systematic management, as outlined in the four-step process set out below:

Step 1

Achieve shared understanding of the opportunity

- The first step for leaders involved in the adoption initiative, inside and out of operating mines, is to arrive at a shared in-depth understanding of the risks being addressed, of the key stakeholder's and their needs with respect to safety and health performance relative to the risks, and the opportunity, including the full value case, for adoption of a specific leading practice.
- This understanding is necessary in order to help assure that the efforts of all involved will be aligned to achieving the same end-point results and that effort to achieve those results will be effective and efficient.

Step 2

Formulate concrete end-point results

- The second step is for leaders to set unambiguous end-point results, or targets for performance for the specific leading practice when fully adopted. These results should be expressed in behavioural terms that are measurable.
- Measurable behaviours are things that people can be seen to do and heard to say. They are measurements that can be aggregated, with a view to relating them to measurements of reductions in risk, as well as to safety and health performance statistics.
- The identified behaviours should be tested against the following NORMS framework:

N – Not an interpretation

O – Observable

R – Reliable

M – Measurable

S – Specific

NORMS Framework

N - Not an Interpretation: Identified behaviours must be described in a way that is clear, unambiguous and not open to interpretation. Interpretations are conclusions or assumptions based on facts. However, they leave the facts unstated. Example: "Taking unnecessary risks" is a description of a behaviour that is open to (misleading) interpretation. "Refusing to wear safety equipment, exceeding the speed limit on the road to the mine, and spending twice the allotted budget developing a new product", are all examples of behaviours clearly described and less open to interpretation.

O- Observable: Identified behaviours must be observable if they are to be objectively described. Observable behaviour can be directly sensed. It can be seen, touched, heard and so forth. Behaviour that cannot be directly sensed, such as a "bad attitude", value or belief, is a non-observable behaviour. For example, a non-observable behaviour would be "Being a model employee". Observable behaviours describing the same concept would include: "Offers to assist other co-workers without prompting" and "Completes assigned tasks on time or before the due date".

R - Reliable: Identified behaviours must be described in terms of their reliability. Reliability means that two or more people can agree that they observed the same behaviour of the same person. This is a good test of the clarity by which an identified behaviour is objectively described. If an identified behaviour is described subjectively, chances are that two different observers of the behaviour won't agree on their description of it. For example, for an identifiable behaviour of "taking unnecessary risks", it is unlikely two people could watch a person and reliably identify when the person was behaving in a way that precisely matched the description.

M - Measurable: An objective description of a behaviour must include a way to measure it. Measuring behaviour is necessary in order to demonstrate progress toward achieving certain outcomes, such as adoption of leading practice, or lack of progress. For example, "The leader communicated well to employees" is not a description of a behaviour capable of being objectively measured because there could be many interpretations of "well". "The leader held face-to-face dialogues at all twelve locations within 48 hours after the accident" is measurable.

S - Specific: The more specific the description of an identified behaviour, the more information it communicates. To describe a behaviour in specific ways means including in the description useful details such as who, what, when, where, how and so on. An example of a behaviour described in general terms would be "Joe meets deadlines". The same behaviour described in specific terms would be "Joe submitted all required monthly reports before the deadline."

Step 3**Translate end-point results into key behaviours**

- In this step, leaders identify all behaviours that are necessary for successful adoption of the leading practice. In the adoption system this identification is undertaken by the MOSH Adoption Team, making use of the information derived from the direct enquiry process undertaken as part of the mental models research described in section 15.4.
- The smallest number of behaviours on the part of those adopting the leading practice that are considered to be critical to its successful and sustained adoption are then selected. Such behaviours, and others that will be aligned to support their achievement, must be stated in clear terms so they can be readily communicated, observed, measured and tracked over time. They should be tested against the NORMS framework.
- Importantly, it is the identification of these key behaviours that is crucial achieving the desired end-point results.

Step 4**Frame antecedents and consequences for key behaviours into an aligned plan for all relevant levels of leadership**

- In this step the antecedents necessary to set up the key behaviours of adopters are identified and linked to the behaviours determined in Step 3, as are the consequences necessary to sustain the behaviours over time. In the context of the adoption system the MOSH Adoption Team would be responsible for doing this.
- This needs to be done for all levels of leadership, as well as the workers that must become engaged in the process of achieving adoption of leading practice in a specific workplace. The identified antecedents behaviours and consequences should be presented in a table that clearly shows the various levels of leadership that are involved. An example format of such a table is presented below.

Leadership behaviour plan – example format			
Details of relevant levels of leadership	Antecedent Things that are required to precede or prompt desired behaviour	Behaviour Desired key behaviours that are necessary for success	Consequences Actions following behaviour to increase, maintain or decrease behaviour
Operator / technician			
Informal peer group leader			
First line supervisor	In each of the cells associated with a particular level of leadership a number of entries are expected. Each entry should be numbered with each column having its own set of numbers since the antecedents, behaviours and consequences may not have a one-on-one alignment. Details should be provided in respect of each of the levels of leadership identified as being relevant to adoption of the leading practice in question		
Second line supervisor			
Third level supervisor			
Fourth level supervisor			
Other			

- In preparing the table it must be recognised that leaders are the source of all antecedents and consequences for their subordinates. This establishes a linkage between the various levels of leadership, and the basis for the preparation of a coherently integrated leadership behaviour plan. The antecedents set out the coaching, training and other things that need to be put in place to enable the desired behaviour. The identified necessary behaviour for the job, which should be measurable, provides the basis for performance feedback to leaders, and the set of consequences identify the behaviour required of leaders to foster and sustain the desired behaviours.
- The leadership behaviour plan should thus align the critical antecedents, behaviours and consequences across all levels of leadership that must become engaged in the process of achieving adoption of leading practice at the mine.
- The plan should then be implemented systematically, monitored for performance at regular intervals and adjusted accordingly over time to assure that the leading practice has, in fact, been adopted as designed and intended, and is being practiced in a sustainable manner.

Concluding comment

Importantly, leadership behaviour for achieving adoption of leading practice should *not* be confused with behaviour-based safety or behaviour-based health. It is neither. It is a systematic approach for strategically, ethically and respectfully applying the scientific understanding of human behaviour to facilitate the emergence of behaviour that is conducive to the adoption of leading practice. It is in effect behaviour-based adoption. It offers the promise of delivering improved safety and well-being through the adoption of better practice.

Leadership behaviour vs behaviour based safety

There are fundamentally important differences between a leadership behaviour plan and a behaviour based safety initiative.

A behaviour based safety initiative seeks to root out bad behaviour replacing it with more desirable behaviours, but without necessarily addressing the basic inadequacies of the system in place. In the adoption system the shaping of behavioural is focused on the improvement of the system through the introduction of a leading practice to improve the operational system.

Although both employ the ABC concept established through behavioural science, the application is thus significantly different.

Mounting experience with behaviour based safety is that it can unfortunately give rise to a counter-productive blame culture. In the adoption system the direct enquiry process and the introduction of a leading practice to improve system performance has thus far been shown to have a powerfully positive effect. Importantly, the direct enquiry process seeks the assistance of workers in identifying the behaviour required of peers and their superiors for successful adoption of a practice that has been shown to be capable of improving their safety and well-being.

Section 15.5

Strategic communication plan developed for piloting of the Adoption System

Key outcomes

- An awareness of the scope and nature of the strategic communication plan that formed part of the piloting activity
- An example plan to serve as guidance in the development of future strategic communication plans
- An appreciation of the level of detail required in documenting a strategic communication plan

Background

At the time of piloting the Adoption System it was recognised that it would be important to ensure that the key persons who would influence or directly make the decision about the future of the adoption system were adequately informed about the system, and of progress during the piloting phase. The benefit of similarly informing other key stakeholders about the system was also recognised as being of strategic importance. Accordingly, the development and implementation of a communication strategy and implementation plan to support the piloting initiative became an integral part of piloting the Adoption System. The initial version detailed plan was developed by Decision Partners and this was then adapted for implementation by selected persons within the Secretariat, with the assistance of the senior industry persons who were appointed as communication facilitators to focus on different sectors of the mining industry.

Purpose

The purpose of this section is to:

- Provide an example of a detailed strategic communication plan to support Adoption Team activity, and
- Serve as a record of the strategic communication plan that formed part of the piloting initiative.

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

***Chamber of Mines of South Africa
Adoption System Communications
Strategy & 1Q Plan
January – March, 2008***

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Adoption System Communications Strategy & Plan

Introduction

This Communications Strategy forms part of the implementation activities of the Mining Industry Occupational Safety and Health (MOSH) Adoption System. The success of the implementation of this System, which is soon to be piloted within the mining industry, depends largely on commitment, participation by affected stakeholders, effective and strategic communications. While it has been acknowledged that solutions to some of the current occupational health and safety challenges being looked into through this System have already been identified, the adoption of these solutions has not, in many cases, taken place. It is part of the work of the Adoption System to establish why this has been the case and what to do to encourage sustainable adoption of these solutions.

One of the primary tasks of the Adoption Teams will, therefore, be to encourage affected stakeholders to adopt these existing solutions which have been tried and tested elsewhere. Members of Adoption Teams are to do this by utilizing “state-of-the-science behavioural communications methods” in order to understand and overcome barriers to the adoption of best practices, technology and behaviour in the never-ending journey towards the attainment of zero fatalities, injuries and diseases in the mining industry.

The communications efforts of the Adoption Team members form the first of two communications streams of the MOSH Adoption System. Overall, the efforts of the Adoption Teams are intended to engender co-operation and assistance in identifying best technology and best practice in the four focus areas: noise, dust, fall of ground, and leadership; identify and get support for establishing adoption pilot projects; establish barriers to adoption; develop strategies to encourage eager adoption of these; and to provide regular feedback on progress, challenges and experiences. The second communications stream is intended to provide support and communications assistance to the Adoption Teams and their efforts and to achieve decision-maker support of the System as well as to enable broader stakeholder engagement. This communications strategy is intended for this second communications stream and will, in some cases, overlap with the first stream.

Of note is that this Communications Strategy is complemented by two documents: **Background to MOSH** and **Management Orientation Statement**. These documents will assist in providing necessary background information to create a common understanding of what we all need to know to enhance chances of success of the Adoption System.

Systematically Building Positive Stakeholder Judgement

To fulfill its objective, this Communication Strategy will need to address two goals. The first is the creation of an awareness and understanding of the Adoption System and building and sustaining support for the System and Adoption Teams to encourage eager participation by affected stakeholders. This is to be achieved through identifying key internal and external stakeholder groups and proactively engaging them. The objective will be to:

- Achieve “**Decision-Maker**” support for the Adoption System and its objectives;
- Facilitate for the fostering of eager support for the Adoption Teams by “**Transactors**”; and
- Create widespread awareness of the Adoption System amongst the “**Active Interest**” grouping.

Definition of “Decision-Makers”, “Transactors”, and “Active Interest” groups is provided further on in the document.

This strategy will also facilitate for consolidated constant feedback, through identified communications channels, to senior management in participating companies on the progress made in the Adoption System. The second objective of this Communications Strategy is to significantly improve the communications capacity of the Teams and their work by:

- Generating requisite insights into stakeholder beliefs, attitudes, interests and priorities for safety and health
- Ascertaining and providing requisite communications tools;
- Co-ordinating communications effort;
- Providing updates throughout the Adoption System; and
- Identifying new communications channels and utilizing these in the communications effort.
- Analysing communications effectiveness in order to continuously improve

We believe that through leadership and effective communication, the Adoption System can reinforce the desired culture of “Zero Harm” and assist in attaining a quantum improvement in occupational health and safety in the mining industry. It goes without saying that extreme care needs to be taken to ensure that messages and communications tools related to the Adoption System are vetted for any inconsistencies and remain credible in all aspects.

Requirements

Due to the uniqueness of this initiative, the requisite support and communications assistance to the Adoption Teams and their activities requires a multi-level, broad and diverse approach to ensure that communications efforts address the key interests and priorities of industry stakeholders for “Zero Harm”. This approach calls for the participation of different people, including those whose line functions are outside the communications discipline, to champion this critical effort. It has also emerged that the distribution of correspondence through conventional methods will not be enough. In addition, effort will have to be put towards finding:

- Creative ways of distributing communications messages broadly and deeply;
- Solutions to address the challenges created by the size and diversity of stakeholder groups;
- Ways of ensuring that the “right people” receive information that is relevant to them and useful for their decision-making purposes;
- How to overcome the prevailing practice of not passing on information to others in our quest to increase information permeation; and
- Solutions to the challenges associated with email disinterest which leads to emails not being read.

To overcome the identified communications barriers, innovation and creativity is needed to get messages to reach their intended recipients. It is, therefore, suggested that all recipients of MOSH Adoption System correspondence forward contact information of any potential stakeholders to the communications people of the Adoption System or to the Secretariat. Distribution of information to other people who might contribute towards meeting the objectives of the Adoption System will also assist.

Formal and informal research will have to be conducted to identify appropriate communications methods and vehicles that could be used in addition to: email information dissemination; telephone follow-ups; word of mouth; and encouraging recipients to forward information to other stakeholders. The MOSH e-newsletter was developed as an additional communications channel to address some of these communications barriers.

Stakeholder Identification

To better achieve the objectives of this communications initiative, a number of stakeholder groups have been identified. The stakeholder groups have been further categorized according to levels, intensity, frequency, objectives and sophistication of the messages to be communicated. The result is as follows:

Adoption System: These includes the MOSH Task Force members and the Adoption Team members

Decision-Makers: Those who have a primary or shared role in designing and implementing, and/or approving the design and implementation, of the Adoption System and the identified Demonstration Projects.

Transactors: These have transaction relations to the Adoption System and come into direct contact with the Adoption Teams. Transactors may also be involved in the management of aspects of the System and/or the implementation of the Adoption Projects.

Champions: Those who assume direct responsibility for the implementation of the demonstration project on a specific site.

Active interests: Individuals or groups who have a stake in the Adoption System, but are not directly involved. These include people and groups who are not currently actively involved in the Adoption System initiative, but who are watching its progress.

Audiences: These include general media, and others who are not actively engaged in improving occupational health and safety in the mining industry, or its management through initiatives including the Adoption System.

The Communications Champions

While it is envisaged that more people will play a communications role, it is intended that the people whose names are listed below will play a more active role to different stakeholders at different times. As these are the people who are in the first line of any information to, from or about the Adoption Systems and the Adoption Teams, they will play a critical role in the dissemination of information. The team of “Communications Champions” is therefore comprised of:

- **Team Sponsors:**
 - o Mr. David Noko – CEO of De Beers – (Leadership Sponsor);
 - o Mr. Herman Wenhold, CEO Sasol Mining (Noise Sponsor); and
 - o Mr. Terence Goodlace, CEO of Gold Fields (Dust Sponsor),
- **Communicators Team**
 - o Mr Jabu Maphalala(JM), Chamber of Mines;
 - o Mr Wynand Marais (WM), Consultant, retired from AngloCoal;
 - o Mr Eugene Schoeman (ES), Consultant, retired from AngloGold Ashanti; and
 - o Member Company Communicators.
- **Secretariat**
 - o Mr Sietse van der Woude (SvdW), Chamber of Mines;
 - o Dr. Fazel Randera (FR), Chamber of Mines;
 - o Mr Dries Labuschagne (DL), Chamber of Mines;
 - o Mr Idris Ally, Chamber of Mines; and
 - o Ms Portia Kgosimang, Chamber of Mines.
- **Adoption Team Members (current and former)**
 - o Dr Vanessa Govender, Gold Fields (Dust);
 - o Mr Tom Rogans, Anglo Coal (Dust);
 - o Andre van Zyl, Anglogold Ashanti (FOG);
 - o Eric Scholtz (Anglo Platinum) (FOG);
 - o Lazarus Sefole, De Beers (Leadership);
 - o Martin van Wyk (Lonmin) (Leadership);
 - o Dick Coutts, Harmony (Noise);
 - o Des Wrigley, retired from Anglogold Ashanti (Noise); and
 - o Task Force Members (TF).
- **Co-opted**
 - o Dr Frans Barker (FB);
 - o Mr Dick Kruger (DK);
 - o Mr Johann Beukes;
 - o Ms Maryna Mohr-Swart;
 - o Mr Simon Orchardson (SO); and
 - o Chamber of Mines Advisers (CoM Advisers).

Team Resources

- o Mr Gordon Butte (Decision Partners);
- o Ms Sarah Thorne (Decision Partners); and
- o Dr. John Stewart (Consultant).

Tasks for Achieving Objectives

Our tasks for achieving decision-maker support of, and encouraging broader stakeholder engagement in the Adoption System, as well as providing support and communications assistance to the Adoption Teams and their efforts, include:

A) *Achieving 100% support from Decision-Makers and systematically building support with key Transactors and Active Interests.*

1. Design and implement comprehensive outreach with key stakeholders – Decision-makers and Transactors – so they support and are prepared to take action on the Adoption System initiatives.
2. Systematically build communications networks with key groups and organizations within participating companies (Decision Makers and Transactors), as well as key external stakeholders, so we can engage them in our communications and outreach efforts.

B) *Establishing a Communications Team and begin building communications capacity.*

1. Establish and begin to build the skills and capacity of the Communications Team, so the team members can lead and support communications efforts with their stakeholders in support of the Adoption System, as well as supporting – by bringing best communications practices, methods and tools – to the Adoption Teams as they prepare for their Adoption Projects.

C) *Developing critical materials and establishing communications channels.*

1. Develop critical materials to support Adoption System outreach initiatives;
2. Establish core channels for communicating with key stakeholders and others who have an active interest in the Adoption System initiatives;
3. Establish and begin implementing a system to manage the public record;
4. Establish Communications Networks;
5. Co-ordinate communications effort; and
6. Identify new communications channels and utilize these in the communications effort.

D) *Establish plans for key initiatives that support the success of the Adoption System.*

1. Establish an Adoption System Contingency Plan;
2. Provide updates throughout the Adoption System; and
3. Lay the groundwork and begin implementation of Adoption System Media Relations Plan.

E) *Measure results of Short-Term Plan.*

New Chamber Members	100% support - Action – present dialogue presentation on Adoption System to top Management Teams	Letter outlining Adoption System and request for support, plus overview of outreach efforts for 1Q		SvdW, FR, and TF
Sponsors	100% support - Action – be advocates with their peers on Exco re Adoption System	Update articles in Chamber of Mine publications.	Jan - Mar	JM, Exco members
MOSH Task Force	100% up to date - Action: Periodic Update	Copies of communications with other stakeholders	Jan 14	SvdW and FR
		- Dialogue presentation to MOSH Task Force - o Adoption Planning System – overview, plans for March workshop, deliverables for 1Q - o Adoption System Communications Strategy – overview, objectives, plans and deliverables for 1Q	Jan 17 meeting and ongoing	JM, SvdW and FR
		- Round table report on presentations and feedback - Update on Adoption Planning System 1Q progress, deliverables, plans for 2Q	Feb. 28 meeting	SvdW and/or FR
Communications Team	100% support 100% fluency in the Adoption System history, context for development, Adoption Planning System and 1Q plans 100% prepared to give the Dialogue Presentation	- Letter outlining Adoption System and request for support, plus overview of outreach efforts for 1Q - In-depth training session - Preparation of individual communication plans	Mar	JM, WM, and ES
Communications Professionals in participating companies	100% support - Action: understanding of the Adoption System and objectives, Communications	- Orientation session at Chamber of Mines - Seek commitment to include communications about Adoption System in employee, union and key external communications	Feb 25	JM, SvdW and Decision Partners

	Strategy; ready to Support implementation of the strategy by communicating about Adoption System, progress and milestones in their company publications and other communications vehicles	Establish communications networks		
		- Update communications professionals on progress - Encourage articles in advance for publications in company journals	Mar 15	JM
Adoption Teams	100% support 100% fluency in the communication strategy and its objectives	- In-depth training session - Provide feedback to communications team	Ongoing	SvdW, FR, JS, JM and Decision Partners
Secretariat	100% support 100% fluency in the Adoption System history, context for development, Adoption Planning System and 1Q plans 100% prepared to give the Dialogue Presentation	In-depth training session	Jan 18	SvdW, FR and JS
Head Office Managers	100% support - Understanding of system	Letter from their respective CEOs	Jan 31	SvdW and FR
		Dialogue presentation from Secretariat	Feb 14- Mar 11	SvdW and FR
		Regular updates	Jan – Mar	JM, SvdW, FR, Communications Team
Industry OH&S PC		Letter outlining Adoption System and request for support	Jan. 14	FR
		- Dialogue presentation to OH&S PC and HPC Meetings: - Adoption System mission, goals, objectives - Adoption System Communications	Feb 7	SvdW and FR

		Strategy o Confirmation of support		
		Dialogue presentation to OH&S PC and HPC with request to present it to their OH&S management team and report back	Feb7	SvdW and FR
Professional Mining Associations	100% support - Action: ready to take action with their peers and colleagues as requested	Brief letter outlining the Adoption System initiative and specific dates of dialogue presentations for their groups in 1Q	Jan 28	JM, SO,
		- Dialogue presentation Professional Society Meetings: - o Adoption System mission, goals, objectives - o Adoption System Communications Strategy - o Confirmation of support	Feb – Mar	Communications Teams,
Local Union Leadership /Union Leaders/ Mine Health and Safety Council	Begin to build support for Adoption System	Letter on Adoption System progress and plans for 1Q, including Adoption System Planning workshop which indicates high level of commitment	Jan 18	SvdW, JM, Professional communicators
Minister and Inspectorate; Parliamentary Portfolio Committee – Minerals and Energy	Begin to build support for Adoption System	- Letter on Adoption System progress and plans for 1Q, including Adoption System - Offer to make dialogue presentations to these groups	Jan 18	Exco, SvdW, FB, JM
Employees	Begin to build support for Adoption System	Articles on Adoption System purpose, plans for 1Q, industry commitment via member company newsletters and other communications modes	Mar	Professional Communicators
Research Bodies	Begin to build support for Adoption System	- Dialogue presentations - Ongoing updates as appropriate	Mar and beyond	DK
Suppliers and Consultants	Begin to build understanding and support for Adoption System	Adoption System purpose, plans for 1Q, industry commitment via member company newsletters and other communications modes	Mar and beyond	Professional Communicators

2. Systematically Build Communications Networks

Deliverables include:

- Networks identified and comprehensive database established.
- Critical communications networks established with key groups and organizations within Chamber of Mines (Decision-Makers and Transactors), as well as key external Active Interests and they are engaged in our communications and outreach efforts. (Details on outreach in Plan above).

Plan Element	Activities – January	By When	By Whom
Build Networks	· Identify critical networks and network owners/sponsors	Jan 11	JM
	· Update database to ensure all key contacts are up to date	Jan 18	JM
	· Establish a system to ensure contacts are checked and updated quarterly	Mar 31	JM

B) Establish a Communications Team and begin to build communications capacity

1. Build the Skills and Capacity of the Communications Team and Communications Processes

Deliverables include:

- Communications Team established.
- Adoption System orientation session held.
- First training session held to build the skills and capacity of the broader Communications Team.
- Team prepared to begin to support Adoption System.

Plan Element	Activities – January – March	By When	By Whom
Team Established	· Define criteria for team membership · Develop a list of potential candidates · Finalize selection of the list	Jan 7 Jan 10 Jan 11	SvdW, FR
Communications Professionals Orientation Session	· Hold one day session to: - o Provide Team with a comprehensive overview of the Adoption System and work to be done by the Adoption Teams in 2008 - o Give team an overview (high level) of their role	Feb 29	JM, SvdW DP support
Refine the Communication Plan	Following the process, get input from the Secretariat and Adoption Team Full Time members on their specific needs for Communications Support and get their input into the draft Plan.	End of Mar	JM, Team members

C) Develop critical materials and establish communications channels			
1. Develop Critical Materials and Establish Channels and Systems			
Deliverables include: • Critical materials required to support Adoption System Outreach developed and distributed. • Core communications channels identified and established. • System established to manage the public record.			
Plan Element	Activities – January – March	By When	By Whom
Develop Critical Materials Required to Support Adoption System Outreach	• Establish critical material needed by Adoption Team members	Jan. 11	JM
	• Finalize list of critical materials needed in 1Q	Feb 29	
	• Establish a small editorial team to facilitate quick approvals and turnaround times	Jan 11	JM
	• Draft key letters and articles required, get approvals, finalise, publish and distribute	Jan - Mar	JM
Establish Core Channels	• Conduct survey of Communications Network to identify member company channels that could be used to convey information about the Adoption System, progress and milestones – key meetings, presentations, print materials, etc.	Jan 18	JM,
	• Review survey results and refine core channels	Jan 31	JM
	• Build Communications Network channels into Chamber's plan and database	Feb 29	JM
	• Develop a comprehensive “map” of stakeholders and how we plan to communicate with them by month, by channel	Feb 15	JM,
Establish a System to Manage the Public Record	• Assess current system for managing the public record • Make recommendations on improvements • Refine/criteria for what is to be included on the website and in other public documents • Finalize public record system plan, including requirements for improvements (could include IT support, etc.) • Get internal approval	Feb 29	JM, DL, with support from DP as required
Establish Decision Maker Needs for Communications	• Establish extend of information needs on Activities of Adoption Teams	Feb 29	JM, SvdW
Co-ordinate Communications Effort	• Get feedback from Adoption Teams on activities and disseminate to stakeholders	Ongoing	JM
	• Implement plan	Feb. - Mar	JM

D) Establish plans for key initiatives that support the success of the Adoption System			
1 Establish Initiatives to Support the Adoption System			
Deliverables include: - Adoption System Contingency Plan established. - Groundwork laid and implementation of Adoption System Media Relations Plan underway.			
Plan Element	Activities – January – March	By When	By Whom
Adoption System Contingency Plan	- Using best practices in risk management, conduct a comprehensive risk assessment of what could negatively influence the Chamber and its member companies ability to achieve its Adoption System goals and objectives in 2008 - o Develop worksheets - o Participants do pre-work with worksheets - o Conduct risk assessment via conference call or web conference - o Prioritize risks - o Identify controls to mitigate risks	Jan 31	DP, Secretariat, Dr. John Stewart, (Should include the Adoption Team Full Time members and Sponsors)
	Complete risk assessment report	Feb 15	DP, SvdW, FR
	Develop contingency plan	Feb 29.	DP, SvdW, FR
	- Review/finalize contingency plan with: - o Adoption Full Time Members - o Exco	Mar 3 Mar 12	SvdW, FR
	Establish system to measure controls	Mar 31	SvdW, FR
Provide Updates	Periodic update articles in publications	Ongoing	JM, SvdW, FR
Adoption System Media Relations Plan	Develop a Media Relations Plan for the Adoption System	Mar 25	JM

Section 15.6

Direct enquiry process and customisation of behaviour-based plans

Key outcomes

- Guidance on an eight-step process to customise generic behaviour-based plans to meet mine specific circumstances
- Identification of adopters and stakeholders critical to adoption of the leading practice at the mine in question
- Design and execution of a direct enquiry process to identify the mine specific issues that need to be taken into account
- A mental model report for use in customising the generic behaviour-based plans
- Behavioural communication and leadership behaviour plans customised for implementation at the mine in question
- An integrated overall plan for implementing the leading practice at the mine in question
- Experience in customising behaviour-based plans that can be passed onto and shared with other adoption mines

(Docs [#39](#), [#40](#), [#41](#), [#42](#), [#43](#), [#44](#), [#45](#))

Note: The essence of this section is now set out in the example draft Leading Practice Adoption Guide presented in Reference Doc [#47](#). It was originally prepared to guide work at demonstration mines and is presented here as the original source of material now included in Reference Doc [#47](#).

Adoption Process	OHSAS
Vision and management orientation	Policy
Establish structures and responsibilities	Plan
Identify hazards and assess risks	
Identify potential leading practices	
Develop widespread adoption plan	
Identify prevailing mental models	Implement & Check
Document the identified practice	
Develop behaviour-based plans	
Demonstrate practice (if necessary)	
Communicate details of practice	
Establish community of practice	
Facilitate widespread adoption	Review
Monitor and review adoption	

Background

Research and experience have shown that communications of all kinds and the actions (and inactions) of leaders at all levels are the most powerful influence on people's decision-making, judgment and behaviour. Tellingly, communications and leaders' behaviour occur continuously every day in mines. It is impossible to get anything done in the course of a day without various combinations of communication and leadership behaviour: *Persons cannot not communicate; Leaders cannot not act.*

A leading practice within the Adoption System is described in three parts involving inextricably linked and interdependent activities. They are:

- 1) Technology, knowledge or procedure;
- 2) Communication to achieve desired behaviours and;
- 3) Leadership behaviour to evoke and re-enforce desired behaviours for adoption.

These three elements have been documented at the source mine and developed by the MOSH Adoption Team using results derived from a direct enquiry process conducted across the spectrum of potential adoption mines.

The challenge is to ensure that these key elements of the leading practice are customised to appropriately take account of mine specific circumstances initially at the demonstration project mine, and then in due course at the various adoption mines. In respect of leadership behaviour and behavioural communication, this is the challenge addressed in this section. It is thus applicable to the customisation process that needs to be conducted first at the demonstration project mine, and then later at all subsequent adoption mines.

Purpose

The purpose of this section is to:

- Present a simple illustration, outlining the steps involved in customising the generic behavioural communication and leadership behaviour plans to meet the needs of the mine in question.
- Provide guidance on conducting and using a direct enquiry process to identify insight-based adjustments to the generic behaviour-based plans that have been developed.
- Provide guidance on integration of the customised plans into the overall plan for implementing the leading practice at the mine in question.

Key considerations

1. Implementation of the customisation process should be kept as simple as possible:

The key elements of the customisation process are presented in the following simple diagram, which identifies what needs to be done in an eight step process, along with the quality checks that need to be implemented to ensure a quality outcome.

Step	What	Check – go/no-go decision question
1	Identify adopters and key stakeholders at the mine	Do we have a good understanding and complete identification of potential adopters and stakeholders?
2	Select people to be interviewed	Have we chosen the appropriate people to interview?
3	Identify and brief the interviewers	Are the interviewers ready to interview?
4	Conduct the interviews	Have all the interviews been done and full worksheets completed and returned for processing?
5	Summarise the interview results	Have the interview results been systematically assessed and significant new findings clearly identified?
6	Use the findings to customise the leadership behaviour plan	Are the customised plans coherent and properly understood by the mine team and can they be implemented and effectively monitored in behavioural terms?
7	Use the findings to customise the behavioural communication plan	Are the customised plans coherent and properly understood by the mine team and can they be implemented and effectively monitored in behavioural terms?
8	Integrate the customised plans into the implementation plan at the mine	Is the overall implementation plan coherent and properly understood by the mine project team?

A key point about the process outlined above is that it enables the behavioural communication and leadership behaviour plans to be customised on the basis of insight and not guesswork about the thinking, key beliefs and values of the adopters and stakeholders. This allows communication and leaders actions to be tailored to the critical behaviours needed to accomplish adoption of the leading practice.

An expanded diagram indicating how the various steps should be implemented and the practical implications of who needs to do what is provided at the end of this section. More detailed guidance is set out in the points that follow.

- #### 2. The MOSH Adoption Team should facilitate and support the work of the Mine Adoption Team:
- At the demonstration project mine the MOSH Adoption Team should facilitate and support the Mine Adoption Team in its implementation of the procedures

outlined in this section, but not lead or actively do the work. An important objective of the MOSH Adoption Team should be to identify particular pitfalls and difficulties encountered with a view to formulating guidance to be included in the Leading Practice Adoption Guide that they will in due course prepare. At the first three to six of the subsequent adoption mines, to the extent that is logistically feasible, the MOSH Adoption Team should similarly support and facilitate the work of the Mine Adoption Teams in their implementation of the leading practice. As the core of persons with experience in adopting the practice increases, the facilitation and support should increasingly flow through the COPA that the MOSH Adoption Team would by then have already established, largely for this purpose. The MOSH Adoption Team should ensure that the assistance provided through the COPA occurs successfully as soon as possible, so that it can focus on identifying and facilitating the adoption of other leading practices. It should however closely monitor the effectiveness of the assistance provided through the COPA, facilitating the process and providing direct input and assistance as and when necessary.

3. **Attention must be focussed on ensuring that the key tasks in each step are completed as described in order to produce a quality result:** Behavioural communication and leadership behaviour plans typically have goals, or desired outcomes, that are expressed in behavioural terms. They are expressed in the form of what a person could observe happening in the workplace, or hear in a conversation or interview in the workplace. Both should clearly be as a result of the communications implemented or of the behaviour of leaders. Accomplishing desirable goals of this nature is what is needed to achieve the adoption being sought. This can best be done by following the guidance provided.
4. **Responsibilities for overseeing the process to completion must be clearly assigned as must responsibilities for completing the requisite individual tasks:** Implementation responsibilities should be clearly set within the Mine Adoption Team in order to ensure that the entire process outlined in this section is appropriately managed.

Importantly, either the Mine Adoption Team Manager, or a team member with appropriate skill and orientation should be allocated the personal responsibility for overseeing the process. The person taking on this responsibility should ensure that individual tasks are completed as required, and that the outcomes for plans are appropriately measured and reported. This could involve spreading the tasks across many individuals, or perhaps concentrating the process in a small number of key individuals. While the use of a small number of key individuals may be more manageable, the group should nevertheless be large enough to reduce the risk of personal bias, and to spread the benefits derived from meaningful interaction with staff on a matter that is of direct concern to them. The appointed person should be experienced in interacting effectively with a wide variety of people, be at ease with and be able to effectively listen to people, and to correctly interpret conversations with people.

The various persons selected to be responsible for execution of the process outlined in this section, including the Mine Adoption Coordinator and the Mine Adoption Team Manager, should meet to workshop the process to ensure that those responsible for undertaking the work are adequately skilled to effectively do so. To the extent considered necessary, this workshoping of the process may thus need to include, or be followed by, training sessions

to acquire the necessary skills. Such training may need to involve a person who has experience in successfully implementing the process, such as the MOSH Adoption Team Manager, or a person from an earlier adoption mine. The Mine Adoption Coordinator and the Mine Adoption Team Manager should together decide upon this.

- 5. The eight-step customisation process must be systematically executed:** To facilitate easy application of the process at adoption mines, each of the eight steps describes an essential task and a small number of sub-tasks. The steps and sub-tasks should be completed in the recommended order without any skipping or reordering of tasks. Guidance on how to complete the tasks is typically offered in the form of key questions to be answered by those at the mine responsible for preparing and implementing the plans.

At the end of each step, a checkpoint question and action is indicated. The checkpoint question is intended to act as a “go/no-go” decision point for the Mine Adoption Team. If the Mine Adoption Team cannot satisfactorily answer the checkpoint question, then they should not go to the next step. Instead, they must take action to rectify the matter.

Step one - Identify adopters and key stakeholders at the adoption mine.

Adopters and stakeholders are those people and groups who will be the focus of behavioural communication and leadership behaviour efforts at the mine. Fundamental to the identification of these persons and groups is a clear appreciation of the details of the leading practice and of the risks that it addresses. Key points for identifying adopters and stakeholders are accordingly as follows:

- The MOSH Adoption Team should provide the Mine Adoption Team with a brief “one to two page” simple summary of the risk “story” being addressed by the leading practice, based on the risk summary table finalized during their planning workshop. It needs to clearly present the expert causal chain understanding of the risk story that has been established. Similarly, a brief description of the leading practice should be provided. Both of these should be included in the adoption guide that the MOSH Adoption Team will need to prepare on completion of a successful demonstration project. The risk story should include identification of anticipated adopters and stakeholders for the leading practice. In some cases it is possible that the Mine Adoption Team may need to modify the risk story to take account of special circumstances at the mine.
- The Mine Adoption Team should review the risk story summary and confirm that all members of the team have the same understanding of the risks being addressed by the leading practice.
- The Mine Adoption Team should then identify the particular adopters and stakeholders at the adoption mine that will be involved in achieving implementation of the leading practice. Guided by the list of anticipated adopters and key stakeholders identified by the MOSH Adoption Team, and the notes on Worksheet Doc #39, a list of the adopters and stakeholders that will be the focus of behavioural communication and leadership behaviour efforts at the mine should then be prepared by the Mine Adoption Team.

The Mine Adoption Team should explicitly address the checkpoint question of whether the team has a good understanding and has a complete identification of the potential adopters

and stakeholders in order to make a “go/no-go” decision in respect of proceeding to the next step in the process.

Step two - Select people to be interviewed

The only way to accurately understand people's thinking is to directly enquire into it. People are complicated and their thinking is unpredictable. One cannot successfully guess or predict people's thinking and their information needs. The process of direct enquiry requires that an appropriate number of persons spread across the mine be interviewed, as follows:

- From the prepared list of adopters and stakeholders across the mine, the persons to be interviewed should be selected. The people selected should range across the various categories of adopters and stakeholders in such a way as to ensure good representation of those most likely to be most involved in accomplishing adoption of the practice. The number of persons to be interviewed should be between 25 and 30. This has been shown to be an appropriate number to get useful interview results.
- Worksheet Doc #39, which is provided for listing adopters and key stakeholders, also includes provision for the identification of the selected interviewees.

The Mine Adoption Team should address the checkpoint question of whether the appropriate people have been chosen to be interviewed in order to make the “go/no-go” decision in respect of proceeding to the next step in the process.

Step three – Identify and brief interviewers.

Interviews with the selected adopters and stakeholders should be done confidentially and one-on-one. No interviews of people in groups or in a group setting should be done because of challenges in accurately interpreting such results. Also, the circulation of printed questionnaires where people are asked to fill-in answers to questions is to be avoided because of challenges in producing satisfactory insights into people's thinking. Key points in selecting and training the interviewers are as follows:

- From the pool of persons at the mine who have had training in interview techniques, the Mine Adoption Team should choose as interviewers those people who are most likely to:
 - o Cause interviewees to feel comfortable within an interview setting, that is, to feel free to speak openly and candidly with the person conducting the interview, and
 - o Are most likely to complete each assigned interview in the manner prescribed.
- Should it be necessary to select persons who have not been trained in interview techniques, they should be sent for appropriate training before they take the steps outlined below in preparing for the interviews.
- Although the interviewers are largely responsible for preparing themselves for undertaking the interviews, they should be collectively briefed about the process and time scale that they are expected to follow. At that time they should be provided with the necessary briefing material.
- Interviewers should ensure that they are well equipped to conduct the interviews by:

- o Studying and discussing the updated risk summary / simple risk story, with an appropriate member of the Mine Adoption Team to ensure that they have a thorough understanding of the risks being addressed by the leading practice.
- o Reading the interviewer's briefing and guidance on the list of questions to be asked and on conducting a one-on-one interview properly. A draft of such a briefing is attached as Reference Doc #40. The MOSH Adoption Team should update this draft note in the light of their experience at either the source or demonstration mines. The updated document should be made available to the demonstration mine and to later adoption mines by including the updated version in the leading practice adoption guide.
- o Practicing the interview at least once (perhaps with an mine adoption team member), and
- o Reviewing with the person appointed to oversee the customisation process and or the Mine Adoption Team Manager, their understanding of the interview and how it should be conducted and documented.

The Mine Adoption Team should check that the interviewers are ready to conduct the interviews in order make a “go/no-go” decision in respect of proceeding to the next step in the process.

Step four – Conduct the interviews.

The interview process consists of two parts which seek to establish the following:

- Stakeholders/ Adopters beliefs about the causes and outcomes of [the risk/hazard]
- Stakeholders/ Adopters beliefs about the best ways to protect people from [the risk/hazard], and
- Stakeholders/Adopters beliefs about key leader behaviours and behavioural communication needs.

In these points the word *beliefs* should be taken to include attitudes and views that form part of a person's mental model. Similarly, use of the term *[the risk/hazard]* means the risk associated with the particular hazard that is under consideration. It encompasses the complete picture of the risks associated with a specific hazard in a way that is consistent with the treatment of both concepts in the risk summary.

- Each interviewer should schedule all of their allotted interviews to be conducted one-on-one in a place suitably private and free from noise and other distractions. The interviews should be conducted as planned and as practiced. Interviewers should ask all questions fully, prompting for as complete and in-depth answers as possible. This is a particular aspect of the interviewing procedure that should be focused upon in the practice sessions.
- Interview responses should be carefully documented at the time of the interview using the Interview Worksheet and the Interviewee's own words. An example worksheet is provided in Worksheet Doc #41. Immediately after the interview, the brief notes taken during the interview should be expanded upon in the interview worksheets to fully

document the detail of the interviewee's responses. One Interview Worksheet should be completed for each interview conducted. Worksheets should be collected into sets for reading and analysis.

The questions to be asked in the interview are provided in the worksheet and are given in the accompanying box.

Before going to the next step, the Adoption Mine Team should check that all the interviews have been done and that full worksheets have been completed and returned for processing in order to make a "go/no-go" decision in respect of proceeding to the next step in the process.

Step five – Summarize the interview results.

The simple analysis outlined below is designed to allow the Mine Adoption Team to better understand the thinking of their stakeholders and adopters and to compare the thinking at their mine with:

- The most informed understanding of the hazard, as summarized in the Risk Story provided by the MOSH Adoption Team, and as adjusted by the Mine Adoption Team – see step 1, and
- The identified thinking of adopters and stakeholders at other potential adoption mines. For this purpose the MOSH Adoption Team should include in the leading practice adoption guide a summary of the mental models that they identified for these persons across the spectrum of potential adoption mines as a basis for preparing the generic behaviour-based plans.
- Persons capable of reliably summarising the interview results must be chosen to undertake this work. The Mine Adoption Team should find the analysis process relatively straightforward. In essence, the analysts will need to carefully read each set of interview notes and make observations against key questions provided in an analysis worksheet. The analysis worksheet is provided in Worksheet Doc #42.
- Members of the Mine Adoption Team could be selected as analysts. This would have the advantage of ensuring that some or all of the adoption team members would have a first hand understanding of the interview results. Alternatively, the task may be assigned to two or more individuals associated with the team and adoption effort, but not to only one person. Importantly, in preparing for the analysis task, each analyst should ensure that they have a sound understanding and familiarity with the updated risk summary, as well as the mental models report from the direct enquiry process undertaken by the MOSH Adoption Team in developing the generic leadership behaviour and behavioural communication plans for the leading practice.

Interview Questions – Worksheet Doc #41

Part A: Adopter/Stakeholder beliefs about [the risk/hazard] (Causes and Outcomes)

- § Please describe your role and responsibilities at the mine.
- § Please describe [the hazard] in your own words.
 - How may [the hazard] occur? or What are the possible causes of [the risk/hazard]?
- § What happens as a result of [the risk/hazard]?
 - How might you be affected by [the risk/hazard]?
 - Who else may be most affected by [the risk/hazard]? What may happen to people who are affected by [the risk/hazard]?
- § How important do you think it is to find a way to better protect people from [the risk/hazard]? Why do you say that?

Part B: Adopter/Stakeholder Beliefs about Leading Practices

- § What do you think could be done to better protect people from [the risk/hazard]? Why?
- § This mine is currently working to bring about leading practices to better protect people from [the risk/hazard]. The interviewer should describe the proposed leading practice in simple neutral terms.
 - What should leaders and supervisors in the mine do to help make sure that these practices are successful?
 - What should leaders not do in order to make sure that these practices are successful?
 - What other kinds of things might stand in the way of the leading practice being successful at this mine? How should these things be addressed?
 - What information would be important for people like you to know about how people can be affected by the risk and what is being done to protect them?
- § What is the best way for people like you to receive this information?

- Working alone, each analyst should read and note their observations against questions posed in the analysis worksheet. Once all interviews have been analysed in this way, the analysts should meet in a group session to share and compare the results of their analyses. The analysts should identify where their individual analyses agree, and why, and where they disagree and why. Disagreements between analysts should be noted. As a group the analysts should address the main questions in the worksheet for analysis, writing detailed answers to the questions, and identifying the most influential beliefs, and their underlying rationale in the process of doing so.
- As a final check, the group should re-read the interviews to ensure that the group has adequately captured and described the key beliefs expressed in the answers to the questions asked of the stakeholders and adopters.

The questions in the analysis Worksheet Doc #42, which form the basis of the analysis, are given in the accompanying box.

Using Worksheet Doc #42, analysts should then compare the results of their analyses of adopter and stakeholder interview findings with the results of interviews conducted by the MOSH Adoption Team with similar individuals across the spectrum of adoption mines, and with the expert understanding of the risk that the leading practice seeks to address. This analysis should note where mine results are similar to those noted for the spectrum of adoption mines, (the generic case), and where they are different. These similarities and differences are to serve as the basis for customising the behavioural communication and leadership behaviour plans to address the particular circumstances identified at the mine in question.

The questions in the analysis worksheet that guide the comparison process are provided in the box alongside.

Before going to the next step, the adoption mine should check whether all of the interview results have been systematically reviewed and all of the significant differences clearly identified as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step six – Adjust the leadership behaviour plan.

The MOSH Adoption Team should provide the updated

Questions in the Analysis – Worksheet Doc #42

Part A: Adopter/Stakeholder Beliefs about [the risk/hazard] (Causes and Outcomes)

- § List and tabulate the mentioned causes of [the risk/hazard]
 - Which, if any, of these causes agree with the Risk Summary / Previous interview results?
 - List any causes that disagree with the Risk Summary / Previous interview results? Describe any areas where people who were interviewed may be wrong in their thinking about the hazard and risk.
- § List any information on causes that interviewees say they want to know?
- § List and tabulate mentioned impacts of [the risk/hazard] including a description of who may be affected?
 - Repeat Prompts under first bullet above

Part B: Adopter/Stakeholder Beliefs about the Leading Practice

- § List and tabulate mentioned opportunities to better protect people from the hazard, describing why in the interviewees words.
 - Which, if any, of these ways agree with the features of the leading practice?
 - Are there any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
- § List and tabulate mentioned leadership behaviours that should be done, and should not be done, describing why in the interviewees words.
 - Repeat prompts under the first bullet of Part B.
- § List and tabulate mentioned potential barriers to the success of the leading practice at this mine and describe the interviewees' perceptions on how they should be addressed.
 - Repeat prompts under the first bullet of Part B.
- § List and tabulate the information people need and describe why in the interviewees words.
 - Repeat prompts under the first bullet of Part B.
- § List and tabulate the mentioned best ways to communicate with people.
 - Repeat prompts under the first bullet of Part B.

Questions to guide the analysis – Worksheet Doc #42

Part A: Adopter/Stakeholder Beliefs about [the risk/hazard] (Causes and Outcomes)

- § What, if any, are the *key similarities* between the results in Part A and those of the spectrum of potential adoption mines, the generic case, which should be emphasized?
- § What, if any, are the *key differences* between the results in Part A and those of the generic case that should be emphasized?

Part B: Adopter/Stakeholder Beliefs about Leading Practices

- § What, if any, are the *key similarities* between the results in Part B and those of the spectrum of potential adoption mines, the generic case, which should be emphasized?
- § What, if any, are the *key differences* between the results in Part B and those of the generic case that should be emphasized?

version of the generic leadership behaviour plan that they have developed to serve as the base plan to be customised by the Mine Adoption Team. The plan should set out the required antecedents, key leader behaviours and re-enforcing consequences for those behaviours. In the case of the demonstration mine this should be the plan that was developed prior to the demonstration project, and which takes into account the findings at the source mine. In the case of a subsequent adoption mine, it should in principle be the same plan, but modified as necessary to take account of the experience gained in customising the plan at the demonstration mine.

In presenting the plan in the Leading Practice Adoption Guide, the MOSH Adoption Team should provide a clear description of the process that was used to arrive at the plan. The Mine Adoption Team should ensure that they fully understand the plan provided by the MOSH Adoption Team, and its derivation, before proceeding with the process of customising the plan to suit their mine specific circumstances. An example leadership behaviour plan is provided in Reference Doc #43.

The Adoption Mine Team should prepare the customised leadership behaviour plan based strictly on answers to the guiding questions provided in the Worksheet Doc #44. These are given in the box alongside.

- Where customisation results in new material being introduced into the generic plan, measurable objectives should be identified. These should be in the form of behavioural outcomes. That is, they should be expressed as actions of leaders that can be observed and which clearly follow from the leadership behaviour plan, as intended (the key desired behaviours - what could leaders be seen to do?). They could also be understandings, concepts or beliefs expressed in conversations or interviews with leaders or others that clearly follow from the leadership behaviour plans, as intended. (What could leaders be heard to say or what could they be accurately reported to say?) While the material preserved from the generic base plan should provide examples of what is required, they should also be checked, and modified if necessary to ensure consistency.
- The Mine Adoption Team should explore the possibility of reviewing their customised plan with one or other of the following: the relevant MOSH Adoption Team Manager, the Adoption Specialist at the Learning Hub, the Behavioural Specialist at the Learning Hub, the Mine Adoption Team Manager at a mine that has successfully adopted the practice, or a qualified external resource. The Learning Hub should be approached for assistance in securing an appropriate external resource in those instances where this is considered to be necessary. The input received should be used to adjust the plan as appropriate.

Guiding Questions for customisation of the Leadership Behaviour Plan – Worksheet Doc #44

- § With respect to the stakeholders and adopters involved, who are the additional or different key leaders involved in accomplishing adoption of the leading practice?
- § For each of these new leaders or type of leader, what key behaviours or actions must they perform to appropriately influence the decisions and actions of the key stakeholders and adopters? (The set of Desired Behaviours.) Why?
- § What must the leaders be provided with to enable them to perform these behaviours? (The set of Antecedents.) Why?
- § What consequences – positive, immediate and certain – must follow performance of the key behaviours that will encourage them to be repeated and sustained? (The set of Consequences.) Why?
- § What, if any, of the key behaviours, antecedents and consequences in the demonstration mine's leadership behaviour plan should be included in this mine's leadership behaviour plan? Why?
- § What, if any, of the key behaviours, antecedents and consequences in the demonstration mine's leadership behaviour plan should be omitted from this mine's leadership behaviour plan? Why?
- § What is the best way to go about implementing the leadership behaviour plan?

The adoption mine project team should then check whether the customised leadership behaviour plans are coherent and properly understood, and that they can be readily implemented as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step seven – Customise the behavioural communication plan.

In a manner similar to that for customising the leadership behaviour plan, the MOSH Adoption Team should provide the updated version generic behavioural communication plan that they have developed to serve as the base plan to be customised by the Mine Adoption Team. In the case of the demonstration mine this should be the plan that was developed prior to the demonstration project, and which takes into account the findings at the source mine. In the case of a subsequent adoption mine, it should in principle be the same plan, but modified as necessary to take account of the experience gained in customising the plan at the demonstration mine. As with the leadership behaviour plan, the Mine Adoption Team should ensure that they fully understand the plan provided by the MOSH Adoption Team, and its derivation, before proceeding with the process of customising the plan to suit their mine specific circumstances. An example behavioural communication plan is provided in Reference Doc # 31.

The Mine Adoption Team, and not just a single person, should prepare the customised behavioural communication plan based strictly on answers to the guiding questions provided in Worksheet Doc #44, which are given in the side-box.

- In respect of the modes of communication and the contents of each communication, on the basis of the answers to the above questions, and the modes of communication available at the mine, the Mine Adoption Team should adjust the modes and content of the base plan provided by the MOSH Adoption Team.
- Where new material is introduced into the plan, measurable objectives should be identified. These should be in the form of behavioural outcomes. This means that they should be expressed as actions that can be observed as the intended outcome from the communication in question. (What could people be seen to do?) They could also be understandings, concepts or beliefs expressed in conversations or interviews that clearly follow from the communications, as intended. (What could people be heard to say?) While the

Guiding Questions for customisation of the Behavioural Communication Plan – Worksheet Doc #44

- § What, if any, of the modes of communication in the demonstration mine’s behavioural communication plan should be included in the adoption mine’s plan? Can any be removed without affecting the overall quality of the plan?
- § What, if any, of the content or key messages in the different modes in the demonstration mine’s behavioural communication plan should be kept in the adoption mine’s plan?
- § What, if any, new content or key messages should be added to the behavioural communication plan for this mine?
- § Will these changes best match with the modes that should be used and key messages that should be conveyed in the adoption mine as revealed through the interview results?
- § What is the best way to go about implementing the behavioural communication plan?

Additional questions that should be addressed in customising the communication content of the behavioural communication plan are as follows:

- § From the interview results, what correct understandings about [the hazard] should be emphasized in communications?
- § What incorrect beliefs or misunderstandings about [the risk/hazard] should be corrected through communications? What key messages should be emphasized in order to do so?
- § What do people not know that is important to understand in order to fully appreciate the nature of [the hazard], and which should therefore be emphasized in communications?
- § What information about [the risk/hazard] do people most want to know, and which should therefore be emphasized in communications?
- § What sorts of messages should be emphasized to help people judge the trustworthiness and competence of their fellow employees and leaders involved in addressing [the risk/hazard]?

Note: The creation of trust is a fundamental aspect of all behavioural communication plans.

objectives preserved from the base plan should provide examples of what is required, they should also be checked, and modified if necessary to ensure consistency.

- As with the leadership behaviour plan, the Mine Adoption Team should explore the possibility of reviewing their customised plan with one or other of the following: the relevant MOSH Adoption Team Manager, the Adoption Specialist at the Learning Hub, the Behavioural Specialist at the Learning Hub, the Mine Adoption Team Manager at a mine that has successfully adopted the practice, or a qualified external resource. The Learning Hub should be approached for assistance in securing an appropriate external resource in those instances where this is considered to be necessary. The input received should be used to adjust the plan as appropriate.

The Adoption Mine Team should then check whether the customised plans are coherent and properly understood, that they have readily measurable behavioural goals for communication, and that they can be readily implemented, as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step eight – Integrate behavioural communication and leadership behaviour plans into the implementation plan at the adoption mine.

In the case of the demonstration project mine, detailed guidance for implementing the demonstration project has been outlined in section xx. Similar guidance needs to be presented in the Leading Practice Adoption Guide to be prepared by the MOSH Adoption Team. A modified version of the implementation plan outlined in section xx is presented in Reference Doc #45 for this purpose. Within the framework of the example plan of Reference Doc #45, and based on the experience gained at the demonstration mine, the MOSH Adoption Team should then:

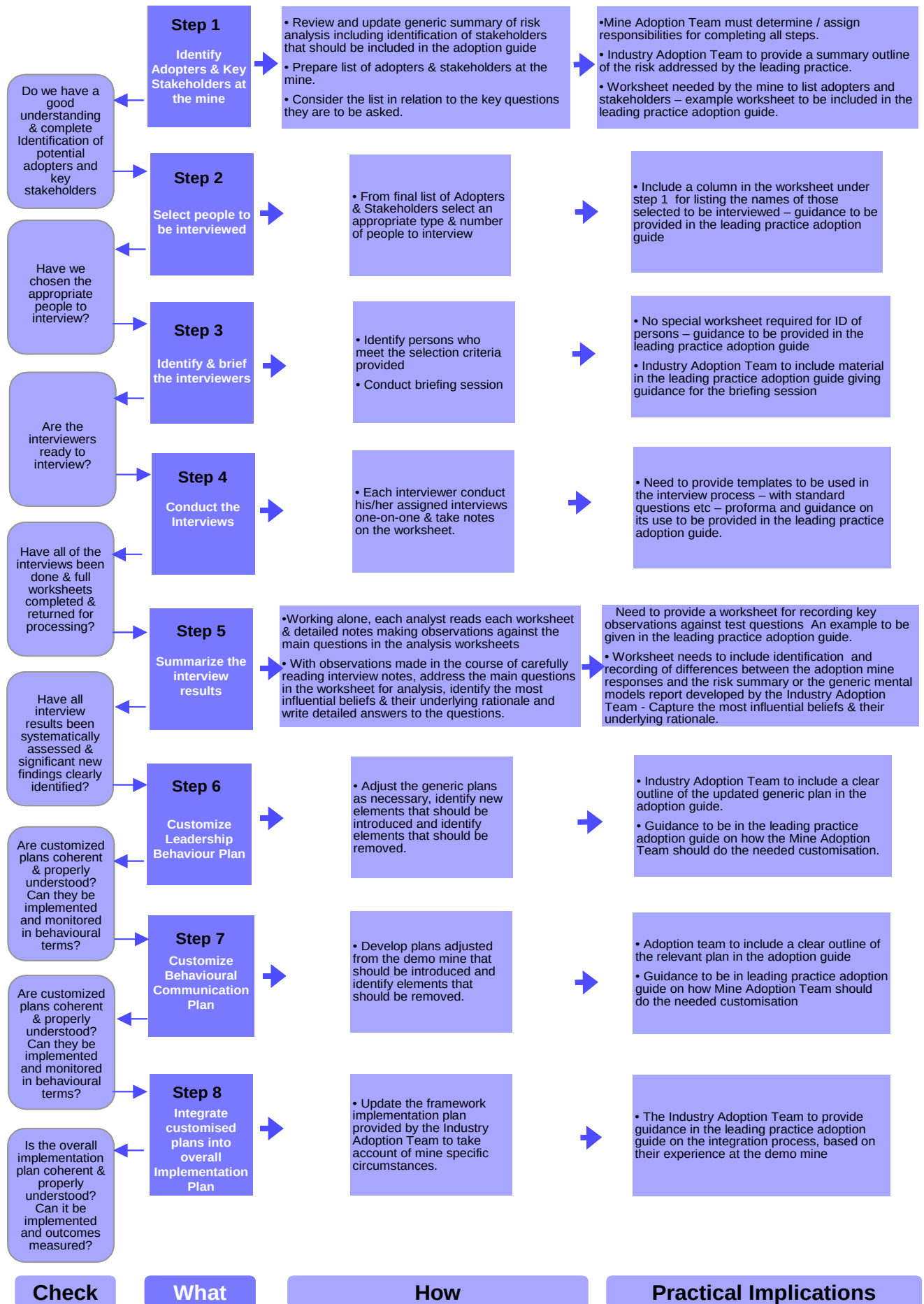
- Prepare detailed notes to guide and assist future Mine Adoption Teams in integrating their customised behavioural communication and leadership behaviour plans into the overall implementation plan at the adoption mine.
- Include this guidance in the Leading Practice Adoption Guide that is to be distributed to potential adoption mines.
- Included as a component of the integrated implementation plan should be a monitoring programme that includes appropriate checking and reporting on the occurrence of the desired observable behaviours, as well checking and reporting on provision of the necessary antecedents and re-enforcing consequences.

Before beginning implementation of the leading practice at the mine, the Mine Adoption Team should check to ensure that the overall implementation plan is coherent and properly understood by the team, as a basis for making a “go/no-go” decision in respect of proceeding with implementation of the adoption plan.

Concluding comment

It will be essential for the MOSH Adoption Team to include in the Leading Practice Adoption Guide appropriate guidance on the customisation process described in this section. It is anticipated that with minimal adjustment much of the content of this section may be used for this purpose, either in the Guide, or in an appropriate companion document.

Procedure for customising behavioural communication and leadership behaviour plans



SECTION 16

Worksheets and reference documents

16.1 Worksheets and Reference Documents

Section 16.1

Worksheets and Reference Documents

The Worksheets and Reference Documents listed below are provided in support of the various sections identified and for use by those involved in implementing the adoption process outlined in the Handbook. Worksheets are available in Excel format for convenience.

List of Worksheet and Reference Documents			
Doc No		Section	Title
1	W	3.4	Key OHS data for past 10 years
2	W	3.5	Identified stakeholders
3	W	3.5	Table of related factors – causal chain
4	W	3.5	Risk summary tables
5	W	3.6, 3.7, 3.8	Consolidated list of potential leading practices
6	W	3.9	Trends, policies that impact of selection of the Leading Practice
7	W	3.10	Planning workshop programme & facilitation
8	W	3.11	Experts to be invited to planning workshop
9	W	4.2	Overall team objectives and success factors
10	W	4.3	Criteria for selecting Leading Practices for further consideration
11	W	4.5	Selection of practices with best potential
12	W	4.5	Focused investigation of possible improvements
13	W	4.6	Identification of extent of adoption need and application
14	W	4.7	Potential make or break issues for candidate practices
15	W	4.8	Selection of leading practice
15.1	W	4.9	Assess need for a demonstration phase
16	W	4.10	Example to guide future planning of Adoption Team activities – 3 phases
16.1	W	4.10	Example to guide future planning of Adoption Team activities – 4 phases
17	W	5.3	Identification of lead adoption mines
18	W	5.4	Identification of deciders, adopters and key stakeholders
19	W	5.13	Preliminary statement of value case
20	W	5.2	Identify and prioritise potential adoption mines and key persons
21	W	5.5	Hypothesized mental models of adopters and stakeholders
22	R	5.7	Interview protocol
23	R	5.7	Interview response sheet template
24	R	5.7	Tips for Direct Enquiry Interviews
25	R	5.7	Example of completed interview worksheet
26	R	5.8	Sample Coding Guide
27	R	5.8	Sample Analysis – by Question
28	R	5.8	Sample Analysis – by Code
29	R	5.8	Example of Mental Models Report
30	R	5.8	Implications of Mental Models Findings
31	R	5.9	Example Behavioural Communication Plan
31.1	R	5.9	Alternative Behavioural Communication Plan layout
32	W	5.6, 5.11	Identify key elements of leadership behaviour
33	W	5.11	Plan for documenting the leading practice at the Source Mine
34	W	5.11	Inventory of BC used to secure adoption of leading practice
35	W	5.11	Documenting key aspects of leading practice at the Source Mine
36	W	5.14	Identification of critical issues and unintended consequences
37	W	6.1	Check of key factors before initiation of demo project
38	R	n/a	Redundant reference document explained
39	W	15.6	Adopters and Stakeholders for Behavioural Planning Process
40	R	15.6	Guide to interviewers in preparation for Direct Enquiry Interviews
41	W	15.6	Questions for use in interviews
42	W	15.6	Analysis of results from interviews
43	R	15.6	Example of Leadership Behaviour Plan
44	W	15.6	Customisation of Leadership Behaviour and Behavioural Communication Plans
45	R	15.6	Example of Overall Plan for Adoption
46	W	6.5	Identify and address critical success factors for demo project
47	R	5.16	Framework and draft content of the Leading Practice Adoption Guide
48	W	5.9, 5.11	Generic Behavioural Communication Plan Template
49	W	5.10, 5.11	Generic Leadership Behaviour Plan Template
50	W	7.1	Systematic investigation of a candidate Simple Leading Practice, SLP

[illegible]

Key Occupational Health and Safety Data for the Past 10 years

No	Key OHS parameters of relevance	Data for the past ten years										Implication of displayed data
		-9	-8	-7	-6	-5	-4	-3	-2	-1	0	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
Etc.												

Key Conclusions:

-
-
- Etc

Relevant stakeholders and experts for risk story input

No.	Name / position (In some cases only the position might be identified)	Organisation	At risk ü	Manage ü	Influence ü	Expert ü
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
Etc						

Part A – Description of the causal chain

No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure
	Description		Description		Description
1		1		1	
2		2		2	
3		3		3	
etc		etc		etc	
	Data Gaps - Identify gaps that need to be investigated		Data Gaps - Identify gaps that need to be investigated		Data Gaps - Identify gaps that need to be investigated
1		1		1	
2		2		2	
3		3		3	
etc		etc		etc	
	Summary of major risks - Create a summary list of the major risks identified		Summary of major risks - Create a summary list of the major risks identified		Summary of major risks - Create a summary list of the major risks identified
1		1		1	
2		2		2	
3		3		3	
etc		etc		etc	

Note: If one or more of the three primary columns need to be sub-divided into additional columns to more appropriately / usefully bring out the causal chain of the risk, then this should be done and followed through into Parts B and C of the table as appropriate

Part B - Current risk mitigation controls and strategies - identify and describe

No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure
Mitigation controls and strategies		Mitigation controls and strategies		Mitigation controls and strategies	
1		1		1	
2		2		2	
3		3		3	
etc		etc		etc	
Weaknesses – Identify and list the major weaknesses		Weaknesses – Identify and list the major weaknesses		Weaknesses – Identify and list the major weaknesses	
1		1		1	
2		2		2	
3		3		3	
etc		etc		etc	

Part C - Possible improvements in risk mitigation controls and strategies - identify and describe	

No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure

Risk summary tables			
Doc#4 - Worksheet (Section 3.5)			
Summary tabulation of major risks (To be derived from an analysis of Influence diagram and Doc #3)			
No	Description	Risk descriptor	Priority Rating High / Moderate / Low
1			
2			
3			
etc			

Risk summary tables			
Doc #4 - Worksheet (Section 3.5)			
Summary tabulation of identified improvement possibilities (To be derived from an analysis of influence diagram and Doc #3)			
No	Description	Risk descriptor	Priority Rating High / Moderate / Low
1			
2			
3			
etc			

No	Potential leading practice	Source organisation	State of application ¹	Accessibility ²	Potential OHS impact ³	Risk addressed ⁴	Adoption potential ⁵

Key

- 1 State of adoption: Field trial - Demonstrated - another country - one mine - multiple mines
- 2 Accessibility: Readily - IP constraints - Commercial
- 3 Potential impact: Very high - High - Moderate - Low - Very low
- 4 Risk addressed: See WS#4, plus define as necessary
- 5 Adoption potential: Promising - Poor

No	Major Trend or Policy	Priority Rating* High / Moderate / Low
1	Social and Demographic - see point..	
2	Technical - see point ..	
3	Economic -	
4	Political -	
5	Legal or regulatory -	
6	Environmental -	
7	Population health -	
8	Industry policy	
etc		

* In terms of potential impact on identified practices

No	Detailed programme / Agenda for the workshop	Timing	Facilitation Notes
1			
2			
3			
etc			

Experts to be invited to participate in the planning workshop

No	Name of expert	Organization	Special attributes / potential contribution	Rating
1				
2				
3				
etc				

Overall team objectives and key success factors

No	Ultimate team objective
1	Within years the adoption team will identify and facilitate the adoption of leading practices that will: Describe the envisaged impacts in quantitative and qualitative terms - per sector and across the entire mining industry
2	
3	
etc	
	Key success factors
1	The criteria that must be satisfied for the work of the team to be considered successful, in terms of its impact on key stakeholder groups is as follows: Executive management in industry Operational management Workers Persons most at risk Other key stakeholders Learning Hub and Adoption Team etc
2	
3	
4	
etc	

Criteria for selecting potential leading practices for detailed further consideration

No	List of potential selection criteria	Rating*
1	OHS Impact	
2		
3	Cost constraints	
etc		
	Time constraints	
	Sector coverage	
	Policy constraints	
	Readiness for adoption	
	Accessibility	
	Operational constraints	
	Skills	
	Strategic	
	Other	
	Top 5 selection criteria to be used	
1		
2		
3		
4		
5		

* Note: Rate as either critical, important or noteworthy

Doc#11 - Worksheet (Section 4.4)		Selection of the identified leading practices (between 2 and 4) that have the best adoption potential					
No	Description (List the top 20 from Doc#5)	Risk addressed	Contribution to overall objective	Check against trend analysis	Check vs selection criteria	Ingetrated assessment See Note 1	Votes by team if necessary See Note 2
1							
2							
3							
etc							

Selection of the identified leading practices (between 2 and 4) that have the best adoption potential

Note 1: Members to discuss and agree on alignment using a rating scale of Excellent - Good - Modertate - Weak - Unacceptable.

Note 2: Each member of the team to identify the practice they consider to have the best potential, then second, then third. If necessary, use a simple voting process to decide.

Doc#12 - Worksheet (Section 4.5) Focussed investigation of possible improvements to the identified potential leading practices for adoption					
Key operational / performance features of selected leading practices What does it do? How does it work?	Possible shortcomings Risks not addressed Operational weaknesses Skills requirements Supervisory requirements Black hat (Critical review)	Possible improvements e.g. Technology or process improvement / combine two practices into one Green and yellow hat (Positive inputs) Impact		Critical assessment of improvement options Impractical or too risky Equates to R&D Too costly to upgrade Black hat (Critical review)	Proposed adjustment to selected practice Ensure adjustments do not contradict adoption system constraints
Candidate 1 - Title & Key Features					
Candidate 2 - Title & Key Features					
Candidate 3 - Title & Key Features					
Candidate 4 - Title & Key Features					

Note: The title of the practice should be followed by a brief list of the key points that characterise the key aspects of the practice

Identification of the extent of adoption and benefit for the candidate leading practices

Identity of candidate practices	Candidate practice 1:		Candidate practice 2:		Candidate practice 3:		Candidate practice 4:	
Characteristics of mine that would benefit from the practice								
Mines	Extent of application (Mine name)	Expected benefit (See note)	Extent of application (Mine name)	Expected benefit (See note)	Extent of application (Mine name)	Expected benefit (See note)	Extent of application (Mine name)	Expected benefit (See note)
Particular mines (For each of the candidate leading practices, where it is necessary to identify particular mines as opposed to groups of mines as indicated below and in section 4.6, enter the names of the identified mines in the column headed "extent of application")								
Class of Mine	(% of class)		(% of class)		(% of class)		(% of class)	
Deep level gold								
Shallow gold								
Platinum								
Coal B & P								
Coal longwall								
Coal opencast								
Diamond large								
Diamond small								
Other u/g								
Other opencast								
Other small								
Other								
Estimated total No of persons to benefit								
Overall Assessment								

Note: - Qualitatively assess the benefit to the mine, or class of mine, in terms of the degree to which it reduces the risk, as High (**H**), Moderate (**M**) or Low (**L**). Also provide an estimate of the number of people at that mine, or class of mine, who will benefit. (eg: **M**-7000)

Potential make or break issues for the candidate leading practices

No	Checklist of possible issues (See guidance notes in Section 4.7)	Candidate practice 1* (Short title)		Candidate practice 2* (Short title)		Candidate practice 3* (Short title)		Candidate practice 4* (Short title)	
		Rating	ID Top 5 **	Rating	ID Top 5**	Rating	ID Top 5**	Rating	ID Top 5**
1	Impact on production								
2	Supplier support								
3	Documentation for successful application								
4	Impact on environment								
5	New skills requirement								
6	Impact on established peer group leaders								
7	Impact on workers								
8	Impact on first line supervisors								
9	Impact on operational management								
10	Impact on executive management								
11	Implementation costs								
12	Implementation time								
13	Union support								
14	Impact on engineering requirements								
15	Impact on support staff								
16	Access to practice at source mine								
	Other - by Adoption Team								
17									
18									
19									
20									

Rating: Use five point scale: very positive(PP) positive(P) neutral(O) negative(N) very negative(NN)

Notes: * Enter short title of the candidate practice ** Identify top 5 issues that warrant particular consideration as potential make or break issues

Selection of leading practice with the best potential

(Provide an appropriate brief comment in each cell)

	Candidate #1 Enter short title	Candidate #2 Enter short title	Candidate #3 Enter short title	Candidate #4 Enter short title
Extent of application (Estimated No of workers to benefit)				
Extent of benefit (Overall assessment)				
Make / break issue 1				
Make / break issue 2				
Make / break issue 3				
Make / break issue 4				
Make / break issue 5				
Overall assessment Ranking 1 - 4				
Explanatory comment				

Summary description of selected leading practice for adoption

Title: Description: Key features: Summary of risks addressed:

Note: Access to details of the leading practice should be confirmed by the Adoption Team as soon as the selection has been made

Doc#15.1 - Worksheet (Section 4.9)		Assessment of the need to include a demonstration phase					
No	Criteria	Essential	High	Moderate	Low	Negligible	Agreed group assessments
		No of participant assessments in each category					Agreed category
1	Extent of envisaged refinement						
2	Existence of bias and resistance against the practice	Note: By way of examples, in the event that a great deal of refinement of the practice is envisaged, or the practice is extremely complicated, or it is weakly recognised at the source mine, then workshop participants would be expected to indicate that a demonstration phase is essential for the criterion in question.					
3	Extent of required skills training						
4	Complexity of the practice						
5	Lack of performance data on the practice						
6	Weak recognition of the practice at source mine						
7	Short operational experience at source mine						
8	Uncertainty in supplier supply and support						
	Other						
9							
10							
11							

Outcome of overall assessment	
An agreed overall assessment of essential or high indicates that a demonstration phase should be included - reasons for the agreed overall assessment should be presented clearly as an explanatory comment below	
Agreed overall assessment of need to include a demonstration phase:	
Explanatory comment	

Note: This assessment should be reviewed prior to completion of the source mine investigations, and updated if necessary

Doc#16 - Worksheet (Section 4.10)		Example plan to guide scheduling of adoption team activities following the planning workshop (Three - phase adoption process)																
No	Details	Relevant Handbook Section/s	Dates		Weeks - indicative timing												Resp	Comment
			Start	End	4	8	12	16	20	24	28	32	34					
Key activities and deliverables																		
Establish and document details of the leading practice																		
1	Finalise residual issues from adoption planning workshop	4.10																
2	Develop material for inclusion in strategic communication plan	12.1																
3	Preliminary investigations at source mine - arrange logistics for later investigations	5.1																
4	Identify and list potential adoption mines in priority order	5.2																
5	Identify and establish contact with key persons at potential adoption mines	5.2																
6	Initiate liason with key individuals at potential adoption mines (potential COPA members)	5.2, 6.3, 6.4, 6.6																
7	Identify potential lead adopter mines (or host demonstration mines)	5.3																
8	Identify key decider, adopter and stakeholder groupings (for behavioural communication)	5.4																
9	Determine prevailing mental models through direct enquiry	5.4, 5.5, 5.6																
10	- Develop mental model and leadership behaviour hypotheses	5.5																
11	- Develop approved protocol, select / train interviewers and conduct enquiries	5.6																
12	- Analyse interview results and identify communication and leadership requirements	5.7																
13	Develop initial generic behavioural communication plan	5.8																
14	Develop initial generic leadership behaviour plan - key leadership behaviours	5.9																
15	Plan and conduct detailed investigations at source mine	5.10																
16	Clarify / refine the leading practice that is to be demonstrated - if necessary	5.10																
17	Prepare report on findings at source mine	5.10																
18	Update generic behaviour-based plans using source mine findings	5.11																
19	Prepare report documenting development of behaviour-based plans	5.11																
20	Develop generic value case	5.12																
21	Identify and address critical adoption issues and potential unintended consequences	5.13																
22	Review assessment of need for inclusion of a demonstration phase	5.13																
23	Prepare Source Investigations Summary Report	5.14																
24	Prepare a draft Leading Practice Adoption Guide	5.15																
Facilitation of widespread adoption																		
25	Systematic check prior to initiating widespread adoption process	6.1																
26	Set up support arrangements with lead adopter mine	6.2																
27	Design and hold a Leading Practice Adoption Workshop	6.3																
28	Set up a Community of Practice for Adoption, COPA with agreed modus operandi	6.4																
29	Review and update draft Leading practice Adoption Guide	6.4																
30	Conduct introductory workshop with lead mine adoption team	6.5																
31	Assist with detailed planning of the adoption process	6.6																
32	Assist with direct enquiries and customisation of behavioural plans	6.7																
33	Assist with identification and planning to address critical success factors	6.8																
34	Document performance and impact of the leading practice	6.9																
35	Prepare report documenting the lessons learnt	6.10																
36	Update and finalise the Leading Practice Adoption Guide for use by adoption mines	6.11																
37	Assist early adopter mines with customisation of behavioural plans / other key issues	6.12																
38	Ongoing facilitation of widespread adoption though COPA	6.12																
39	Identify, document and distribute ongoing improvements to the practice	6.12																
40	Facilitate preparation of updated guide for the improved practice, when necessary	6.12															Uncertain	
Key deliverables																		
Comment																		
5	List of key individuals at potential adoption mines with agreed communication channel	This is a crucially important first step to successfully facilitating widespread adoption - it must not be left to later																
9	Report on prevailing mental model derived from direct enquiry	This empirical finding forms the basis of the generic behaviour-based plans - behaviour specialist to assist																
17	Report on findings at source mine setting out details of the leading practice	Report to contain a detailed clear description of the leading practice - required as input into adoption guide																
19	Report on development of behavioural plans, including final generic behavioural plans	This must clearly present the final generic behavioural plans, as well as how they were developed																
20	Peer reviewed final version of generic value case	This document must authoritatively set out the combined business and value case for the leading practice																
23	Source Investigations Summary Report with stand alone companion reports attached	This document must coherently bring all of the source investigations together in a brief summary report																
24	Draft version of Leading Practice Adoption Guide	This must include all key actions needed to successfully implement the leading practice at an adoption mine																
27	Leading Practice Adoption Workshop attended by at least 80% of potential adopters	The leading practice adoption workshop must be well attended and favourably assessed by potential adopters																
28	A COPA with members from at least 70% of potential adoption mines	The COPA must initially include key decision makers from the majority of potential adoption mines																
32	Behavioural plans appropriately customised for use at the lead adopter mine	Achievement of properly customised behavioural plans is a key indicator of successful adoption																
34	Report on performance and impact of leading practice at lead adoption mine	This provides the basis of a communication to potential adoption mines to facilitate positive adoption decisions																
35	Report on lessons learnt at lead adoption mine	This serves as the source, and as a record, of findings used to update the draft leading practice adoption guide																
36	Updated final version of leading Practice Adoption Guide for use at adoption mines	This should be a quality document for distribution to all potential adoption mines																

Doc #16.1 - Worksheet (Section 4.10)		Example plan to guide scheduling of adoption team activities following the planning workshop (Four - phase adoption process involving a demonstration project)																
No	Details	Relevant Handbook Section/s	Dates		Weeks - indicative timing												Resp	Comment
			Start	End	4	8	12	16	20	24	28	32	34					
	Key activities and deliverables																	
	Establish and document details of the leading practice																	
1	Finalise residual issues from adoption planning workshop	4.10																
2	Develop material for inclusion in strategic communication plan	12.1																
3	Preliminary investigations at source mine - arrange logistics for later investigations	5.1																
4	Identify and list potential adoption mines in priority order	5.2																
5	Identify and establish contact with key persons at potential adoption mines	5.2																
6	Initiate liason with key individuals at potential adoption mines (potential COPA members)	5.2, 6.3, 6.4, 6.6																
7	Identify potential lead adopter mines / alternatively host demonstration mines	5.3																
8	Identify key deciders, adopters and stakeholders for behavioural communication	5.4																
9	Determine prevailing mental models through direct enquiry	5.4, 5.5, 5.6																
10	- Develop mental model and leadership behaviour hypotheses	5.5																
11	- Develop approved protocol, select / train interviewers and conduct enquiries	5.6																
12	- Analyse interview results and identify communication and leadership requirements	5.7																
13	Develop initial generic behavioural communication plan	5.8																
14	Develop initial generic leadership behaviour plan - key leadership behaviours	5.9																
15	Plan and conduct detailed investigations at source mine	5.10																
16	Clarify / refine the leading practice that is to be demonstrated - if necessary	5.10																
17	Prepare report on findings at source mine	5.10																
18	Update generic behaviour-based plans using source mine findings	5.11																
19	Prepare report documenting development of behaviour-based plans	5.11																
20	Develop generic value case	5.12																
21	Identify and address critical adoption issues and potential unintended consequences	5.13																
22	Review assessment of need for inclusion of a demonstration phase	5.13																
23	Prepare Source Investigations Summary Report	5.14																
24	Prepare a draft Leading Practice Adoption Guide	5.15																
	Demonstrate the leading practice at the selected host mine																	
25	Systematic check prior to initiating the adoption process	6.1																
26	Prepare draft outline plan for adoption of the practice at the demonstration mine	6.6																
27	Set up arrangements with mine manager for the demonstration project	6.2																
28	Conclude formal agreement with the demonstration mine	6.2																
29	Facilitate identification of an effective mine adoption team	6.2																
30	Plan a briefing workshop with the manager of the mine adoption team	6.5																
31	Conduct workshop to fully brief of mine adoption team on the demonstration project	6.5																
32	Assist mine team in setting up the required arrangements at the mine	6.6																
33	Conduct a direct enquiry process and prepare customised behavioural plans	6.7																
34	Conduct demonstration of practice / technology at demo mine	6.8																
35	Systematically communicate progress and key messages to potential COPA members	5.2, 6.3, 6.4, 6.6																
36	Document performance and impact of demonstrated practice	6.9																
37	Prepare a report on the demonstration project	6.10																
	Facilitate widespread adoption of the leading practice																	
38	Develop Draft Leading Practice Adoption Guide for use by mines	6.11																
39	Design and hold Leading Practice Adoption Workshop	6.3																
40	Set up and initiate operation of a COPA with an agreed modus operandi	6.4, 6.12																
41	Review and update draft Leading Practice Adoption Guide	6.4																
42	Assist early adopter mines with customisation of behavioural plans / other key issues	6.7, 6.12																
43	Ongoing facilitation of widespread adoption by MOSH Adoption Team	6.12																
44	Identify, document and distribute ongoing improvements to the practice	6.12																
45	Facilitate generation by the COPA of an updated guideline for the improved practice	6.12																Uncertain
	Key deliverables																	
5	Identify and establish contact with key persons at potential adoption mines	This is a crucially important first step to successfully facilitating widespread adoption - it must not be left to later																
9	Determine prevailing mental models through direct enquiry	This empirical finding forms the basis of the generic behaviour-based plans - behaviour specialist to assist																
17	Prepare report on findings at source mine	Report to contain a detailed clear description of the leading practice - required as input into adoption guide																
19	Prepare report documenting development of behaviour-based plans	This must clearly present the final generic behavioural plans, as well as how they were developed																
20	Peer reviewed final version of generic value case	This document must authoritatively set out the combined business and value case for the leading practice																
23	Source Investigations Summary Report with stand alone companion reports attached	This document must coherently bring all of the source investigations together through a brief summary report																
26	Prepare draft outline plan for adoption of the practice at the demonstration mine	This must include all key actions needed to successfully implement the leading practice at the demonstration mine																
33	Conduct a direct enquiry process and prepare customised behavioural plans	These plans must take account of all significant mine-specific issues identified through a careful direct enquiry process																
36	Document performance and impact of demonstrated practice	The protocol should be prepared as soon as possible, as should data collection - quality assurance is essential																
37	Prepare a report on the demonstration project	This report should identify all lessons learnt for inclusion in the adoption guide - also a summary of performance achieved																
38	Develop Draft Leading Practice Adoption Guide for use by mines	This must include all key actions needed to successfully implement the leading practice at an adoption mine																
39	A Leading Practice Adoption Workshop attended by 80% of potential adoption mines	The workshop must be well-attended and favourably assessed by participants																
40	A COPA with members from at least 70% of potential adoption mines	The COPA must initially include key decision makers from the majority of potential adoption mines																
41	Updated final version of the Leading Practice Adoption Guide for use at adoption mines	This should contain the input obtained from COPA members through an effective review process initiated at the workshop																

Enter ratings as: Excellent / Good / Neutral / Poor / Unacceptable

No	Consideration Name:	Mine A	Mine B	Mine C	Mine D
1	Real need and high potential benefit (at a significant scale)				
2	Willing to carry all costs				
3	Profitable operations				
4	Quality project managers				
5	Relationship with Unions				
6	Supportive Mine Manager				
7	Supportive Head Office				
8	Available base line data				
	Other - by the Adoption Team				
9					
10					
11					
12					
13					
14					
15					
	Overall assessment: (Unless there are strong mitigating reasons, any mine that has an unacceptable rating on the first 8 considerations should be rated as unacceptable in the overall assessment)				

Identification of deciders, adopters and key stakeholders for behavioural communication and leadership behaviour purposes

Summary description of the risk/s addressed by the selected leading practice

Provide a brief description / list of the risk addressed by the leading practice, written in a way to help with the identification of the deciders, adopters and key stakeholders. It should draw from and be consistent with the causal chain risk story customised by the adoption mine.

Posit'n / Person	Deciders	Details of the persons identified	Perceived mental models (To be added later-see section 5.5)
1	Key persons at Group Head Offices	List / describe the positions at Group Head Offices who may significantly influence the initial adoption decision	Briefly describe the perceived mental models (knowledge gaps and misperceptions etc) determined for each of these decider groupings by the adoption team .
2	Senior manager at the mine	List / describe the titles that the manager primarily responsible for making the initial adoption decision may have	
3	Relevant departmental managers at the mine	List / describe the various departmental managers at the mine who may significantly participate in or influence the initial adoption decision	
4	Relevant specialists at the mine	List / describe the specialists at the mine who may significantly participate in or influence the initial adoption decision	
5	Other	List / describe the others at the mine, such as Senior Union Officials who may significantly participate in or influence the initial adoption decision	

Note: Deciders are those persons who are directly involved in making the initial decision at a mine to adopt the leading practice, or who have a significant influence on the decision making process.

Group	Adopters / End Users Grouping	Details of the Group	Perceived mental models (To be added later-see section 5.5)
1	Group 1 - Persons at risk who will be directly responsible for implementing the leading practice.	List / describe the identified sub-groupings, taking into account the description of the selected leading practice in Worksheet #15, and discussions with key persons at the source mine.	Briefly describe the perceived mental models (knowledge gaps and misperceptions etc) determined for each of these priority groupings by the adoption team .
2	Group 2 - Persons who will implement / operate / maintain the leading practice, but who are not directly at risk	List / describe the identified sub-groupings, taking into account the description of the selected leading practice in Worksheet #15, and discussions with key persons at the source mine.	
3	First line supervisors / direct managers of the practice	List / describe who these are, again with reference to Worksheet #15 and using input from the source mine.	
4	Other	List / describe any other groups who are directly responsible for implementing the leading practice in an important way.	

Note: Adopters are those persons who are directly involved in implementation of the leading practice in one way or another. They are the people whose will be directly responsible for the success or failure of the adoption.

Group	Key Stakeholder Grouping	Details of the Group	Perceived mental models (To be added later-see section 5.5)
1	Group 1 - Persons at risk, but who are not responsible for implementing the leading practice	List / describe the identified sub-groupings, taking into account the description of the selected leading practice in Worksheet #15, and discussions with key persons at the source mine.	Briefly describe the perceived mental models (knowledge gaps and misperceptions etc) determined for each of these priority groupings by the adoption team .
2	Group 2 - 3 levels of line management above the first line supervisor	List / describe who these are, again with reference to Worksheet #15 and using input from the source mine.	
3	Union leadership at the mine	As above	
4	Affected or interested support functions at the mine	As above	
5	Other	List / describe any other groups who have a vested interest and who could influence those responsible for implementing the leading practice in an important way.	

Note: Key Stakeholders are those persons who are not operationally involved in implementation of the leading practice, but who have a vested and direct interest in its success or failure. They are the people who are in a position to enable or otherwise influence those responsible for implementing the practice.

Doc#19 - Worksheet (Section 5.13)		Preliminary Statement of the Value Case				
No	Details	Ref	Value assessments (Rands / rates / Qualitative)			
			Typical mine Scenario 1	High-side Scenario 2	Low-side Scenario 3	Industry
1	1- Improved OHS performance					
2	(Injury rate - fatality rate - illness incidence - key lead indicators)					
3						
4						
5						
6						
7						
8	2- Finanacial benefit of improved OHS performance					
9	Hospitalization and other medical costs					
10	Time off work					
11	Risk premiums					
12	SIMRAC levies					
13	All forms of compensation					
14	Management time (Inquiries, reporting, communication,etc)					
15						
16						
17	3- Initial cost to implement the practice					
18	Capital costs of purchasing and installing new equipment					
19	Access to intellectual property (software and other)					
20	New infrastructure (buildings / training and communication aids / etc.)					
21	Initial training of management, supervisory staff and workers					
22	Use of consultants and advisors					
23						
24						
25	4- Direct impact of new practice on operating costs					
26	Human resource costs					
27	Routine training costs					
28	Equipment maintenance costs					
29	Materials and other consumables					
30	Outsourced service providers					
31	Power and water costs					
32	All other direct operational costs					
33						
34						
35	5- Indirect impact of new practice on operations					
36	Productivity, both positive and negative effects					
37	Absenteeism					
38	Staff turnover					
39	Regulatory interventions (other than a major section 54 intervention)					
40						
41						
42	6- Other impacts of significant business value					
44	<i>Improved stakeholder relationships internally and externally</i>					
45	<i>Reduced risk of enforced change by rule-makers or other key players</i>					
46	<i>Buy-in and collaboration from all stakeholders</i>					
47	<i>Improved image of the mine and industry</i>					
48	<i>More attractive to invesgtors (Generally, also ethical funds globally)</i>					
49	<i>A more positive relationship between all levels at the mine</i>					
50	<i>Reduction in the barriers to women joining the industry</i>					
51	<i>More ready acquisition or maintenance of licence to mine</i>					
52	<i>Progress towards zero harm culture</i>					
53	<i>Less litigation</i>					
54	<i>Less risk of management conviction</i>					
55	<i>Easier recruitment and retention of staff and customers</i>					
56	<i>Improved relationship with communities surrounding mines</i>					
57	<i>A much healthier and productive workforce</i>					
58						
59						
Summary assessment of the value case						
Net financial benefit (excluding a possible section 54 intervention)						
Potential cost of a section 54 intervention						
Overall assessment of value from adopting the practice						

No	Prioritisation factors	Weighting factor
F1	Good potential to benefit from adoption of the practice OHS indicator - no of people who benefit - ease of implementation - life of mine	4
F2	Mine leadership OHS orientation -progressive and enthusiastic - good record in adopting new practices - good management / union relationships	3
F3	Adequate time, resources and infrastructure at the mine Good profitability - management time - support infrastructure (training / engineering / other)	2
F4	Project leadership at the mine Readily available champion to lead the adoption - good skills and experience	1

(Rating of each mine on each factor on scale 1 to 5, where 1 = very weak; 5 = very strong)

No	Mines	F1	F2	F3	F4	Assessment score *	Names of the three key persons for adoption on top 20 mines		
							Manager	Specialist	Other
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
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35									
36									
37									
38									
39									
40									

*Assessment score = (F1) x 4 + (F2) x 3 + (F3) x 2 + (F4) x 1

Decider, adopter or stakeholder group:

(Complete a worksheet for each identified group)

No	Questions	Hypothesis	Rationale	Implications (Action to be taken)
1	What do the deciders /adopters / stakeholders know today about the key risks, their management and the selected leading practice?			
2	What is it that they may not know or misunderstand that could compromise their ability to make an appropriately well-informed decision about the risk, its management and the selected leading practice?			
3	What might the key values of the deciders / adopters / stakeholders be that could affect their understanding and decision making about the key risks, management and the selected leading practice?			
4	What factors might deciders / adopters / stakeholders consider to be most important when making judgments or decisions related to the key risk, its management and the selected leading practice?			
5	Who do deciders / adopters / stakeholders most trust to manage and communicate about the key risks, their management and the selected leading practice?			
6	What might deciders /adopters / stakeholders want to know about the key risks. their management and the selected leading practice?			
7	What type of communications might deciders /adopters / stakeholders prefer?			

Note: Text linked to the PDS leading practice and the case of mobile machinery accidents is in grey.

Interview Purpose: There are two main purposes:

- To identify the perceptions of relevant key decision makers at potential adoption mines about the need and value of addressing the risks posed by mobile machinery through the adoption of a function selection tool and leading practice proximity detection system [proposed leading practice for addressing the risk], and
- To identify any issues that may need to be addressed to facilitate eager and successful adoption of the function selection tool and leading practice proximity detection systems at these mines.

Solicitation

< It is likely that in most cases the relevant MOSH T&M Adoption Team member will have arranged for somebody at the mine to speak to the interviewee, and that the interviewee will have already “agreed” to the interview. However, it is also likely that in some cases the interviewee will have simply been advised by their superior that they have been “selected” to participate in the interview. They would then have been advised either that they would be contacted by someone to set up the interview, or simply of the date, time and venue for the interview. The latter is likely to be the case for the worker/operator levels of interviewee (and necessarily so given the circumstances at large mines), and the former for the supervisory levels. Given below is guidance on telephonically setting up an interview with someone who has been advised that he would be contacted by the interviewer for this purpose. Guidance is provided later for the case where the interviewee has simply been advised of the date, time and venue of the interview. >

Hello, my name is <name>, I am doing research for the MOSH Transport and Machinery Adoption Team, which is part of the Chamber of Mines' MOSH Best Practice Adoption System. Your name has been given to me by your company's representative on the adoption team < name>, so I hope that you were expecting this call. Are you aware of the MOSH Adoption System and its Adoption Teams?

< Wait for response and if the interviewee is unaware or uncertain, give a brief explanation on the adoption system and its teams, and promise to send further information later if this is wanted. If wanted, advise Jerris of the need to forward this additional information >

As the MOSH Adoption System is an industry-wide initiative supported by our industry's CEOs, we are speaking with persons who have a role to play in addressing occupational health and safety risks at mines, like you, in order to learn more about these risks, particularly those related to mobile machinery, and the ways in which they are addressed at different mines. We also wish to learn how we can assist in the adoption of identified leading practices.

We would be grateful for your participation and I am calling to ask if you would participate in a personal interview of about 30 to 40 minutes. During our conversation I would like to cover a number of topics in some depth so that our team can learn from your experience and knowledge, along with that of others we are interviewing, about the risks and how they are or can best be managed. Our conversation would be very open ended so there is no need for you to prepare in advance.

I also want to assure you that this interview is completely confidential to our research team. We will not share any information with the Chamber of Mines that could be used to identify you or your company and we will not identify you as the source of any comments in our report. Our report will be a consolidation of all of the responses from everyone we interview.

Would you be prepared to participate at a time convenient to you in the near future?

- <If “no”>. Ask the person if there is a particular reason for his reluctance to participate. If it is possible to address this in some simple way to achieve his willing participation, then do this, but if not, simply end the conversation by thanking him for his time.
- <If “yes”>: Proceed with a discussion to agree a suitable time and venue.
- <If people ask how they were selected to be interviewed, say they were selected from a list of persons identified by the MOSH Adoption Team as being important to the process of deciding and adopting a leading practices that addresses *mobile machinery risks* at their mine. If they still persist, promise that someone from MOSH Adoption Team will call to answer their residual questions, and then inform Jerris >
- <Important note: This initial interaction provides the interviewer with an important opportunity to establish a positive and trusting rapport with the interviewee. Although limited by the need to be brief and respectful of the interviewees time, this opportunity should not be lost.>

Preliminary discussion when interview has been arranged by the mine

< In this instance, the interviewer will need to provide much of the information given above for the case where the interview is being set up by the interviewer. During this introductory phase the interviewer will need to ensure that best use of the time to establish a positive and trusting rapport with the interviewee. The introductory greeting may thus be more informal and extensive than that set out below, but it should nevertheless cover the essential content outlined below. >

Hello, my name is <name>, I am doing research for the MOSH Transport and Machinery Adoption Team, which is part of the Chamber of Mines' MOSH Best Practice Adoption System. Thank you for agreeing to speak with me. Before we start the interview, I would like to give you a bit of background on the MOSH Adoption System, and of why we appreciate having the opportunity to speak to you. Are you aware of this initiative and of how the adoption process works?

< Wait for response and if necessary give a brief explanation and promise to send further information later if this is wanted. If wanted, advise Jerris of the need to forward this additional information. Then go on to advise....>

As this is an industry-wide initiative supported by the industry's leaders, we are speaking to people who have a role to play in addressing occupational health and safety at mines, like you, in order to learn more about these risks and the ways in which they are addressed at different mines. We also wish to learn how we can assist in the adoption of identified leading practices throughout industry.

We really value your participation as we can only learn from your knowledge and experience of your workplace by speaking directly to you. I expect that our conversation would last for about 30 to 40 minutes. During our conversation I would like to cover a number of topics in some depth so that our team can learn from your experience and knowledge, along with others who we are interviewing, about the risks and how they are or can best be managed. Our conversation will be very open-ended so there is no need for any preparation.

I also want to assure you that this interview is completely confidential to our research team. We will not share any information with the Chamber of Mines that could be used to identify you or your company and we will not identify you as the source of any comments in our report. Our report will be a consolidation of all of the responses from everyone we interview.

Are you prepared to go ahead on this basis?

- < If “no” >. Ask the person if there is a particular reason for his reluctance to participate. If it is possible to address this in some simple way to achieve his willing participation, then do this, but if not, simply end the conversation by thanking him for his time.
- < If “yes” >: Proceed with the discussion.
- < If people ask how they were selected to be interviewed, say they were selected from a list of persons identified by the MOSH Adoption Team as being important to the process of adopting a leading practice that

addresses mobile machinery risks at their mine. If they still persist, promise that someone from MOSH Adoption Team will call to answer their residual questions, and then inform Jerris >

Introduction

< Note to interviewers: To the extent possible, try to ensure that the interview venue is not intimidating to the interviewee, and that the seating arrangements put the interviewee at ease – sit across the corner of a table rather than directly across a table or desk facing each other. The seating arrangements should not inadvertently put the interviewer into a dominant position. >

< In the case where the interviewer has set up the interview, after the introductory greeting to put the interviewee at ease, start by linking the interview to the earlier conversation by saying: As I mentioned when we spoke earlier, I am conducting interviews on behalf of the MOSH Adoption Team on Transport and Machinery.>

Before getting to the topics that I would like to discuss with you, I'd like to give you a brief overview of the work that the Transport and Machinery Adoption Team is doing. I would then like to ask you for your thoughts on the major occupational health and safety challenges that you face at the mine, and then more specifically about the challenges you face in the area of transport and machinery at your mine, and on how the leading practice identified by the Team might work at your mine.

I have some questions to help guide our discussion, but please feel free to raise any topic that comes to mind as we go along. There are no right or wrong answers, and all of the comments you provide will add value to the team's research. I also want to assure you that what you say will be kept confidential to our research team.

Once again I wish to assure you that we will not attribute any specific answers to you. We will only report the results back to the team in aggregate, that is, all of the interviews will be summarized. Therefore, no personally identifying information will be passed along to anyone associated with your company, other companies or the Chamber of Mines. Also, at any time during the interview you may withdraw from the interview should you so wish. Can we proceed on that basis?

It is important for me to accurately capture what you say, so that the team gets the full benefit of your knowledge and experience. I will therefore be taking brief notes, which I will write up carefully immediately after our discussion.

< If you wish to record the conversation to help prepare an accurate record, this is when you should ask whether the interviewee would mind if you recorded the conversation to help in the preparation of an accurate and detailed record of the conversation. Explain that the only purpose of making a recording would be to ensure the quality and accuracy of the interview process. The following indicates how this might be handled:

Having said that, to ensure that my notes are accurate and complete, I would like to ask your permission to record our conversation, Again, I would like to stress that your responses will be kept confidential and you will not be able to be identified through the recording. May we proceed on that basis?

<Confirm with the Interviewee on the recording that consent is granted and proceed appropriately. If consent is not given, take detailed handwritten notes.>

Opening

<Start by sharing your agenda>

<General note to interviewer: If Interviewee thinks that he or she does not know enough to answer the question, please use follow-ups, however, don't press if the Interviewee still does not want to answer a question>

Our conversation will cover three main topics. First, I'm going to ask you about the risk associated with mobile machinery underground; then I will ask about how the leading practice identified by the Adoption Team might

help address the risks at your mine. Lastly I would like to discuss how one might best introduce such a practice at the mine.

< With a view to putting the interviewee at ease, begin by asking something that should be easy for most people to speak about, as follows: >

I would however like to start by asking you to tell me a bit about your role in the mine.

- 1. What is your position / official designation?**
- 2. What do you regard as your most important responsibilities?**
- 3. What is your main interest / involvement in mobile machinery at your mine?**

< Now move on to providing relevant background information >

As I may have already mentioned, the Transport and Machinery Adoption Team is working to help significantly reduce accidents that cause injury to workers. Our ultimate goal is to help industry eliminate all transport and machinery related injuries to workers.

- 4. (Optional) - I'm interested in hearing what you think about this. Bearing in mind that there are no right or wrong answers, and based on what you know, what are your thoughts about this?**

Perceived risks associated with underground mobile machinery

<Questions to reveal thinking about the risk, and the need, priority and context for addressing mobile machinery accidents at the interviewee's mine.>

Now, let's talk a bit about the potential for accidents and injuries at your mine.

- 5. Thinking about the full range of occupational health and safety risks at your mine, which three risks would you say are of greatest concern at your mine?**
 - a) Of these, which worries you most and why?
- 6. Now, thinking about the dangers (hazards / risks) posed by mobile machinery, what are the particular incidents that most frequently cause harm to people at your mine?**
 - a) Of those that you have mentioned, which happens most frequently?
 - b) Why do you think incidents like this happen? Can you give me some examples?

< Should the interviewee not have much to say on these sub-points, use the following prompts to help enrich the conversation.>

Prompts:

- i. Work procedures – are they appropriate and always followed? If not could you please explain by giving me some examples?*
- ii. Training and skills – do they have the training and skills to avoid being involved in mobile machinery accidents? If not, please explain by giving me some examples?*
- iii. Health or fitness for work – would you say, for example, that workers and operators always report fit and ready for work? If not, can you tell me what some of their problems have been?*

- iv. *Equipment design and maintenance? Do some machines have design shortcomings? Is the equipment properly maintained? If not, could you please explain by giving me some examples?*
- c) Are there things about these most frequent incidents that you think are not properly understood? If so can you tell me about some of them?
- 7. **Of all the things about mobile machinery that you have mentioned, what do you think is the *number one* issue that should be addressed? Can you tell me why you think it is the *number one* issue?**
- 8. **What do you think should be done to address this issue to prevent mobile machinery accidents?**
- 9. **What other things do you think should be done to prevent mobile machinery accidents at your mine?**

*The following questions are particularly relevant to the identified **decider** group – although other senior persons at the mine could well answer them before having had the leading practice described to them, it is the answers provided by the decider group that are particularly relevant. These, and any other questions designed to test their understanding and beliefs about the leading practice before it is explained to them, should be analysed separately and it might be best if they were asked only of the identified **decider** grouping.*

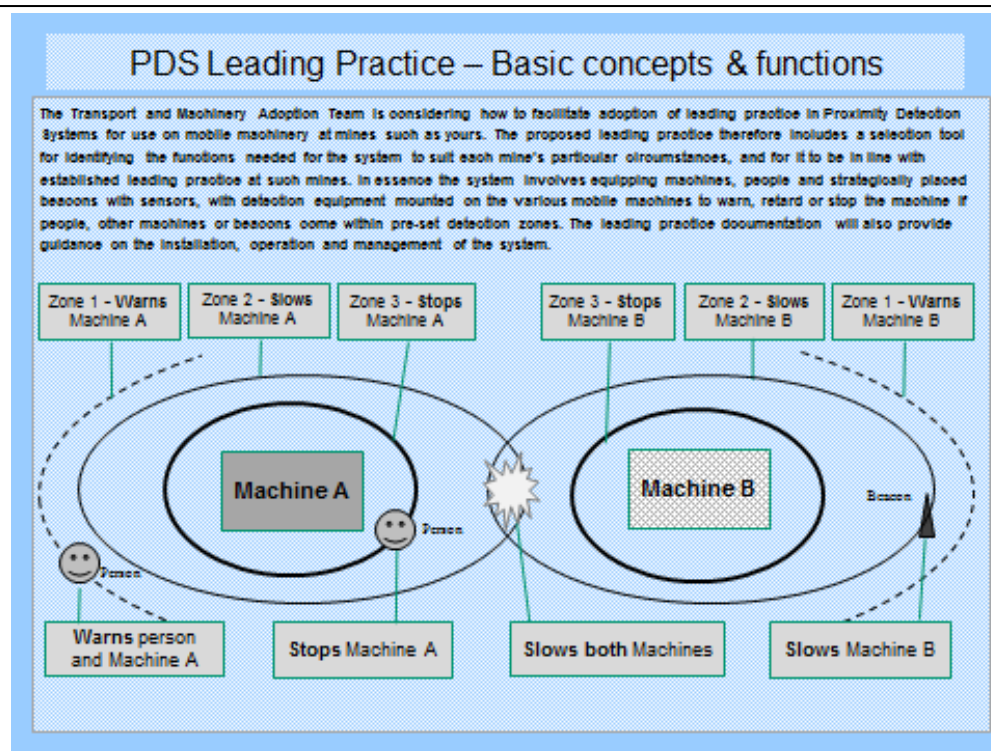
- 10. **Based on what you know about proximity detection systems, which of the major mobile machinery risks at your mine do you think can be effectively addressed through the use of such systems? And which major risks would not be addressed?**
- 11. **What things would worry you most about the introduction of such a system at your mine? Could you please explain why?**

Thank you for this – I would now like to move on and to talk about leading practice in proximity detection systems and whether such leading practice could help prevent mobile machinery accidents in your operations.

Adoption of leading practice

<Provide the following scenario to provide the context for most of the questions that follow. The description should be detailed enough so that the person being interviewed can have a vivid and accurate “picture” in their mind of the leading practice being proposed. The following brief description is provided as guidance.>

The Transport and Machinery Adoption Team is considering how to facilitate adoption of leading practice in Proximity Detection Systems for use on mobile machinery at mines such as yours. The proposed leading practice therefore includes a selection tool for identifying the functions needed for the system to suit each mine's particular circumstances, and for it to be in line with established leading practice at such mines. In essence the system involves equipping machines, people and strategically placed beacons with sensors, with detection equipment mounted on the various mobile machines to warn, retard or stop the machine if people, other machines or beacons come within pre-set detection zones. It therefore works more or less as shown in this diagram (Explain the system using the diagram provided below). Importantly, the leading practice documentation will also provide guidance on the installation, operation and management of the system.



Finally, a very important aspect of adopting the leading practice is that the process includes implementation of behavioural communication and leadership behaviour plans that will be customised to take account of any mine specific issues. These are identified through interviews conducted with a spectrum of persons at the mine who are involved in adoption of the leading practice. Implementation of these plans should be seen as a management of change process that is leading practice specific, but which would be broadly helpful to enhancing management processes at the mine.

<This last paragraph, or a more appropriate equivalent, should be included in describing the leading practice.>

<Check that the interviewee adequately understands what has been explained, otherwise he will have difficulty answering the questions that follow.>

Value and priority

< Questions to establish the perceived value of the leading practice – the Proximity Detection System - and criteria for making it a priority at the interviewee's mine.>

- 12. Based on your understanding of how the adoption of a leading practice Proximity Detection System would work, do you think that such a System would significantly reduce mobile machinery accidents at your mine? Why do you say that?**
- 13. What about this leading practice Proximity Detection System do you think might be a problem at your mine? Can you tell me why you say that?**
- 14. What would it take for the adoption of a leading practice Proximity Detection System to become a top priority for your mine management team? Could you please explain your answer?**

< Should the interviewee not have much to say here, use the following prompts to help enrich the conversation. >

Prompts:

- i. What would you need to get full buy-in from your management team / subordinates?
- ii. What information and data would you need?
- iii. How would you prefer to get such information and from what source?
- iv. Who else would you need to convince?

Aids and barriers to adoption

<Questions to identify aids and barriers to adoption as issues that will need to be addressed through behavioural communications.>

- 15. In the event that your mine decided to adopt such a tool for selecting and implementing a leading practice Proximity Detection System, what do you think would be the most important things to do to achieve success?**

< Should the interviewee not have much to say on this, use the following prompts to help enrich the conversation.>

Prompts:

- i. Training – would special training be important?
 - ii. Access to resources – availability money for equipment and people to get the work done?
 - iii. Motivation - Would any special incentives be needed to motivate operators and workers?
 - iv. Leadership – any special qualities / or behaviours considered necessary?
 - v. Communication – what would be important to communicate about the initiative? Who should do that communication?
- 16. Of all the things mentioned, which do you think would be the *number one* issue? Can you tell me why you think it would be the *number one* issue?**
- 17. Are there things that could prevent successful adoption of the leading practice Proximity Detection System at your mine? Why do you say this?**
- 18. Are there things about the adoption process that could help or hinder successful adoption of the leading practice Proximity Detection System at your mine? Why do you say this?**
- 19. Who at your mine, and here I am thinking of the level of worker or supervisor, do you think would have the greatest influence on the adoption of the selected leading practice Proximity Detection System?**
- a) Why these people and in what way would they exert their influence?

Leadership

< Questions to identify key leadership behaviours for inclusion in the leadership behaviour plan that is to become an integral part of the leading practice. >

Moving on to leadership...

- 20. What would be the most important thing that your supervisor should do to support you and your colleagues in implementing and operating the leading practice Proximity Detection System selected at your mine?**

- a) Why would this be important to you?

21. What should he not do that he currently does?

- a) Please explain why you say this?

22. What do you think senior mine leaders should do to support adoption of the System?

- a) Please explain why you say this?

23. What do you think operational level supervisors need to do in order to ensure successful adoption of the leading practice at your mine?

- a) Which of these things would be most important and why?

Communication

< Questions to assist in the development of the behavioural communication plan that is also to become an integral part of the leading practice.>

Lastly I would like to get your thoughts on communications related to the adoption of a leading practice Proximity Detection System

24. Thinking of the leaders at your mine who you really trust, *without naming anybody*, what is it that they do that makes you trust them?

25. And thinking of leaders who you do not trust, *without naming anybody*, what is it that they do that makes you distrust them?

26. What do you think would be most important for trusted leaders to say or explain if the mine decides to select and adopt a leading practice Proximity Detection System?

- a) Why do you think these things would be so important?

27. And what ways would be most effective in communicating such information to workers about adoption of the leading practice Proximity Detection System? Why would they be most effective?

28. What ways would be least effective – and why would they be so ineffective?

Wrap up and Closure

29. Is there anything else that you think will be important for the Adoption Team to know and take into account in its work?

That brings us to the end of the interview. On behalf of the Transport and Machinery Adoption Team I would like to thank you for sharing your knowledge and experience with us – your input is really important to the team and will be taken into account in its further work on this leading practice. Thank you for your time.

<At this point it might be appropriate to present the interviewee with a memento (Adoption Team Manager to decide / provide) as a token of the Adoption Team's appreciation for their willingness to participate and for their contribution to addressing the challenge of preventing mobile machinery accidents>

Interview Response Worksheet Template

DESCRIPTION:

The *Interview Response Worksheet* is used to conduct interviews, record interview responses and code responses for analysis.

INSTRUCTIONS

See Handbook section 15.3 for an overview of the Mental Models Research process.

To prepare the *Interview Response Worksheet*: Prepare the *Interview Response Worksheet* after the *Interview Script* has been finalized and before any interviews begin. Copy the Question Number and Interview Question directly from the *Interview Script*. Determine in advance the type of **Interview ID** (Identification) code that should be assigned to each interview that is conducted, usually a brief letter code followed by an incremental number (for example, FOG1, FOG2). Properly identifying interviews is critical for effectively analysing and reporting the research results.

To use the *Interview Response Worksheet*: Ensure that the interviewers are fully trained to conduct and report interviews fully orientated to the particular project. One *Interview Response Worksheet* should be prepared and completed for every interview that is conducted. Make sure that the proper information is recorded for **Interview ID**, **Date**, **Name of Mine**, and **Name of Worker Position**. Copy the **Interview ID** to the top of every sheet of the worksheet. During the interviews, read the interview directly off of the *Interview Response Worksheet* and record responses in the **Interview Response** column. After the interviews and during the coding phase, place the appropriate code(s) from the *Coding Guide* in the **Code for Analysis** column. If a question's response cannot be adequately described by the available codes, clearly indicate this with a NONE, and a very brief description of the response (using 1-3 keywords). See *Sample Coding Guide* for more instructions on coding.

Interview ID	Date	Name of Mine	Name of Worker Position
<< Assign unique interview identification code.>> e.g. FOG1	<<Write in date interview occurred.>> e.g. 25 July 2008	<< Write in Mine where Interview takes place. >> e.g. Impala Plats Mine	<< Write in type of Mine Employee who is interviewed. >> e.g. Mine Overseer

Q #	Interview Question	Interview Response	Code for Analysis
<< Type in Question Number. >>	<< In advance of the interview (Design): Type in Questions exactly as written in the <i>Interview Script</i> .>>	<< During the interview (Implementation): Hand write in interview response. >>	<< After the interview (Analysis): Hand write code(s) from <i>Coding Guide</i> . >>

(Add additional rows as needed)

The following tips should be considered by the interviewer in preparing for the one-on-one direct enquiry interviews:

- Find a quiet place to conduct the interview, ensuring no interruptions or background noise. The selected venue should not have the effect of making the interviewee feel uncomfortable, or intimidated. Make sure that co-workers understand they are not to disturb you while an interview is taking place (perhaps by posting an “Interview in Progress” sign on the interview venue) and that electronic devices (such as radios and cell phones) are turned off.
- Be courteous and respectful of the Interviewee at all times. Treat the Interviewee in a professional manner, but not overly formal.
- Main questions should always be read in their entirety to ensure that the meaning of the question is properly conveyed. Follow-up questions (probes and prompts) should be more conversational in nature, and generally do not need to be read in their entirety.
- If an interviewee does not understand a question, you may try rephrasing the question as long as you do not lose its meaning.
- Allow the Interviewee to answer all the main questions and follow-ups, but be careful not to lead them in any way.
 - Never assume a question has already been answered. If you believe a question may have been already answered earlier in the interview, you may state: “I know you may have already covered this topic, but I’m going to ask the following question in case you have anything more to add.”
 - Keep a neutral tone and stance, including body language. No value judgments should be inadvertently communicated through tone, stance or body language.
 - Do not answer for, fill in the blanks, or lead the interview in any way. Never suggest responses.
 - To assure the Interviewee that you are listening, you may say “I see” or simply “hmmm” in response to their thinking, but avoid terms of judgment, such as “yes” or “good” or “correct”, as this implies a judgment either right versus wrong or that you agree with the Interviewee’s statement.
 - Do not try to make people consistent in their answers regarding their *beliefs, attitudes and feelings, but ensure that what is said is accurately recorded*
 - Be flexible to explore relevant issues in sufficient depth to obtain a full understanding of the interviewees thinking, but return and stick to the framework of questions in the worksheet.
- If the Interviewee hesitates when responding or thinks that he or she does not know enough to answer the question, please use follow-ups; however, don’t press if the Interviewee still does not want to answer a question.
 - Give the Interviewee sufficient time to consider their answer.
 - Repeat the question slowly.
 - Remind interviewee that there are no right or wrong answers: “I’m just interested in hearing what you think. Again, there are no right or wrong answers.”
- When an Interviewee seems to veer off course from the main interview topic or is particularly long-winded and repetitive, it is necessary to close the question and move on to manage the length of the interview. This needs to be done respectfully. Suggestions for doing this include:
 - “If you have touched on your main points here, I’m going to move on now so I can get your input on the rest of our questions before our time runs out.”
 - “If you have other thoughts to add at the conclusion of the interview, we can take some more time then.”

Example of Completed Interview Worksheet

Transport and machinery leading practice

Name of Leading Practice: Function selection tool and leading practice proximity detection system

Instructions: Indicate any particular instructions that need to be followed

Unique Interview reference number	Interview Date	Name of Mine	Name of Worker Position
AR#04	6 May 2011		General Manager
Question		Answer	Code
Start time		13:23	
Opening Our conversation will cover three main topics. · First, I'm going to ask you about the risk associated with mobile machinery underground; · I will then ask about how the leading practice identified by the Adoption Team might help address the risks at your mine. · Lastly I would like to discuss how one might best introduce such a practice at the mine. I would however like to start by asking you to tell me a bit about your role in the mine.			
1. What is your official designation?		General Manager	
2. What do you regard as your most important responsibilities?		To produce coal safely and keeping into account all the legalities that goes into it.	
3. What is your main interest in mobile machinery at your mine?		To run it, as safely as possible and as effectively as possible; productively	
As I may have already mentioned, the MOSH Transport and Machinery Adoption Team is working to help significantly reduce accidents that cause injury to workers in our industry. Our ultimate goal is to eliminate all transport and machinery related injuries to workers.		I do not know too much about it, but it sounds as if it could add value. If it is handled correctly then we will be able to gain a lot of value from it. Also, if the right people give the right information, so it all depends on the quality of the information that is gathered.	
4. (Optional) - I'm interested in hearing what you think about this. Bearing in mind that there are no right or wrong answers, and based on what you know, what are your thoughts about this?			
Perceived risks at the mine, with a focus on underground mobile machinery Now, let's talk a bit about the potential for accidents and injuries at your mine.			
5. Thinking about the full range of occupational health and safety dangers (hazards and risks) at your mine, which three would you		Bumped by Creation of dust Nip points & Stored energy	

say are of greatest concern at your mine?		
a) Of these, which worries you most and why?	The bumped by. Were am machine gets in contact with a person, it could lead to serious injuries and fatalities	
6. Now, thinking about the dangers (hazards / risks) posed by mobile machinery, what are the particular incidents that most frequently cause harm to people at your mine?	We had a shuttle car incident where it bumped an operator (Operator with the remote control) We also had a roof bolter that was swinging and in the process trapping a guy against the rib side(TRS – low seam equipment) LHD almost driving over somebody. He had to actually hang onto the LHD's bucket to save himself. And then also quite a few collisions between machines	
a) Of the ones that you have mentioned, which happens most frequently?	It is probably the collisions between machines	
b) Why do you think incidents like this happen? Can you give me some examples? < Should the interviewee not have much to say on this, use the following prompts to help enrich the conversation.>	Poor communication. In both the first two accidents the shuttle car was not supposed to just come into the CM area. He was supposed to stop and see where the CM operator was and weather they could still communicate; then it would not have happened. The second one the guy moved his machine before telling his mate, not leaving him enough time to get out of the way. Ya, with almost all the investigations we have done with vehicle incidents; communication played an important role	
1. <i>Work procedures – are they appropriate and always followed? If not could you please explain by giving me some examples?</i>	We had to review our work procedures with the one. The other one we just had to re-enforce in and eh people with taken to task. We believe that our procedures are good enough; adequate, but there is always room for improvement. Obviously after an accident you will find that there is a shortcoming. I believe people know about procedures and that they are freely shared	
2. <i>Training and skills – do employees have the training and skills to avoid being involved in mobile machinery accidents? If not, please explain by giving me some examples?</i>	I believe that our employees have sufficient skills and training to perform their tasks. We license all our operators. We also go to hazard awareness training. We are also very extensively in the safety training we give	
3. <i>Health or fitness for work – would you say, for example, that workers and operators always report fit and ready for work? If not, can you tell me what some of their problems have been?</i>	No, None of them specifically highlighted points to indicate that they were not fit for work.	
4. <i>Equipment design and maintenance? Do some machines have design shortcomings? Is the equipment properly maintained? If not, could you please explain by</i>	Yes, I think there are definitely shortcomings on the designs. One of the big ones is the blind spots.(Not only CM, but all equipment) The visibility of the operators. In general on the design of the equipment. I think the OEM's gives u a functional machine, but they do not go into...Is this the best with regards to safety and ergonomics. They do not pay enough attention to that. We might want to get into the mode when during a fatality you actually get the OEM in, and you would maybe ask him to redesign. When we however get	

<i>giving me some examples?</i>	to normal accidents were it is minor in severity then we do not do this. We don't have the time in the first place and they would not come; or they might. I think we need to, as an industry, more involved in our incident investigations.	
c) Are there things about these accidents that you think are not properly understood? If so can you tell me about some of them?	Yes, I don't think...with all the investigations we have had, the truths comes out, so people still tend to hide what actually happened. It is difficult to get the truth out of them. So... They might not always be telling the truth for fear of discipline or retribution. People are still too afraid of losing their jobs and being severely reprimanded when they tell the truth.	
7. Of all the things about mobile machinery that you have mentioned, what do you think is the <i>number one</i> issue that should be addressed? Can you tell me why you think it is the <i>number one</i> issue?	It is difficult to say. There is not really only one Visibility ... definitely Communications ... definitely I do not think it is only one. You spoke about collision avoidance as well; I think that also needs to come in. We have started looking into it as an industry. Some people have advanced quite far. We have done quite a bit, but I believe there is a lot of scope there. It is important, because... If the machine stands still it is difficult to bump somebody, so... Collision avoidance; if you get a machine to cut out and you avoid the collision totally, then it is good	
8. What do you think should be done to address this issue to prevent mobile machinery accidents?	With visibility we are currently looking at cameras; installed in front and behind. Better designs, but better designs is not really in my hands.- OEMs Collision avoidance we are looking at stopping machines before they are actually able to hit somebody and also warning people Communication we are looking at...We have.... we tried looking at headsets, but unfortunately they were not approved by SABS or whoever approves, and thus we are not pursuing this further. SO... communication between operators cannot take place yet. Apparently in the states it is commonly used. We have trialled a set here. I was very disappointed, because the set was working perfectly, everyone was happy..."We can try it" but the DMR said No... You do not have approval. We had to take it out again. This would have enhanced the in section communication, because the machines make a lot of noise. There is dust; the atmosphere is not conducive for good communication, so you need to have some assistance. These headsets are used commonly in the rest of the world, so why cant we use them.	
9. What other things do you think should be done should to prevent mobile machinery accidents?	Collision avoidance ; Headsets Visibility - If the operator makes use of the camera to see what he is doing.	
Questions 10 and 11 are to be asked of the decider group only		
10. Based on what you know about proximity detection systems, which of the major mobile machinery risks at your mine do you think can be effectively addressed through the use of such systems?	Diesel Machines. The big ones – LHD's & tractors. In section. I would look at the Shuttle cars The entire bump by incidents or squeezed by... Or caught between. The feeder breaker is not mobile, but we also busy with a trial. We installed the system on three of our feeder breakers. We actually want to cut out the feeder breaker the moment that somebody comes into the close vicinity of it. I have a place called CTC, which trains all the young artisans etc. At one stage they had like 70 people in the section. If the feeder breaker should swallow one of them, it would be a definite fatal. A person walking around there is dangerous, so that is what we are going to implement there. Eventually rolling out to all sections	
11. What things would worry you most about the introduction of such a system at your mine? Could you please explain why?	It is just the interference with noise...is it going to become a cry wolf situation, were you have got so many warning devises that we in the end ignore it. That is all I am worrying about I do not worry about production. If I can save a live then I do not worry about a slight impact on production.	

Thank you for this – I would now like to move on and to talk about the possible adoption of an available leading practice at your mine to help prevent mobile machinery accidents in your operations. .

Adoption of leading practice

<Provide the following scenario to provide the context for most of the questions that follow. The description should be detailed enough so that the person being interviewed can have a vivid and accurate "picture" in their mind of the leading practice being proposed. The following brief description is provided as guidance.>

The Transport and Machinery Adoption Team is considering how to facilitate adoption of leading practice in Proximity Detection Systems for use on mobile machinery at mines such as yours. The proposed leading practice therefore includes a selection tool for identifying the functions needed for the system to suit each mine's particular circumstances, and for it to be in line with established leading practice at such mines. In essence the system involves equipping machines, people and strategically placed beacons with sensors, with detection equipment mounted on the various mobile machines to warn, retard or stop the machine if people, other machines or beacons come within pre-set detection zones. The leading practice documentation will also provide guidance on the installation, operation and management of the system.

<Check that the interviewee adequately understands what has been explained, otherwise he will have difficulty answering the questions that follow.>

Value and priority

12. Based on your understanding of how the selection and adoption of a leading practice Proximity Detection System would work, do you think that such a System would significantly reduce mobile machinery accidents and injuries at your mine?

And why do you say that?

Anything can help. So yes... Maybe there is some information that I do not have, or understand. This will be a way to get such information. It will help

13. What about the system do you think might be a problem at your mine?

Can you tell me why you say that?

<Note: If necessary, use installation? and then operation? as prompts to enrich the reply, but to minimise the risk of biasing the interviewee's response no other prompts should be provided >

Maybe one thing that you just mentioned: - For the smaller mines; they might not afford it. I think as an industry we need to start to force them. The question is: Where does most of our industry accidents come from? These so called poorer mines, or as I call them the fly-by-nights. I think that this is maybe one thing that you mentioned, that should not be there. Once we have decided to go ahead with this leading practice - to adopt, then we must enforce it to all

14. What would it take for the selection and adoption of a leading practice Proximity Detection System to become a top priority issue at your mine? Could you please explain why you say this?

< Should the interviewee not have much to say here, use the following prompts to help enrich the conversation. >

Prompts:

Show all the successes.
Simple systems – like the proximity devices I am talking about are for the underground, but the surface- how good are they there. Here you do not have people with lamps. They thus have no proximity thing on them. You thus need a system for the surface as well
It is already a priority. It will just become more of a priority. We just have to put more emphases on it. Vehicle accidents normally end up in fatalities, or paralysed / serious accidents (Injuries)

1. <i>What would you need to get full buy-in from your management team?</i>	You obviously need total buy-in from Management, but so long as the system works and is practical; then you would get buy-in. They can see the value	
2. <i>What information and data would you need?</i>	Shared learning's.- We are already / have already done this. We send people to SASOL to review their proximity detection systems. People have also come to visit us. We do not profess to be the best, but we have got a system that works.	
3. <i>How would you prefer to get such information and from what source?</i>		
4. <i>Who else would you need to convince?</i>		
Aids and barriers to adoption		
15. In the event that your mine decided to adopt such a tool for selecting and implementing a leading practice Proximity Detection System, what do you think would be the most important things to do to achieve success? <i>< Should the interviewee not have much to say on this, use the following prompts to help enrich the conversation.></i>	It is difficult to answer, as we already have a system in.	
1. <i>Training – would special training be important?</i>	Training would definitely assist. Good training material. We have done most of this already.	
2. <i>Access to resources – availability money for equipment and people to get the work done?</i>	No ,I do not think that financial resources would be an issue, as we look after ourselves	
3. <i>Motivation - Would any special incentives be needed to motivate operators and workers?</i>		
4. <i>Leadership – any special qualities / or behaviours considered necessary?</i>	They must be committed and convinced that it is the right thing. They must also lead by example.	

5. <i>Communication – what would be important to communicate about the initiative? Who should do that communication?</i>	It is important. From the moment that you try to implement to the end goal is reached. It is critical to communicate effectively with the right people. Right people: - those that would be in harm's way and would most benefit from this system. All the way down to the operator.	
16. Of all the things mentioned, which do you think would be the <i>number one</i> issue? Can you tell me why you think it would be the <i>number one</i> issue?	Leadership – Committed leadership They must be convinced that it is the right thing. They must also lead by example, otherwise others won't follow.	
17. Are there things that could prevent successful adoption of the leading practice Proximity Detection System selected at your mine? And why do you say this?	When you do not listen to what people tell you. What are the annoying things about the system- and you don't fix it / Example. We had a shuttle car driver; he fixed it very quickly – He's BOYCO system went off on his own machine. We had to put a loop into place so that it would not just go off. So, also the CM operator; The warning noise was too close to his ears, so it became an excessively annoying thing. Some drivers closed up the speaker to prevent the noise. So, yes...I think that once you start implementing you also need to listen to the different gripes and come up with a solution	
18. Who at your mine, and here I am thinking of the level of worker or supervisor, do you think would have the greatest influence on the adoption of this System?	Probably, what we would call your frontline supervisors. These are the shift bosses and Foreman's; even maybe face bosses.	
a) Why these people and in what way would they exert their influence?	For they are the leaders on the floor. So once you have this group in I think the operators will naturally accept the system, as it is their lives that are being protected then.	
Moving on to leadership... Leadership		
19. What would be the most important thing that your supervisor should do to support you and your colleagues in implementing and operating the leading practice Proximity Detection System at your mine?	I will need to convince him that it will add value to the operations and when you reduce accidents, then you add value; it is thus not too difficult to convince. He must obviously supply the needs. So if I need a few bucks and need to get hold of a few different suppliers; then he must allow me to do it.	
a) Why would this be important to you?	He is making it easier for me. He creates the means in most cases.	
	No, nothing really that i can think off	
a) Please explain why you say this?		

20. And what do you think senior mine leaders should do to support adoption of the System?	They must understand the purpose and the objectives and then be able to relay that to the rest of the workforce. They also need to understand the benefits	
a) Please explain why you say this?	It logic. Sometimes there would be resistance. They might just think of new things as annoyances, more work, more irritations, so if they understand what it is all about and they understand the benefits; then they would more easily adopt it.	
21. What do you think operational level supervisors need to do in order to ensure successful adoption of the leading practice at your mine?	It is the same. They must understand it fully and be able to relay the understanding to the rest of the workforce.- In a positive They also need to understand the benefits	
a) Which of these things would be most important and why?	Understanding the benefits. Understanding is one thing, but understanding the benefits is very important. If you understand this then it is very easy to follow.- Its human nature. They would want to make it happen. Sometimes we fall into traps. It might be... The GM said we need to do this, or ... Damm if forgot that I needed to do this. They then will delegate by saying "Don't ask me all that stupid questions...Just do it" We need to get them out of this groove. We need to get them to want to do it.	
Communication Lastly I would like to get your thoughts on communications related to the adoption of Proximity Detection System leading practice.		
22. Thinking of one or two leaders at your mine who you really trust, <i>without naming anybody</i>, what is it that they do that makes you trust them?	Myself, because I know myself. A person that does what I expect him to do even though I might not specifically be following up on it. So I do not have to continuously check if he is doing that which I have asked of him. People that comes up with the goods. The performance - Performers	
23. And thinking of any leaders who you do not trust, and again <i>without naming anybody</i>, what is it that they do that makes you not trust them?	When they continuously underperform, and when u then follow-up you find that things are not what they are supposed to be. – Creates distrust	
24. What do you think would be most important for trusted leaders to say or explain if the mine decides to select and adopt a leading practice Proximity Detection System?	That they or I believe in it. That is definitely to the benefit of the mine and its people. There is no hidden agenda anywhere. Hidden agendas like:- We put a led in the cap lamps. The people say that we do not want this, because if we are in the madala side sleeping then you can see us. That is why you put it in. The leader should thus explain to them what it is for and how it is actually going to help them. Be also ready to answer questions	

a) Why do you think these things would be so important?	It gives them an understanding , and especially of the benefits – easier adoption	
25. And what ways would be most effective in communicating such information to workers about adoption of the leading practice Proximity Detection System? And why would they be most effective?	Communication right at the workplace. We would obviously first grab the Unions. Take them through the process. Let them get an understanding, then the leaders on the mine. Once they have been done, and then roll it out to the rest of the workforce. Communicating right up to the lowest levels. One on one communication rather than letters. Could also be at meetings. With the unions it would be meetings. With the leaders it would be meetings. With the workforce it would be a combination of meetings and posters (visual communications). We can even put it on our DSB, which is our daily safety bulletin and drip-feed it into the workforce. Tell then little bits at a time – We normally do this for the major changes	
26. What ways would be least effective and why would they be so ineffective?	It is just to say "Here it is...Implement it". It would be ineffective because they would not see or know of the benefits. This would create some resistance. People are naturally resistant to change	
Wrap up and Closure		
27. Is there anything else that you think will be important for the MOSH Team to know and take into account in its work?	If we talk about the BOOYCO or the collision avoidance system; Its not perfect yet. This is a bit of a concern. It tends to fail when you least expect it. I am concerned with the fact that it could become unduly onerous, that it then becomes this red light that does not get seen anymore, because it is just an irritation. There are definitely benefits in it. Example;- I walked around in a 5 seam operation, went thru a brattice. Just before I went through, this thing goes off, and I go what the... The feeder breaker was on the other side of the brattice and I did not know that. So... there are definitely benefits. In my experience a lot of people have been ridden over, exactly in that situation on the other side of a brattice. In fact...sometimes they sleep on the other side of brattices. A LHD could come through and flatten them. It has happened before	
Finish Time:	14:15	
That brings us to the end of the interview. On behalf of the Transport and Machinery Adoption Team I would like to thank you for sharing your knowledge and experience with us – your input is really important to the team and will be taken into account in its further work on this leading practice. Thank you for your time. <i><At this point it would be appropriate to present the interviewee with a memento (Jerris to provide) as a token of the Adoption Team's appreciation for their willingness to participate and for their contribution to addressing the challenge of preventing mobile machinery accidents></i>		

Sample Coding Guide

Using the Transport and Machinery guide as an example

DESCRIPTION This sample Coding Guide can be adapted to any mental models study whose goals are to identify people's thinking about the key causes of hazard, the negative outcomes that can result from an occurrence of the hazard, and the primary barriers and aids to interventions aimed at reducing the risks created by the hazard.

This Coding Guide provides a key for assigning a code, or multiple codes, to the models research interview responses in the Interview Response Sheet. The **Major Themes** are Cause, Impact, and Barriers & Aids. The **Sub-themes** are the detailed types of causes, impacts and barriers & aids that may be identified or commented on in the interviews. **Note** that the Sub-theme listed as Barriers and Aids, can be identified in the interview responses as either a barrier to effectively manage the risk (for example, "Workers currently do not have adequate training." or as an aid to ensuring effective risk management (for example, "Improved training would provide the workers the information they need to protect themselves." **Description of Sub-theme** describes each Sub-theme. A clear, concise and well-understood description of the sub-themes is critical to ensure that themes are accurately and effectively applied when coding interviews. The **Code for Analysis** column provides the code that should be assigned to responses in the *Interview Response Sheet*.

INSTRUCTIONS: To prepare the Coding Guide: Research designers should tailor the *Code Guide* to ensure that the major themes and sub-themes adequately capture the important themes. When modifying or adding new codes, make sure that there are no missing themes and that themes do not overlap (for example training, which may cause confusion). Make sure to provide a clear description of the sub-theme codes. When able, provide examples of responses that may be heard that relate to each sub-theme.

To use the Coding Guide: Ensure that the coders are fully trained to code and are fully orientated to the *Coding Guide* developed for the particular project. Coders should review every question's response in the *Interview Response Sheet* and identify one or more codes that best describe the response. Place the code in the **Code for Analysis** column of the *Interview Response Sheet*. If a questions response cannot be adequately described by the available codes, clearly indicate this with a NONE, and a very brief description of the response (using 1-3 keywords).

Major Theme	Sub-theme	Description of Sub-theme	Code for Analysis
Understanding of the cause of the hazard Questions 6 to 11 are particularly relevant to this Theme	Procedures	T&M accidents are caused by inadequate procedures or processes.	cause;proc
	Skill	T&M accidents are caused because workers (operators, artisans, labourers) and supervisors on the job skills are inadequate	cause;skill
	Training	T&M accidents occur because workers and supervisors are inadequately trained	cause;training
	Behaviour	T&M accidents are caused because procedures are not followed or are poorly followed. For example, due to perverse incentives (production) or inappropriate personal wilfulness.	cause;behaviour
	Fitness for work	T&M accidents are caused due to workers or equipment operators not being adequately fit for work, due to fatigue, HIV or other illness. substance abuse, or other similar disabling condition	cause;fitness
	Management Orientation	T&M accidents occur because management views, values and attitudes prevent full identification and understanding of the underlying causes	cause;mgt.
	Environment	T&M accidents are caused by environmental issues, including dust, visibility (or lack thereof), confined space	cause;environment

	Technical	T&M accidents are caused by inadequate technical systems or equipment and or by technical malfunction or failures that are not clearly related to human behaviour (such as the failure of mechanical equipment or supports)	cause;tech
	Unforeseeable	T&M accidents may occur because of unforeseen vulnerability or by chance without technical failure, even if procedures are followed. (For example, a fall of ground that damages tracks or equipment that would otherwise be in working order.)	cause;unforeseen
Impact of hazard Questions 6 to 11 are particularly relevant to this Theme	Health and Safety Impacts	Health and safety impacts to workers as a result of a T&M accident, such as injury and death.	impact;OHS
	Financial Impacts to Mine Operations	Financial impacts on the mine as a result of T&M accidents, for example the need to shut down operations or limit productivity, or the need to replace equipment.	impact;mine
	Financial Impacts to Mine Workers	Financial impact on the workers as a result of the T&M accidents (for example, loss of work due to injury, or loss of earnings due to disruption of operations, etc.)	impact;worker
	Impacts on Trust	Impact on worker and / or public trust in the mine resulting from high or low levels of T&M accidents. This may include things like media coverage and negative or positive publicity.	impact;trust
Need for improved practices to address hazard Questions 7-9 are particularly relevant to this Theme	Need for improvement	General recognition of the need for change or improvement in practices in order to prevent or minimize the risk of the hazard or its impact.	need;training need;comm Need:etc.
Outcome of adoption decision on mine or management Questions 10 to 13 are particularly relevant to this Theme	Prevention	Adoption of PDS will prevent accidents from happening.	adopt;prev
	Health and Safety Impacts	Health and safety impacts to workers as a result of the adoption decision.	adopt;OHS
	Financial Impacts to Mine Operations	Financial impacts to the mine as a result of the adoption decision, for example costs associated with having to shut down operations as a result of accidents, or impacts on productivity due to equipment operational requirements, etc.	adopt;mine
	Financial / Other Impact on Mine Management / Workers	Financial or career impacts on management or workers as a result of the adoption decision (due to changes in safety, operational costs or productivity performance as a result of the decision).	adopt;personal
	Personal Trust and Reputation	Impact on trust and reputation of managers and management, by workers, corporate management and the public resulting from the adoption decision.	adopt;trust-per
	Organisational Trust and Reputation	Impact on trust and reputation of the mine, by workers, corporate management and the public resulting from the adoption decision This may include things like media coverage and negative or positive publicity.	adopt;trust-org
	Skill	Barrier: Worker skills, experience, expertise and qualifications are not considered adequate, at some or all levels.	barrier;skill
		Aid: Ensuring that steps are in place for adequately qualified and experienced workers and supervisors to be appointed.	aid;skill

Barriers and aids to deciding on adoption of the leading practice Questions 13 to 27 are particularly relevant to this Theme	Training	Barrier: There is inadequate or ineffective training and education of workers and supervisors. Aid: Ensuring that steps are in place for workers and supervisors to be adequately trained in equipment operation and risk management procedures.	barrier;training aid;training
	Risk Management	Barrier: There is inadequate understanding of the hazards, risks and their consequences, and of the potential benefit and value of adopting the leading practice. Aid: Ensuring that the hazards, risks and their consequences, as well as the potential impact of the leading practice are well understood as a good basis for deciding upon adoption of the leading practice.	barrier;understanding aid;understanding
	Procedures	Barrier: Procedures that tend to inhibit a positive decision to adopt the leading practice. Aid: Ensuring a culture of continuous improvement, which enables appropriate decision making on new procedures and equipment. [Have procedures in place to (that will) enable effective implementation of the best practice]	barrier;proc aid;proc
Barriers and aids to adoption of the leading practice – cont. Questions 13 to 27 are particularly relevant to this Theme	Monitor	Watching, assessing, evaluating, and/or making changes to improvement the effectiveness of the leading practice. (It is a barrier if you're not doing that, it is an aid if you are.)	barrier;monitor aid;monitor
	Incentive	Barrier: There are inadequate or perverse incentives or motivations that inhibit a decision to adopt the leading practice. This may include financial incentives, recognition criteria, performance targets, etc. Aid: Ensuring incentives that enable an appropriate balance between long and short term decisions on means to reduce safety risk.	barrier;incentive aid;incentive
	Trust	Barrier: A lack of trust in the mine and its leadership by key stakeholders (Workers, union leadership and mine ownership) Aid: Ensuring acceptance of the competence, insight and caring behaviour of mine management with ready acceptance of management decisions by key stakeholders.	barrier;trust aid;trust
	Buy-in	Barrier: A lack of buy-in by key stakeholders to the PDS concept (Workers, union leadership and mine ownership) Aid: Ensuring acceptance and appreciation of the value of the PDS concept by key stakeholders.	barrier;buy-in aid;buy-in
	Technical	Barrier: The technology of the leading practice is considered inadequate. Aid: Ensuring that the technology and operational requirements of the leading practice are adequate.	barrier;tech aid;tech
	Resources	Barrier: Insufficient resources are available to allow a positive decision to adopt the leading practice. (Resources may be financial, number of workers, time, educational resources, and other resources.) Aid: Ensuring that sufficient resources are available to enable adoption of the leading practice (including financial, manpower, training capacity etc.).	barrier;resources aid;resources
	Communications	Barrier: Communication to achieve awareness, understanding and buy-in for adoption of the leading practice is inadequate. Aid: Ensuring that steps are in place to enable effective communication.	barrier;comm aid;comm
	Coordination	Barrier: Lack of coordination among stakeholders, lack of teamwork. Aid: Ensuring that stakeholders work together to ensure the successful adoption and implementation of the leading practice.	barrier;coord aid;coord

	Management Orientation (Anything Leadership related or pertaining to organizational culture)	Barrier: There are management values, attitudes, habits, communication styles, and views that hinder adoption of the leading practice. Aid: Ensuring that values and attitudes enable effective risk management decisions, such as adoption of leading practices.	barrier; mgt aid; mgt
	Cultural	Barrier: There are cultural difference in values, habits, communications styles, world views, and language that hinder the implementation of safe workplace procedures. Aid: Ensuring that cultural differences are adequately recognized and addressed.	barrier;cultural aid;cultural
	Other	Important topics related to barriers or aids that do not fit any theme above.	barrier;other aid;other
Consolidation of responses to selected questions	Question 5a	Hazard / Risk of greatest concern	
	Question 6a	T&M incidents that most frequently cause harm to people	
	Question 7	Number one issue on mobile machinery that needs to be addressed	
	Question 16	Number one issue to be addressed to achieve successful adoption	
	Question 18	Person with greatest influence on adoption of the leading practice	

Note: Statements made in response to any question, which clearly point to or align with one or more of the various descriptions, should be identified, coded and recorded against the relevant sub-themes in the analysis worksheet.

DESCRIPTION: The Analysis Worksheet is used to integrate data from multiple interviews into a common worksheet for analysis. This sample Analysis Worksheet can be adapted to any mental models study whose goals is to identify people's thinking about the key causes of hazard, the negative outcomes that can result from an occurrence of the hazard, and the primary barriers and aids to interventions aimed at reducing the risks linked to the hazard. Completion of this worksheet requires a Coding Guide and completed Interview Response Worksheets for each interview conducted. **(Note:** This worksheet is designed for analysis by **interview question**. It is also possible to conduct the analysis by code. (See Worksheet Doc #28 for the worksheet designed for analysis by **code**.)

INSTRUCTIONS **To prepare the *Analysis Worksheet*:** The analysis worksheet should be directly aligned to the *Interview Response Worksheet*. Copy the **Q#** and **Interview Questions** directly from the *Interview Response Worksheet*.

To use the *Interview Response Worksheet*: Complete one Analysis Worksheet for the entire report. For each Interview Question, indicate the codes that were mentioned by Interviewees in response to that question and provide the total number of Interview IDs that mentioned that code. Provide Notes on research results related to sub-theme. These notes will be used to create the *Mental Model Research Summary Report*. Notes should provide an adequate description of interview responses; capture the range of results from the interview responses. Include common terms and example quotes. Include any additional notes in the space provided at the bottom of the worksheet. Ensure that notes are rich enough to adequately report.

Name of Analyst	No. of Interviews	Interview ID Range	Name(s) of Mine	Name(s) of Worker Position(s)
		<<Write in the range of Interview IDs.>> e.g. FOG01 - FOG32	<< Write in Mine(s) where Interviews occurred. >> e.g. Impala Plats Mine	<< Write in type(s) of Mine Employees who were interviewed. >> e.g. Mine Overseers, Miners
Q #	Interview Question	Identified Codes and Tally	Notes on Research Results Related to Question	
<< Type in Question Number. >>	Type in Questions exactly as written in the <i>Interview Script</i> .>>			

Add additional rows as needed

DESCRIPTION:

The *Analysis Worksheet* is used to integrate data from multiple interviews into a common worksheet for analysis. This sample Analysis Worksheet can be adapted to any mental models study whose goals is to identify people's thinking about the key causes of hazard, the negative outcomes that can result from an occurrence of the hazard, and the primary barriers and aids to interventions aimed at reducing the risks linked to the hazard. Completion of this worksheet requires a *Coding Guide* and completed *Interview Response Worksheets* for each interview conducted. **Note:** This worksheet is designed for analysis by code. It is also possible to conduct the analysis by interview questions. (See Worksheet Doc # 27, for the worksheet designed for analysis by question.)

INSTRUCTIONS:

To prepare the Analysis Worksheet: The analysis worksheet should be directly aligned to the *Coding Guide*. Copy the **Major Theme**, **Sub-theme**, and **Code for Analysis** directly from the *Coding Guide*.

To use the Analysis Worksheet: Complete one *Analysis Worksheet* for the entire report. For each code, indicate the **Interview Tally**-- the Interview IDs that mentioned each code-- and provide the total number of Interview IDs. In the **Common Question #s** column, indicate the interview questions where the sub-theme was commonly mentioned in response. Provide **Notes on research results related to sub-theme**. These notes will be used to create the *Mental Model Research Summary Report*. Notes should provide an adequate description of interview responses; capture the range of results from the interview responses. Include common terms and example quotes. Include any additional notes in the space provided at the bottom of the worksheet. Ensure that notes are rich enough to adequately report.

Name of Analyst	No. of Interviews	Interview ID Range	Name(s) of Mine		Name(s) of Worker Position(s)
		<<Write in the range of Interview IDs.>> Eg: F1 - F32	<< Write in Mine(s) where Interviews occurred. >> Eg: Impala Plats Mine		<< Write in type(s) of Mine Employees who were interviewed. >> Eg: Mine Overseers, Miners
Major Theme	Sub-theme	Code for Analysis	Interview Tally	Common Question #s	Notes on research results related to sub-theme
Understanding the cause of the hazard (Proceed similarly for each of the major themes and sub-themes identified in the coding guide-- see Worksheet Doc #26)	Procedures	cause: proc	Eg. F1, F5, F6, F8, F12, F17, F18, F24, F26, F27. Total = 10.	Eg. Q1, Q5	
	Skill	cause:skill			
	Training	cause:training			
	.				
Other Notes					

Example Mental Models Report (By Theme Code)

(This report comes from work undertaken by the Fall of Ground Adoption Team on the leading practice for entry examination and making safe)

Major Theme	Sub theme	Description of Theme (Copy description from Codebook)	Summary of Research Findings <i>(Use Analysis Template to create the summary of research findings. Provide the number of interviews that mentioned the code and a summary of the research notes. Include commonly used terms.)</i>
Cause of FOG	Procedures	Procedures are not followed or are poorly followed. This could be due to many barriers, such as worker skills, worker experience, cutting corners, supervision.	This was the most significantly mentioned cause mentioned by about 75% of Interviewees, representing all mine positions. Interviewees mentioned "lack of barring (due to poor hazard identification)", "incorrect support", "poor examination", "not boredown clearly", "poor blasting practices that damage rock", "lead and lag". Some barriers were linked to poorly followed procedures, including "lack of experience when conducting entry examinations", "complacency of workforce or crews". A few mentioned the lack of coordination among different teams and roles: "One person can ensure the safety of the crews. FOG safety is a joint effort and it involves all employees." A few mentioned the difficulty in identifying and addressing the cause of a FOG: "Basic causes do not come out in investigations e.g., there is the "time delay" between the basic cause and the accident."
	Unforeseen	Unforeseen Vulnerability. Procedures are followed, but there are cracks and loose rocks that could not be identified through procedures. Seismicity is also included here, because it is difficult (or impossible) to predict, although it may be unclear whether seismicity is preventable.	Many Interviewees mentioned causes that we coded as natural or unforeseen. "Seismicity" generally was commonly mentioned as the cause of FOG, however it is unclear whether Interviewees consider this an preventable or non-preventable cause. (An opportunity would be to probe deeper into Interviewees' thinking on seismicity.) Other general terms mentioned were "geological features", "shake in hanging wall", "friable ground" and "faults".
	Technical	Technical Failure of a Support or other sort of cause that is not related to human error.	(Note: It is difficult to distinguish among technical and procedural causes. We get many answers like the following: "Seismicity is the cause of accidents if the support is not up to standard." It is difficult to tell whether the "support" mentioned here is technical or procedural.)
Impact of FOG	Health	Health and Safety of Workers	Health and safety impacts were the most commonly mentioned impacts and motivation for reducing FOG, by about 75% of Interviewees. However, these impacts were discussed only in general terms.
	Operations or Mine Financial	Need to shut down operations or limit productivity.	Operational or mine financial impacts were the 2nd highest type of impact, mentioned by about 50% of Interviewees, representing all types of mine positions. Terms used include "hampers production", In many cases, health and safety impacts were linked to operational impacts ("[Reducing FOG] will in the long run improve production due to less time lost due to incidents and accidents.") (Note: Job sprigg or job spragg was coded with this theme, but I don't know what it means.)
	Worker Financial	Financial Impacts to the Mine or Workers	We hypothesized this may be mentioned but it was not.
	Trust	Impacts to worker or public trust in the mine. May include things like media coverage, negative publicity.	We hypothesized this may be mentioned but it was a significant theme.

Barriers or Challenges to Address	Skill	Worker Skills/Experience/ Expertise/Qualifications not adequate.	The most commonly mentioned barrier and linked to the cause of FOG. Skill was more often linked to a lack of awareness or understanding of "why" rather than "what" or "how". For example: "not knowing what is expected", "lack of local knowledge of how others work" and "The people know how to bar, but not why – they rush straight to the face and begin face preparation." (See results for buyin below, which is also influenced by not knowing the "why".) This is a significant opportunity for risk communications. A few commented on a lack of awareness of the risk, or "not realizing the place is unsafe. They accept the condition as standard and only withdraw in exceptional cases." "Literacy" was mentioned by a few as a barrier.
	Buy in	Lack of buy-in in risk management through lack of understanding why it needs to be done or lack of perceived benefits.	One of the most significantly mentioned barriers to overcome. Interviewees talked about "resistance to change" and the need for "changing every underground workers' mindset", taking responsibility to "take care of ourselves." and "commitment and pride in our work". Buyin was seen as a particular barrier to adoption of risk management: "We don't always understand how the process fits into the cycle where it is applied (not invented here syndrome?)." or "We must change people's behaviour of how mines are doing. Some people stick to old methods." or "We can only expect people to react if they know and understand the benefits.", "There is complacency due to excellent track record / "safe" environment perceived and not believing new systems will be better." and "Technology must first be proven before people will buy in to it, which makes it difficult to implement."
	Incentive	Incentive (include motivation)-- Inadequate or perverse incentives lead to negative behaviours such as shortcuts. Includes financial incentives, advancement, recognition, and compensation.	A commonly mentioned barrier to implementing risk management, due in most part to the current incentive structure that rewards workers for completing tasks quickly, which is a significant influence on shortcut behaviour. One theme that was mentioned rarely but is significant: "It appears as if some people don't mind dying on the job. The perceived benefits from death outweighs their desire to work and stay alive." This theme was present in the previous research with mine workers and is a significantly opportunity for RM/RC.
	Shortcuts	Taking shortcuts or cutting corners when following procedures.	One of the most highly mentioned barrier to FOG prevention, and the primary influence on procedure causes of FOG (along with lack of skills). Interviewees commented that shortcuts are primarily influenced by time and logistical pressures and incentives which motivate workers to complete task as quickly as possible.
	Trust	Lack of trust in the mine and leadership.	Trust was not indicated as much as buyin was (see above). An interesting theme that emerged: Workers rights to question if unsafe conditions occur.
	Behaviours	Negative behaviours not directly linked to lack of buyin or lack of knowledge.	Mentioned only by a few (e.g., People know what to do, but do not do it because they get away with not doing it.") However, it does not appear that Interviewees believe workers are maliciously or intentionally making conditions unsafe.
	Procedures	Inadequate or ineffective procedures to minimize the risk of FOG. (In other words, even with full compliance by workers, the procedures are not effective at minimizing risk of FOG.)	Poor Barrage and Drilling practices were commonly mentioned as barriers to FOG prevention. (Note: It is often difficult to distinguish among inadequate procedures and lack of compliance to procedures among the workers that is the primary concern. A research opportunity is to flesh out this distinction.)
	Technical	Having the right technology	A few spoke of technical or technology challenges, including the need to "get current technology sorted out and rolled out to other mines." and the need for "good quality support standard design". Specific technical barriers were mentioned by a few, including the need to improve "Pillar strapping e.g. use welded mesh instead of scraper rope."

	Cultural	Includes language barriers	Cultural barriers were mentioned by a few, in general terms. For example: "We are different to each other." Language barriers and literacy were also mentioned by a few as significant barriers (e.g., "ABET people need to be able to read and write as all paperwork is in English.") There is an opportunity to explore cultural and language differences in more depth.
Riskmgmnt (Risk Management and Best Practices)	Buy in	Increasing buy in among workers (through communications and other incentives such as recognition and advancement)	Achieving buyin or "Mind changing" was seen as a significant RM opportunity. Achieving buyin was linked to both communications opportunities as well as a leadership and policy opportunity (e.g., enabling benefits). For example: "If your work is seen as a career and you can see a way to improve on your skills, you will be motivated. If this is only a means of earning an income to you and your potential is not developed, you will be doing as told when seen." As a risk management strategy, one mentioned that "best practice must be marketed to the people who need to do the job so that their buy-in is obtained." Another commented: "Any technology or practice must be practical and accepted by the workers." A few specifically mentioned "union buyin".
	Leadership (incl. supervision)	Improving leadership and supervision	High quality supervision and leadership by direct supervisors was identified by many Interviewees as significant risk management opportunity. Terms included "commitment from line-supervisors" and the "supervisors must ensure compliance". Some specifically mentioned that shift supervisors are trusted by workers-- and that this should be capitalized upon. A driving need mentioned by many is "commitment", "leading by example" or "walking the talk" by direct supervisors. For example: "Supervisors must take ownership of the initiative." and "If a leader allows sub-standards, workers will do so as well." A few stressed that supervisors should treat workers "fairly" ("Do not favour"). Leadership at higher levels was mentioned by a few, for example: "Do not implement if you cannot drive it."
	Communications		Communications were seen by Interviewees as being a significant opportunity for risk management. The primary benefits of effective risk communications were mentioned as "demonstrating commitment" by the mine, "motivating workers", "rewarding successes publicly", learning the "why", understanding "what went wrong in the past and why", stressing personal responsibility, and facilitating "feedback and follow-up". In terms of good communications methods, Interviewees stressed the important of "on-the-job training", "visual communications" ("a slide show or pictures") and "communicating one-on-one at the lowest levels from the shift-level boss." Communications methods that were seen as <u>ineffective</u> by Interviewees included "written material", "E-mails", "bush telegraph", and "impersonal notes", primary because of literacy problems, and because "people will not understand and questions cannot be answered." A few Interviewees specifically mentioned that "waiting place notice board paperwork" is not effective.
	Training		Training in standards and procedures was commonly mentioned. A few mentioned the need for quality and credible trainers. For example: "Trained by an accredited person and not by one who is seen by others to be incapable of what he does."
	Technical		Many mentioned the need for "enough equipment". Specific technical opportunities were mentioned by a few, including the need for face nets to "provide protection to the people drilling the face."
	Standards	Improving standards, and includes increasing accountability of workers.	Some Interviewees stressed the need to hold workers accountable for their actions. "We should communicate the message that no deviances will be accepted by not only management but also from crew members upwards."

	Resources	Ensuring sufficient and adequate resources, such as human resources and tools.	The biggest opportunities for improvement were increases in time, human resources ("There need to be sufficient people to do the job.") and technology. ("The company needs to develop an appetite for new technology – we must understand that there may be costs in terms of labour and budgets.")
	Other	Important topics that do not fit any node	A few spoke of needing "best practice to be mine specific and incorporate local mine problems." or of lack of shared understanding of best practices among mines: "In the platinum industry, all the players face similar problems and sharing technology and practices can benefit all. We do not compete in safety."
Interviewees Final Advice			
	Mine overseer	Take time. Will not happen in a day. Not everybody is on the same level. Make sure everyone understands what it is all about	
	Loader Driver	People must trust each other, they must not take short cut, because this the only thing cause injuries and fatals	
	Loco Driver	Unity amongst workers and supervisors I believe could minimize F.O.G.	
	Mine Overseer	Ensure it's practical and humanly possible to do considering the enclosed area people work in.	
	Miner	Temp support is a good indicator of closure. Small falls (fine dust) indicates something is happening	
	Mine Overseer	The fact that the best practice must be Mine specific as conditions change from mine to mine. Mine employees must form part of the drafting of a mines best practice	
	Mine Overseer	Not to accept and condone actions of negligence	

Given below is a list of the key beliefs identified by the Transport and Machinery Adoption Team from the mental models report produced in their work on the leading practice on proximity detection systems:

Deciders understanding of the PDS

1. Deciders believe that safety is one of their most important responsibilities
2. The PDS is a necessary and effective practice for reducing T&M accidents.

Opportunities to prevent mobile machinery accidents

3. New or improved technology could help address mobile machinery accidents
4. More or improved procedures would help prevent or minimize mobile machinery accidents
5. Better Accountability and Enforcement is required for successful reduction of mobile machinery accidents

Key outcomes of adopting the leading practice

6. Adoption will result in mobile machinery accident prevention and positive health and safety impacts
7. Adoption will impact negatively on worker behaviour

Cause of mobile machinery accidents

8. Behaviour is the root cause of mobile machinery accidents
9. The man/machine interface is a major cause of mobile machinery accidents
10. The environment within the mine is an indirect cause of mobile machinery accidents - dust, noise, visibility, etc
11. Lack of fitness for work leads to accidents, fatigue, psychological or physiological illness, substance abuse.
12. Workers do not always apply the training they have received.
13. There is a lack of skill
14. Workers do not follow procedures
15. Management views, values attitudes and behaviour contribute to the occurrence of mobile machinery accidents
16. People take shortcuts to meet production quotas and bonus targets
17. Workers do not believe that safety is their primary job responsibility
18. People ignore rules, standards and procedures
19. Workers do not understand the dangers associated with working near mobile machinery
20. Poor education and lack of literacy skills contributes to causing accidents
21. Lack of fitness for work leads to accidents (fatigue, illness (psychological or physiological), substance abuse)

Aids and barriers to successful adoption

22. Buy-in from top management is essential for successful adoption
23. Appropriate management orientation and behaviour is critical to successful adoption
24. Communication is critical to successful adoption.
25. Proper training is essential for successful adoption
26. Securing appropriate worker behaviour will be critical for successful adoption
27. Adoption of PDS could result in production losses and cost:
28. A technical device such as a PDS will generally prevent accidents, and thereby reduce injuries and fatalities
29. A physical barrier is needed to stop the machine if someone gets too close
30. Trust and Buy-in by employees is necessary for successful adoption
31. Management and Management Orientation could either aid or inhibit adoption
32. People must be held accountable to secure successful adoption
33. Frequent and effective communication is needed to secure successful adoption
34. Proper training is essential for successful adoption
35. Workers are motivated by financial incentives (an aid or barrier)
36. Leaders must lead by example to ensure successful adoption

The following table provides the implication assessments developed by the Transport and Machinery Adoption Team on a selection of the above beliefs.

Topics	Key Beliefs (What people say / believe about the topic)	Expert / Expert model commentary	Implications for Behavioural Communications and Leadership Behaviour planning and content		
			For Behavioural Communication with Deciders (all deciders prior to their decision about adoption)	For Behavioural Communication with Adopters (at mines that have decided to adopt)	For Leadership Behaviour at Adoption Mines (at mines that have decided to adopt)
Deciders understanding of the PDS	The PDS is a necessary and effective practice for reducing T&M accidents.	This belief appears to be shared by those familiar with the PDS, but less so by those not familiar with the PDS. Support for the PDS appeared to be linked to the familiarity with the system. Most Deciders appeared to be very familiar with the leading practice before the interview, describing it as top priority", "critical", "the right thing to do" and "the very best idea". There were a few Deciders, who expressed more scepticism about the PDS. These deciders appeared to be generally less familiar with the PDS system before the interview.	Communicate simple, practically meaningful information about PDS Provide info to consolidate and reinforce this belief. Provide summary information about the Value Case.	Management to communicate benefits and functionality of PDS to lower levels. Provide info to consolidate and reinforce management's decision to commit the mine to adopting the PDS.	Managers and supervisors to fully familiarise themselves with the system to enable them to personally show (demonstrate) buy-in and support for the system.
Opportunities to Prevent Mobile Machinery Accidents	New or improved technology could help address mobile machinery accidents.	Almost all Deciders identified new or improved technology as a means of addressing mobile machinery accidents, in the form of collision-avoidance systems, PDS, remote-controlled operations and mobile equipment early-warning systems. This belief is in line with the concept of needing to take a systems approach – it is a belief that should be built upon.	Build on this belief – In doing so, bring out that that the PDS leading practice covers both a technology solution as well as the important people aspects. Bring out that an integrated systems approach is needed to address the safety challenge – show how the PDS fits into such a system. Highlight the challenge and pitfalls of adopting a new technology – explain the role of behavioural communication and leadership behaviour techniques in securing successful adoption.	Communicate the benefits of the PDS – but bring out the key roles that people must still play, and take responsibility for, to make the system fully effective. Bring out that the PDS does not remove the need for personal vigilance and safe behaviour. Explain, demonstrate (videos) some of the risks and dangers that will need careful attention. Explain that adoption of the PDS will include appropriate training to ensure successful adoption and operation of the system	Leadership must demonstrate their understanding of and trust in the system to protect the safety of employees; they must make available the resources and training necessary to ensure successful adoption, including continued reliability and effectiveness of the PDS system. Build this into the various levels of the leadership behaviour plan

Key Outcomes of Adopting the Leading Practice	Adoption will result in mobile machinery accident prevention and positive health and safety impacts:	This is a belief that should be built upon, but not to the extent of creating unrealistic expectations Although Deciders appear to generally believe that adoption of PDS will reduce mobile machinery accidents, a few stressed that accident prevention also requires adequate technical support and behavioural changes.	With reference to the manager's legal responsibilities, highlight that adoption of the PDS is consistent with taking reasonably practical measures to address the risks posed by T&M equipment. Highlight that the MOSH PDS Leading Practice provides a technology solution, as well as behavioural communication and leadership behaviour initiatives to help facilitate eager and sustainable adoption. Provide details from the value case to ensure that expectations are realistic and soundly based.	Communicate benefits of system but emphasise continuing responsibility of employees at all levels to prevent accidents, not just workforce.	Show commitment to system by providing resources and training to enable successful adoption and to ensure maintenance and reliable safe operation Supervisors to maintain records to bring out OHS impact of introducing the system – good performance to be recognised at regular team meetings
	Adoption will impact negatively on worker behaviour:	This belief was held by the Decider Group: it points to management not recognizing the important role that it needs to play in providing an enabling environment, both in terms of training and constructive supervision. Some Deciders cited concerns about the operators becoming "too reliant" on the machines and becoming "complacent" and "losing awareness". None expressed a belief that introduction of the PDS will positively influence behaviour in any particular way.	Highlight that the MOSH PDS leading practice provides not only a technology solution, but also behavioural communication and leadership behaviour initiatives to help facilitate eager adoption and appropriate and safe behaviour of workers, operators and supervisors. Need to bring out that range of value benefits associated with adoption of the PDS – as identified in the value case	Communicate benefits of system but bring out continuing responsibility of people at all levels to prevent accidents. Explain key residual risks following introduction of the PDS, by video if possible.	Show commitment to system by providing resources and training to enable successful adoption and to ensure maintenance and reliable safe operation Supervisors to identify any undesirable behaviour and coach persons accordingly, sending them for further training when necessary. Supervisors to identify and visibly recognise any observed desirable behaviour
Causes of Mobile Machinery Accidents	The environment within the mine is an indirect cause of mobile machinery accidents	Unsafe behaviour is usually caused by a system defect of one sort or another, such as poor organizational, physical or operational system design, unclear instruction, inadequate awareness of the risks and their potential consequences, and the existence of a stressful operating environment (noise / dust / temperature / poor visibility / confined space /...) Management will need to ensure that the system is properly installed, tested and routinely maintained.	Explain the importance of management orientation within the broad systems view of securing safety, and highlight how the PDS fits into such a broad systems view. With reference to the manager's legal responsibilities, highlight that adoption of the PDS is consistent with taking reasonably practical measures to address the risks posed by T&M equipment. The PDS has features that minimises some of the adverse aspects of the environment (in this way it fits in well with the concept of "defence in depth" as a good safety practice, i.e. if first line of defence is breached, the PDS will comprise the 2nd line of defence).	Highlight that the PDS must be seen in the context of an overall system and that a key aspect of the system is proper installation, testing and regular maintenance of the system. Emphasise importance of management identifying and addressing malfunctioning or poorly maintained equipment, unsafe conditions and poor operating practices. Bring out the role of management in demonstrating the role of personal risk assessments as part of the overall systems approach to achieving safe conditions.	Lead by example in carrying out risk assessments when entering underground working places. Ensure adequate resources are available for maintenance and that maintenance is carried out. Managers to conduct random in-depth inspections to ensure proper functioning of key aspects of the system. Visibly recognize and reward persons who report malfunctioning or poorly maintained equipment, unsafe conditions and poor operating practices. Ensure that all workers receive adequate training with regard to risk assessments – the need for them and how to do them.

	Lack of fitness for work leads to accidents <i>(Fatigue, hunger, psychological / physiological illness, substance abuse.)</i>	The expert risk model brings out the important role that lack of fitness for work can play as a cause for accidents. The available mine accident data does not allow this point to be adequately quantified but there is other data that brings this out. Adopters and Deciders most often cited fatigue, as well as personal problems, poverty/hunger, leave/sick leave policies and lifestyle, such as alcohol/substance abuse. Workers sometimes come to work even when ill because they don't want to lose their bonuses The effects of HIV on performance are thought to be underrated.	Bring out how the PDS will assist in alleviating the impact of lack of fitness for work, such as fatigue, emphasising however that it does not obviate the operator or pedestrian's responsibility to avoid mobile machinery accidents. Explain and demonstrate how lack of fitness for work impacts on job performance.	Explain and demonstrate (videos?) how lack of fitness for work impacts on job performance. Bring out the risks and potential consequences to themselves, their families their colleagues and the mine. Communicate importance of operating machinery safely, ie taking personal responsibility to ensure you are fit for work, and dangers of operating machinery. Bring out the concept of working in teams in the mine and that reporting to work unfit actually harms the team while also placing the team at risk – draw comparisons with sport. Communicate how to recognise symptoms of a “lack of fitness for work” and the action that should be taken to protect the person in question and the team as a whole.	Leaders to demonstrate commitment to addressing these issues by introducing support systems, such as: - Limitation of shift lengths to reduce fatigue risks - Employee Wellness Programmes. - Fitness for work tests and reporting procedures - Employee counseling Train employees to report themselves (and fellow workers) to their supervisor in the event that they or their colleagues are considered to be “unfit for work” Bring out the need to engage in dialogue with workers to identify and assist in overcoming fitness for work issues. Recognise employees for identifying fellow workers who are unfit for work .
Aids/Barriers to Successful Adoption	Adoption of PDS could result in production losses and cost	Management must recognise the complex and interrelated systems nature of the safety challenge. It must also recognise the balancing of values for the long term benefit of the organisation. A fundamental aspect of management orientation needs to be that the approach necessary to ensure safety will also benefit other aspects of the mine, including production and cost. Some Deciders did comment on their expectations about production loss, at least in the short term. Also, some Deciders perceived cost and production as deciding factors for management. Concerns about production loss and consequential loss of production bonus could become a barrier to successful adoption of the PDS	Use the Value Case and the source mine performance summary to bring out / demonstrate the net benefit of adopting the PDS leading practice.	Explain that production bonus payments will not be negatively affected during the initial period of learning to work with the PDS	Supervisors to hold regular dialogues with their staff about events leading to trips and production losses during the learning period Supervisors to provide positive coaching to address any identified staff shortcomings
	A physical barrier is needed to stop the machine if someone gets too close	The expert model highlights that the PDS will not remove all risks, and the identified need for a physical barrier accords with this. Adopters generally appeared to appreciate the value of using technical safeguards, such as a PDS, to minimize the risk of mobile machinery accidents but in some instances referred to the need for a “physical barrier”.	Explain that adoption of the PDS will not remove all risks but that the behavioural plans that form part of the PDS leading practice adoption procedure will help address the residual risks.	Explain/demonstrate limitations of a physical barrier and advantages of a PDS	Before introducing the system management should explain their reasons for wishing to adopt the PDS. In doing so they should recognize the value of physical barriers but explain their limitations. They should conduct a proper dialogue with workers on this matter.

	Trust and Buy-in by employees is necessary for successful adoption	Trust and buy-in from employees at all levels are needed for sustainable adoption behaviour. If supervisors and workers do not believe in the system, their initially compliant behaviour will eventually falter. Deciders have a key role in the mine's decision to adopt a PDS leading practice, but some did not to see themselves as the ultimate decision maker. If mine senior management do not believe in the system, their lack of belief will become evident to lower levels who will soon begin to show a lack of commitment to installation and operation of the PDS. Achieving buy-in among workers, union leadership and mine ownership was seen by nearly all Adopters as the most significant opportunity for achieving successful adoption and implementation of the PDS. Lack of buy-in, leading to resistance, would be largely due to two factors: lack of involvement in the decision-making processes and the workers' mind-set / mental model.	Bring out the soundly based value case to all deciders in a way which allows their reservations and concerns to be raised and addressed. Bring out the importance of ensuring that all key management persons at the mine participate in and support the decision to adopt the PDS	Bring out the importance of senior management involving and engaging the right people "from the start", in particular the trade unions and workers, interacting with workers to hear their frustrations. The reasons for adopting and the benefits of the PDS should be effectively explained in dialogue sessions that enable adopters to ask their questions and for management to fully answer and address their questions and concerns raised. The important role of meaningful dialogue between supervisors and employees should be explained to all managers and supervisors In outlining the benefits of the PDS, emphasise that it is an engineering solution that will only work with the input and assistance of employees Make all supervisory levels aware of why people behave the way they do and what needs to be done to change their behaviour.	Senior management to demonstrate commitment, trust in and understanding of system through regular communication to get buy-in from workers, middle management, unions and other stakeholders <i>before</i> initiating adoption of PDS leading practice. Ensure that the reasons for selection of system, its functions and its impacts are understood by all. Demonstrate / explain ("make it visible") how the system will address the mines' unique needs and fit in with its operating systems. Deal with the perception that the system is not going to impede production. Ensure and demonstrate that the proper resources are in place, including training and technical support Demonstrate the need for the mine and its workers to own the system. The need to conduct meaningful dialogue sessions with subordinates to become a required behaviour of all managers / supervisors.
	Workers are motivated by financial incentives <i>(can be an aid or barrier)</i>	The expert model identifies production pressure as a factor driving unsafe behaviour, and therefore as part of the hazard. Unless carefully structured a production bonus may therefore work as a perverse incentive further driving unsafe behaviour. Many Adopters suggested that there must be a bonus system in place to motivate people to work safely. However, some Adopters expressed concern about incentives and others emphasized that incentives <u>must not</u> be given for a safety system. If a production bonus scheme is used it should be reviewed and restructured if necessary to remove any counter-productive effect on safety behaviour.	Not directly relevant to initial communication with Deciders	Explain to all persons eligible for production bonuses that the scheme is to be reviewed to ensure that it does lead to unsafe behaviour – highlight examples of production driven unsafe behaviour and point out the consequences of such behaviour to workers, their families, their colleagues and to the mine. Advise that behaviour counter-productive to the installation and effective operation of the PDS will be viewed in the same light as unsafe behaviour and will thus impact negatively on their production bonus. If an incentive scheme is introduced, communicate clearly the intention of incentives and how they can lead to shortcuts that can be an unsafe act	Management to review bonus and other incentives in terms of their impact on safe behaviour by all eligible for such incentives, and to revise them to ensure that they do not unintentionally lead to unsafe behaviours. Build in that actions counter-productive to the adoption of safety systems, such as the PDS, are treated as unsafe behaviour. All supervisory levels to identify and appropriately deal with unsafe behaviour, or behaviour counter-productive to installation and operation of the PDS.

Plan A Behavioural communication plan to facilitate decisions regarding adoption of the leading practice on Bolting and Netting For implementation by MOSH Adoption Team										
No.	Stakeholder s/ Adopters (recipients)	Desired behaviour & issue addressed	Messages . Communication content	Mode	Tools / means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure	Row No.
1	Mangers		Note: A behavioural communication plan for implementation by the MOSH Adoption Team has not yet been developed							1
										2
										3
2	Specialists									4
										5
										6

Plan B Behavioural communication plan to facilitate operational adoption of Leading Practice on Bolting and Netting For implementation by Mine Adoption Team										
No.	Stakeholder s/ Adopters (recipients)	Desired behaviour & issue addressed	Messages . Communication content	Mode	Tools / means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure	Row No.
1	Team Member	Desired behaviour: Nets are understood to be a barrier to stop serious and minor FoG accidents and are always installed to standard in all stope faces requiring them before any drilling and charging-up begins. Belief, knowledge gap, lack of understanding, or misperception: The support density and support resistance is sufficient. It is a waste of time to put in nets as well. The net will result in workers being trapped if a FoG occurs. Nets delay the work and therefore we need to start drilling as soon as we enter the stope.	Even small rockfalls may cause serious injury and even death. The entry examination and making safe process may not eliminate all potential FoGs. The rock is fractured and gravity and/or seismicity may cause rocks to dislodge. The nets have been designed to catch the anticipated maximum fallout. Therefore the nets should arrest the rock before it seriously impacts a team member. Do not start work in the panel before the net is installed. It is unlikely that the team member will be trapped below the rock and net but if this happens the net is soft and easy to cut.	Training of crew	Training outlines	Annual On the job	TL/Miner	Shiftboss	Mine Overseer /Underground follow-ups /Rock Engineering reports	1
			The face area is the highest risk area for FoGs	Meeting of project team	Talking points	Daily	Shiftboss	Shiftboss	Mine Overseer Discussion	2
			Nets and bolts do not replace EE&MS or the permanent support such as backfill and timber.	Meeting of project team	Presentation	After event	Shiftboss	Mine Overseer	Mine Overseer Underground follow-ups Rock Engineering reports	3
		Desired behaviour: Make sure that the roofbolts are installed to mine standard. Belief, knowledge gap, lack of understanding, or misperception: As long as the net is in, then that is all that is required. It need only be attached at the edges to whatever attachment point that can be found. Even twine can be used to tie the net to an attachment point.	What is a good netting with bolting installation?The nets are flexible and are very difficult to tension over their entire length. Therefore, the net needs to have multiple attachment points at its edges as well as over the area of the net. The net should be tight between each attachment. This will also ensure that the net follows the contours of the hangingwall and that there are no large gaps between the net and the hangingwall. C-hooks and tensioning chains should be used to attach the net and the attachment points should be the roofbolts, mechanical props and special strong attachment points on the permanent support headboards. Attachment with materials weaker than the net will lead to failure of the net.	Training course at training centre(surface)	Practical demonstration	Before crew adopts	Training coordinator	Mining Manage	Record number of crew and people in each crew trained	4
			The benefit of an integrated support system	Underground demonstration	Action checklists	First day of adoption	Mine Overseer	Mining Manage	Record number of crew and people in each crew orientated	5
		Desired behaviour: In order to get proper installations the crew must work as a team. Belief, knowledge gap, lack of understanding, or misperception: Every member of the team wants to get his job completed as soon as he can in order to leave the stope. Completing his job everyday is important to getting his bonus and installing nets may mean he cannot complete his task. Each team member already has a job- someone else must install the nets. As soon as team member has finished his task he wants to pack up and leave. He does not want to wait to help with taking down the net. The team needs to install and un-install the nets but many don't want to help with these additional jobs.	The team members depend on each other for safety. Drilling of the face and hangingwall should only start after the net is in place and the net should only be removed once the charging up of the face is completed. Therefore the team needs to exercise restraint in starting with drilling and should not leave as soon as the drilling is completed. The nets need to be removed and stored safely only after charging up of the face is completed	Team meetings	Tasks that demonstrate team work	At surface training	Shiftboss	Mine Overseer	Recorded in Shiftboss notebook	6
			The nets do not cover the entire stope face area but cover the most dangerous part of the stope face.Nets can save people from injury and death. Nets are not a cosmetic addition. They are there to protect workers. Therefore the crew should always do their work under the protection of a well installed net. They should not work on drilling of the face or hangingwall or charge-up the face unless they are below a secure net.	Team Meetings	Photos of successes	When new material becomes available	Safety Department	Safety Manage	Compile a record of all photos showing bolting and netting benefits and record of which sections were given photos	7

No.	Stakeholder s/ Adopters (recipients)	Desired behaviour & issue addressed	Messages . Communication content	Mode	Tools / means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure	Row No.
2	Team Leader	Desired behaviour: Make sure that the roofbolts are installed to mine standard. Belief, knowledge gap, lack of understanding, or misperception: As long as the net is in, then that is all that is required. It need only be attached at the edges to whatever attachment point that can be found. Even twine can be used to tie the net to an attachment point.	What is a good netting with bolting installation?The nets are flexible and are very difficult to tension over their entire length. Therefore, the net needs to have multiple attachment points at its edges as well as over the area of the net. The net should be tight between each attachment. This will also ensure that the net follows the contours of the hangingwall and that there are no large gaps between the net and the hangingwall. C-hooks and tensioning chains should be used to attach the net and the attachment points should be the roofbolts, mechanical props and special strong attachment points on the permanent support headboards. Attachment with materials weaker than the net will lead to failure of the net.	Training course at training centre(surface)	Practical demonstration	Before crew adopts	Training coordinator	Mining Manager	Record number of crew and people in each crew trained	8
			The benefit of an integrated support system. Nets provide area coverage that the other support cannot give. Areas of net between attachment points are small, limiting the size of FoG that has to be caught by the net.	Underground demonstration	Action checklists	First day of adoption	Mine Overseer	Mining Manager	Record number of crew and people in each crew orientated	9
		Desired behaviour: The team leader needs to give leadership to the crew Belief, knowledge gap, lack of understanding, or misperception: Team members indicate a lack of communications from the team leader. They want to discuss problems with their supervisor and get advice.	The team leader should be expert at installing the nets and assist the teams as they install the nets. The team leader needs to learn how to coach the members on good or poor installations, complimenting good work and giving corrective advice for poor installations. He should be able to dialogue with his team, discussing rather than just telling.	Dialogue from observation of key behaviours	Talking points	Monthly	Miner	Shiftboss	Scorecard	10
3	Miner	Desired behaviour: Understanding the role of support and support standards Belief, knowledge gap, lack of understanding, or misperception: Production pressures sometimes forces supervisors to take short cuts. Adherence to mine standards is ignored. There is a belief that nothing will necessarily happen by occasionally not following the standard.	Basic Rock Engineering and support theory. The miner should not take short cuts to getting the production from a particular panel. Support, including the nets, should be installed before any drilling tasks begin. The installation of the permanent support, especially the roofbolts must be installed to mine standard to ensure proper installation of the nets.	Training session	Training outlines	Regularly at miner meeting with SB	Shiftboss	Mine Overseer	Interactions logged in Shiftboss logbook	11
		Desired behaviour: The miner needs to be present and able to correctly and early identify potential FoGs Belief, knowledge gap, lack of understanding, or misperception: Lack of presence and confidence on the part of miners to appreciate dangerous or changing rock conditions	Instill in the miner the importance of his presence during the installation of nets. Early identification of potential rockfalls. The miner should be proficient at identifying different geological features and man-made features. The miner should be familiar with his working area and spend most of his working shift in the panel face area. The miner should be at hand during installation of nets to give advice and assistance to the crew and their team leader. He should be familiar with the conditions of the hangingwall and should be able to advise if sufficient barring and making safe has taken place before nets are installed.	One on one coaching	On job inspection	Regularly with EE&MS during early shift	Shiftboss	Mine Overseer	Recorded in Shiftboss notebook	12
		Desired behaviour: Supply of all equipment in good condition. Belief, knowledge gap, lack of understanding, or misperception: There is often a lack of the proper equipment at the face. The equipment is often lost or broken.	The bolts with nets are part of a support system that is as weak as the weakest part. Nets need to be installed and removed on a daily basis and used repeatedly. Therefore the miner needs to be the custodian of the nets ensuring that they are stored away from the influence of the blast. He needs to ensure that the team remember to collect the c-hooks for attachment and that the mechanical jack are protected when not in use.	Training to familiarise with equipment and the condition it should be in.	Talking points	Monthly	Shiftboss	Mine Overseer	Scorecard	13
		Desired behaviour: The Shiftboss needs to possess basic Rock Engineering knowledge Belief, knowledge gap, lack of understanding, or misperception: Shiftbosses often lack a good understanding of basic rock engineering principles and practice	Basic Rock Engineering theory. A basic understanding of rock mechanics and strata control are an important part of a shiftbosses training.	Training session	Training outlines	Annually	Mine Overseer	Section Manager	Assessments of RE knowledge	14
		Desired behaviour: The Shiftboss needs to exercise organisational skills Belief, knowledge gap, lack of understanding, or misperception: Basic skills in organising necessary material is lacking. Nets are not able to be installed because the stope has not been cleaned properly.	The timely arrival of material and equipment is crucial to the smooth running of the stope. Without the permanent support in the form of elongates and roofbolts the nets will be ineffective. The shiftboss needs to be equipped with skills to schedule the ordering and delivery of equipment on time. The scheduling of blasting and cleaning so that the panel can be accessed and the nets installed is essential. Supply chain training would be helpful to this level.	Information sharing	Printed Information	Annually	Mine Overseer	Section Manager	Record shortages of material	15
		Desired behaviour: The Shiftboss needs to be able to listen and discuss mining and support issues with his team Belief, knowledge gap, lack of understanding, or misperception: The view is that the best way to get the teams to implement nets with bolts is to tell them to do it and take disciplinary action if it is not carried-out. The teams understand what they have to do but are too lazy to carry-out instructions	Personal Mastery. The shiftboss needs to learn to discuss with his subordinates any issues regarding the support in the panel and the importance of the support to good netting with bolting installations. He must be able to coach his subordinates on good installations and provide corrective instruction on poor installations.	Dialogue from observation of key behaviours	Talking points	Twice annually but before adoption of LP	Mine Overseer	Mine Overseer	Recorded as KRA in performance contract	16
			Communication skills. Training in listening skills in order to understand others point of view	Training session	Key behaviours	Annually	Training manager	Mining Manager	Set dates for training	17

No.	Stakeholder s/ Adopters (recipients)	Desired behaviour & issue addressed	Messages . Communication content	Mode	Tools / means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure	Row No.
5	Mine Overseer	Desired behaviour: The Shiftboss needs to be able to listen and discuss mining and support issues with his team Belief, knowledge gap, lack of understanding, or misperception: The view is that the senior person knows what is best for any situation. There is not enough interaction between supervisors and staff. People are told what to do without enough explanation and opportunity to discuss reasons and alternatives. There is not enough visible felt leadership.	Personal Mastery. The mine overseer needs to learn to discuss with his shiftbosses any issues regarding the support in the panel and the importance of the support to good netting with bolting installations. He must be able to coach his shiftbosses on good installations and provide corrective instruction on poor installations. He needs to understand the importance of leadership behaviour and behavioural communications	Dialogue from observation of key behaviours	Talking points	Twice annually but before adoption of LP	Section Manager	Adoption Team	Recorded as KRA in performance contract	18
			Communication skills. Training in listening skills in order to understand others point of view	Training session	Key behaviours	Annually	Training manager	Mining Manage	Set dates for tra	19
6	Section Manager	Desired behaviour: Dialogue skills Belief, knowledge gap, lack of understanding, or misperception: There is a view that a mine is a tough environment where people respond best to being told what to do. It is unwise to engage in discussion between supervisors and staff to get all views. People are told what to do without enough explanation and opportunity to discuss reasons and alternatives. There is not enough visible felt leadership.	Personal Mastery. The section manager needs to learn to discuss with his subordinates any issues regarding the support in the panel and the importance of the support to good netting with bolting installations. He must be able to coach his mine overseers on good installations and provide corrective instruction on poor installations. He will understand the importance of leadership behaviour and behavioural communications	Dialogue from observation of key behaviours	Talking points	Twice annually but before adoption of LP	Mining Manager	Adoption Team	Recorded as KRA in performance contract	20
			Communication skills. Training in listening skills in order to understand others point of view	Training session	Key behaviours	Annually	Training manager	Mining Manage	Set dates for tra	21
7	Safety Rep	Desired behaviour: Safety comes before production. Belief, knowledge gap, lack of understanding, or misperception: Too much attention to safety may make the mine unprofitable.	Safety is the first priority on the mine and ways of monitoring to track safety improvements to ensure improvements are being achieved. Understanding of how safety helps to make a mine more profitable and therefore sustainable. Understanding how the rock related safety is linked to achieving the 2013 milestones.	Notice boards	Safety Bulletins	Monthly	Safety Manager	Mining manage	Safety representatives to discuss with each team at working place and give feedback to safety manager who will compile a monthly summary report	22

Two Behavioural Communication Plans (alternative example layout)
For implementation by the MOSH and Mine Adoption Teams respectively

Plan A Behavioural communication plan for Deciders To facilitate informed decision making about the Leading Practice Proximity Detection System at mines For implementation by MOSH Adoption Team										
No	Belief or Issue to be addressed & <i>Desired behaviour</i>	Message content – to address identified belief / issue	Stakeholder/s (Recipients of message)	Mode	Tools / means	When	Who to deliver	Who to ensure	Evaluation / control measure	Row No
Applicable to identified deciders all mines										
1			Managers							1
										2
			Specialists (if applicable)							3
										4
2	Note: A behavioural communication plan for Deciders, for implementation by the MOSH Adoption Team has not yet been developed		Managers (if applicable)							5
										6
			Specialists							7
										8

Plan B Generic behavioural communication plan To facilitate operational adoption of a Leading Practice Proximity Detection System For implementation by Mine Adoption Team										
No	Belief or Issue to be addressed & <i>Desired behaviour</i>	Message content – to address identified belief / issue	Stakeholder/s (Recipients of message)	Mode	Tools / means	When	Who to deliver	Who to ensure	Evaluation / control measure	Row No
Applicable to all mines										
1	Adopter's behaviour is the cause of most accidents <i>Employees setting a good example and counselling each other against unsafe behaviour</i>	1. Explain human judgement weakness / fallibility and why we need to help each other and work as a team 2. Explain fundamentals of effective communication and why leaders (people) cannot not communicate: it is what they actually do, or do not do, which is a key mode of what they communicate and so they are continuously communicating, intentionally or unintentionally	Operators and workers, with the focus on the first message	Training	Lesson plans / explanatory texts					1
				Workplace meetings	Key discussion point reminder cards					2
			Supervisors and managers, with equal focus on both messages	Training	Lesson plans / explanatory texts					3
				Special workshop/s	Presentation followed by discussion					4
2	Adopters believe that safety is not their most important responsibility	(1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Operators and workers, with the focus on the first	Training	Lesson plans / explanatory texts					5

	<i>Employees setting a good example and counselling each other against unsafe behaviour</i>	(2) Explain fundamentals of effective communication and why leaders (people) cannot not communicate: it is what they actually do, or do not do, which is a key mode of what they communicate and so they are continuously communicating, intentionally or unintentionally 3. Explain positive link between safety and productivity	message	Workplace meetings	Key discussion point reminder cards					6
			Supervisors and managers with equal focus on all three messages	Training	Lesson plans / explanatory texts					7
				Special workshop/s	Presentation followed by discussion					8
3	Leaders must lead by example <i>Leaders sharing ideas about how best to lead by example</i>	(2) Explain fundamentals of effective communication and why leaders (people) cannot not communicate: it is what they actually do, or do not do, which is a key mode of what they communicate and so they are continuously communicating, intentionally or unintentionally	Supervisors and managers	Training	Lesson plans / explanatory texts					9
				Special workshop/s	Presentation followed by discussion					10
4	Short-cuts are motivated by production bonus incentives <i>Regular team discussions about how to work productively and safely without shortcuts</i>	(3) Explain positive link between safety and productivity (1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Operators and workers	Training	Lesson plans / explanatory texts					11
				Workplace meetings	Key discussion point reminder cards					12
			Supervisors	Special workshop/s	Presentation followed by discussion					13
			Managers	Workshop	Expert presentation with workshop discussion					14
5	Lack of fitness for work leads to accidents <i>Employees identifying and assisting and / or reporting colleagues unfit for work</i>	(1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team (2) Explain fundamentals of effective communication and why leaders (people) cannot not communicate: it is what they actually do, or do not do, which is a key mode of what they communicate and so they are continuously communicating, intentionally or unintentionally (3) Explain positive link between safety and productivity	Operators and workers	Training	Lesson plans / explanatory texts					15
				Workplace meetings	Key discussion point reminder cards					16
			Supervisors	Special workshop/s	Presentation followed by discussion					17
			Managers	Workshop	Expert presentation with workshop discussion					18
6	Workers frequently do not apply the training they have received <i>Employees reminding and assisting each other to consistently apply the training they have received</i>	(1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Operators and workers	Training	Lesson plans / explanatory texts					19
				Workplace meetings	Key discussion point reminder cards					20
7	People ignore rules, standards and procedures <i>Employees setting a good example and reminding and assisting colleagues to adhere to rules, standards and procedures</i>	4. In-depth explanation / visualisation of the reasons for the rules, standards and procedures (1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Operators and workers	Training	Lesson plans / explanatory texts					21
				Workplace meetings	Key discussion point reminder cards					22
			Supervisors	Training	Lesson plans / explanatory texts					23
				Special workshop/s	Presentation followed by discussion					24
8	Deciders believe that safety is one of their most important responsibilities <i>Managers and supervisors regularly explaining why safe work leads to productive work</i>	(3) Explain positive link between safety and productivity (1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Managers and supervisors	Workshop	Expert presentation with workshop discussion					25

9	Buy-in to the PDS (the leading practice in question) is essential for successful adoption <i>Employees at all levels know of and communicate the benefits of the PDS to their colleagues</i>	5. Provide an in-depth knowledge of the PDS and its benefits and limitations to enable informed buy-in and discussion between colleagues	Operators and workers	Training	Lesson plans / explanatory texts					26
				Special workshop	Presentation followed by discussion					27
			Managers and supervisors	Workshop	Expert presentation with video and workshop discussion					28

Leading practice specific										
1	Behaviour is the greatest barrier to adoption of the PDS <i>Employees setting a good example and counselling each other against unsafe behaviour</i>	6. Fully expose the natural resistance to change / fear of unknown / not invented here phenomenon. Explain that they are natural reactions and that we need to help each other in suppressing negative behaviours? 7. Provide information (videos) about the PDS to help dispel these natural resistance to change feelings.	Operators and workers	Training	Lesson plans / explanatory texts					1
				Workplace meetings	Key discussion point reminder cards					2
			Supervisors	Special workshop/s	Presentation followed by discussion					3
			Managers, but pitched at a suitably high level	Workshop	Expert presentation with video and workshop discussion					4
2	Existing PDS systems at the mine are already adequate <i>Employees know of and express the advantages of the PDS being adopted</i>	(5) Provide an in-depth knowledge of the PDS and its benefits and limitations to enable informed buy-in and discussion between colleagues	Operators and workers	Training	Lesson plans / explanatory texts					5
				Workplace meetings	Key discussion point reminder cards					6
			Supervisors and Managers	Workshop	Expert presentation with video and workshop discussion					7
3	PDS will not reduce accidents much – most are caused by workers falling against / in front of machines <i>Employees knowing of and explaining to each other the potential and limitations of the PDS to reduce harmful accidents</i>	(5) Provide an in-depth knowledge of the PDS and its benefits and limitations to enable informed buy-in and discussion between colleagues	Supervisors	Training	Lesson plans / explanatory texts					8
				Workshop	Presentation followed by discussion					9
			Managers	Workshop	Expert presentation with video and workshop discussion					10
4	The PDS is not a magic bullet and will not solve all problems <i>Supervisors and managers know of and</i>	(5) Provide an in-depth knowledge of the PDS and its benefits and limitations to enable informed buy-in and discussion between colleagues	Operators and workers	Training	Lesson plans / explanatory texts					11
				Workplace meetings	Key discussion point reminder cards					12

	<i>express the advantages and limitations, and the net benefit of the PDS being adopted</i>		Supervisors and managers	Workshop	Expert presentation with video and workshop discussion					13
5	The success and value of the PDS needs to be demonstrated <i>Management knows of and reminds colleagues of the case for adopting the PDS</i>	8. Provide an in-depth knowledge of the documented performance and experience at the source mine that led to the PDS being identified as a leading practice	Supervisors	Workshop	Presentation and hand-out – visit to an operating PDS site					14
			Managers	Workshop	Expert presentation and visit to an operating site					15
6	Proper PDS training and resources must be provided for long-term success <i>CEO involvement in ensuring implementation of properly resourced quality training</i>	9. Detailed outline of the required training and resource requirements for sustainable adoption (this should be provided in the LPAG)	Managers	Mine Exco meeting	Expert presentation of LPAG and required training					16
7	The PDS can lead to complacency and reduced vigilance <i>Regular team discussions about how to work productively and safely with the PDS</i>	(3) Explain positive link between safety and productivity (1) Explain human judgement weakness / fallibility and why we need to help each other and work as a team	Operators and workers	Training	Lesson plans / explanatory texts					17
				Workplace meetings	Key discussion point reminder cards					18
			Supervisors	Performance review meetings	Presentations followed by review discussions					19
8	The cost and lack of demonstrated benefit of the PDS could prevent a positive adoption decision <i>Management knows of and articulates the case for adopting the PDS to seniors and peers</i>	10. A clear and detailed presentation of the value / business case for adopting the PDS	Managers	Mine Exco meeting	Expert presentation of the PDS value case					20

Note: Given below are the 10 key messages that form the basis of the Generic Behavioural Communication Plan

It is important to recognise that very considerable expert work will be required to prepare credible and convincing material to successfully convey these messages to the relevant stakeholders.

1	Explain human judgement weakness / fallibility and why we need to help each other and work as a team
2	Explain fundamentals of effective communication and why leaders (people) cannot not communicate: it is what they actually do, or do not do, which is a key mode of what they communicate and so they are continuously communicating, intentionally or unintentionally
3	Explain positive link between safety and productivity
4	In-depth explanation / visualisation of the reasons for the rules, standards and procedures
5	Provide an in-depth knowledge of the PDS and its benefits and limitations to enable informed buy-in and discussion between colleagues
6	Fully expose the natural resistance to change / fear of unknown / not invented here phenomenon. Explain that they are natural reactions and that we need to help each other in suppressing negative behaviours?
7	Provide information (videos) about the PDS to help dispel natural resistance to change feelings.
8	Provide an in-depth knowledge of the documented performance and experience at the source mine that led to the PDS being identified as a leading practice
9	Detailed outline of the required training and resource requirements for sustainable adoption (this should be provided in the LPAG)
10	A clear and detailed presentation of the value / business case for adopting the PDS

The final portion of the behavioural communication plan is determined by the results of the interviews conducted at the adoption mine to customising the behavioural communication plan to take account of mine specific circumstances. This may require adjustment of some of the generic plans presented above as well as well as the inclusion of additional items specific to the adoption mine in question.

Adoption mine specific adjustments to the behavioural communication plan										

Key elements of desired leadership behaviour

To be completed by adoption team prior to detailed investigation and documenting of leading practice at the source mine

Hypothesized desired leadership behaviour / situation

Relevant levels of leadership	Must know and do <i>in order to</i> implement the practice	Must say or do <i>in actually</i> implementing the practice	Communication / action by superior to encourage / discourage behaviour
Operator / technician			
Key points for source mine investigations			
Informal peer group leader			
Key points for source mine investigations			
First line supervisor			
Key points for source mine investigations			
Second level supervisor			
Key points for source mine investigations			
Third level supervisor			
Key points for source mine investigations			
Fourth level supervisor			
Key points for source mine investigations			
Other			
Key points for source mine investigations			
Anticipated value from adoption of identified leadership behaviours:			
Key points for direct enquiry protocol:			

No	Activity	Timing		By Who	Comment
		Start	Finish		

- Notes: - Clarify and agree access to all aspects of the leading practice
 - Agree process of enquiry / documenting of practice with mine management
 - Document leadership behaviours
 - Document behavioural communication
 - Document key aspects of leading practice
 - Identify and agree key aspects of the leading practice with the source mine

[illegible]

Documenting key aspects of the leading practice at the source mine

(Refer to section 5.11 for example of key aspects to be considered in the documentation process)

No	Key aspects of the leading practice	No	Detailed description of what is involved / how it is done - determine by observation and interrogation
1		a b c d etc	
2		a b c d etc	
3		a b c d etc	
etc			

Doc #36 - Worksheet
(Section 5.14)

**Systematic check on key factors before initiation of adoption
at lead adopter (or demonstration) mine**

No	Consideration	Check	Comment
1	Is there still a need for the new technology or practice?	☐	
2	Is the technology, practice or knowledge ready for transfer and adoption by industry?	☐	
3	Is the leading practice adequately available on a commercial basis?	☐	
4	Has the lead adoption (or demonstration) mine indicated that it is prepared to pay?	☐	
5	Has the mine appointed an appropriate champion?	☐	
6	What technical support is needed to assist mine staff with the adoption process?	☐	
7	Which persons or mines are going to be most affected by adoption of the technology or practice?	☐	
8	What steps need to be taken to ensure proper communication about the new technology or practice in regard to its application and its positive and negative impacts?	☐	
9	What special training is necessary for mine staff to facilitate successful adoption?	☐	
10	Which persons on the host mine could make or break the project and how have they been accommodated?	☐	
11	What will be the benefits to the various people on the mine who are or will be affected by adoption of the technology or practice, in particular the workers and first line supervisors?	☐	
12	What measures, in addition to training, need to be adopted to gain support of the workforce for the new technology or practice?	☐	
13	Which persons will be negatively affected and how have their concerns been taken into account to secure their support?	☐	
14	Does the mine have good and constructive union participation?	☐	
15	Does the mine have a strong and constructive health and safety committee?	☐	
16	Which persons should be invited to join an oversight group to assist in spreading the adoption experience?	☐	
17	Which mines would benefit most from adoption of the technology or practice?	☐	
18	Which persons on the host mine need to be brought into the planning of the project at the earliest stage possible, and has this been done?	☐	
19	Have adequate time and resources been allocated for the adoption process to be undertaken to its proper conclusion?	☐	
20	What are the criteria for the adoption process to be considered complete and successful?	☐	
21	Are new skills or organisational structures needed to achieve successful adoption?	☐	
22	What are the possible unintended consequences of the technology or practice and how will they be addressed if they arise?	☐	
23	Who will take responsibility for documenting and writing up the demonstration project?	☐	
24	What are the criteria for the technology or practice to be considered a success once adopted?	☐	

Note: The original Reference Doc #38 is no longer relevant as it has been replaced by the planning document presented in the Draft Leading Practice Adoption Guide of Reference Doc #47. This document is included here to prevent possible concern that Reference Doc#38 has been inadvertently excluded. Reference Doc #38 became redundant at the time of revising and shortening the adoption process by excluding demonstration projects other than in special cases where such a step is considered to be necessary. The considerations in making the decision of whether or not to include a demonstration project are outlined in section 4.9

Summary description of the risk/s addressed by the selected leading practice

Provide a brief description of the risk addressed by the leading practice, written in a way to help with the identification of the adopters and key stakeholders. It should draw from and be consistent with the expert derived causal chain risk story customised by the adoption mine.

**Note: This is now dealt with in the Leading Practice
Adoption Guide – see Reference Doc #47**

Group	Adopters / End Users Grouping	Details of the Group	Persons selected for interview
1	Group 1 - Persons at risk who are directly responsible for implementing the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	List the names, position and mine section of the people selected for the interviews. Ensure that all groups are appropriately represented, but that the total number of persons does not exceed 30
2	Group 2 - Persons who implement / operate the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	
3	First line supervisors / direct managers of the practice	List the names and position of these people	
4	Other	Describe the group and attach a schedule listing the names, position and contact details of those representative of the group	

Note: Adopters are those persons who are directly involved in implementation of the leading practice in one way or another. They are the people whose will be directly responsible for the success or failure of the adoption.

Group	Key Stakeholder Grouping	Details of the Group	Persons selected for interview
1	Group 1 - Persons at risk, but who are not responsible for implementing the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	
2	Group 2 - 3 levels of line management above the first line supervisor	List the names, position and contact details of these people	
3	Union leadership at the mine	As above	
4	Affected or interested support functions at the mine	As above	
5	Other	As above	

Note: Key Stakeholders are those persons who are not directly involved in implementation of the leading practice, but who have a vested and direct interest in its success or failure. They are the people who are in a position to enable or otherwise influence those responsible for implementing the practice.

Purpose

The purpose of this Reference Document is to provide the selected interviewers with guidance to assist them in preparing for one-on-one direct enquiry interviews.

Note: This is now dealt with in the Leading Practice Adoption Guide – see Reference Doc #47

Introductory comment

The purpose of a one-on-one direct enquiry interview is to eliminate guesswork in acquiring from people central to the adoption process the information needed to customise the leadership behaviour and behavioural communications plans that are critically important elements of the adoption process. This is done by obtaining the information directly from the interviewees who have been selected from the group of people who are central to the adoption process. The integrity of the information obtained through this direct enquiry process is critical to the development of leadership behaviour and behavioural communication plans that are fully customised to address particular circumstances that prevail at the adoption mine.

It is in this context that a successful direct enquiry interview depends largely on the creation, in setting up and during the course of the interview, of a positive collaborative relationship between the interviewer and the interviewee. The ability of the interviewer to create this relationship lies to a large extent in the interviewer's level of preparedness before the interview, the protocol used in soliciting the interview; and of course the way in which the interview is conducted.

Preparation before the Interview

A one-on-one direct enquiry interview is intended to get what the interviewee *actually thinks and not what he/she would like the interviewer to think they think*. The interviewer should make every effort to ensure the creation of an environment of trust to assist in putting the interviewee into a collaborative state of mind. In this context the *credibility* of the interviewer in the eyes of the interviewee is very important. The interviewer must personally be clear about the purpose of the interview and must be fully familiar with the context in which the interview and the adoption process at the mine are taking place. The interviewer should therefore carefully read the relevant sections of the Leading Practice Adoption Guide to obtain this orientation. The interviewer should then pay special attention to implementing the guidance provided below in preparing for the interviews, irrespective of whether or not the person is an experienced interviewer.

- **The interviewee is the expert:** The simple fact of conducting a one-on-one direct enquiry interview is to get information about the thoughts and knowledge of the interviewee that can only come from that source. It is information that cannot and should not be guessed. Irrespective of the possibly lower level of the interviewee, the interviewer needs to clearly recognise that the interviewee is *de facto* an absolute expert on what he or she knows and thinks, and they should thus be afforded due respect.
- **Credibility and Trust:** It is imperative that interviewees feel comfortable in sharing their thoughts. With this in mind the process of interviewer selection will have sought to remove factors that could inhibit trust, such as selecting interviewers that function in the same reporting line. The selection process would also have sought to identify person who would be credible in the eyes of the interviewees. However, personal credibility and trust should be further enhanced by following the guidance provided below.
 - studying and discussing the updated risk summary / simple risk story, with an appropriate member of the Adoption Mine Team to ensure that they have a thorough understanding of the risks being addressed by the leading practice.
 - reading the interview protocol script several times to ensure familiarity with the protocol and greater fluidity in raising the various questions

- practicing the interview at least once (perhaps with an adoption mine team member) to ensure the required level of fluidity with the interview protocol, the appropriate use of language, and adherence to the planned timing of the interview.
- Ensuring that the list of persons to be interviewed does not include persons who speak a language that is beyond the capabilities of the interviewer. The interviewer should be able to converse comfortably with the interviewee in the language of choice of the interviewee.
- **Ensuring the required focus:** This should be done by reviewing with the person appointed to oversee the customisation process, or the Adoption Mine Team Manager, their understanding of the interview and how it should be conducted and documented, and resolving any points of divergence.
- **Consistency of results:** In order to ensure consistency across the various interviews the interviewer should work out and use similar questioning language across the various interviews. This should not prevent the interviewer from pursuing emerging issues to identify an interviewee's understanding or reasoning, but in order to facilitate later analysis the interviewer must ensure that the full set of interview questions are consistently covered in all interviews.

Protocol in Soliciting an Interview

As explained in the guidance note the Mine Adoption Team will have selected the potential interviewees from the list of key persons involved in the adoption process, namely the adopters and key stakeholders. The process of contacting the interviewees with a view to setting up an interview should however be done by the interviewer who is to conduct the interview. This is part of the process of establishing a positive relationship with the interviewee and to create the requisite environment for a truthful and open discussion. As this is the first contact point between the interviewer and the interviewee, the interviewer has the opportunity of gauging the language level of the interviewee that would need to be used in the interview process.

Given below is an example of the interview solicitation dialogue that could be adapted to the interviewer's style and interviewee's language level to ensure that the interviewee is comfortable. Care must be taken to ensure that the interviewer does not appear to be reading a "script". This sample should therefore be treated as a guide.

Solicitation example

Hello, my name is <name>, although I don't work in your section, I have been asked to help the mine with its project to introduce a leading practice on < Name the practice> to improve health and safety in your section, and in due course in the rest of the mine. Are you aware of this initiative? *<wait for response and if necessary, give brief explanation of the adoption initiative and promise to send further information later. Notify the appropriate person to send more information if necessary>* I am speaking to people in your section who are likely to be interested or involved in the operation of the system, like yourself, to learn about what you think is important about the risk and how it might be addressed by the leading practice. I would also like you to tell us about the things that you think would help introduction of the practice, or which would work against introducing the new leading practice into your workplace.

Your section supervisors know that persons like you will be asked if you would be prepared to participate in a private and confidential interview about the adoption of the <name the leading practice>. They also know that they will not be told of anything that you say. However, because what you and your colleagues think and say is important, the information collected from the persons interviewed will be analysed to identify what people think together, and of where they think differently, but no names will be used.

The mine and the Mine Adoption Team would be grateful for your contribution and I would thus like to know if you would be prepared to participate in an interview to discuss these things. Our conversation should take about *<the number of minutes as identified in the practice session with colleague>* minutes during which I will ask you some questions. There are no right or wrong answers to these questions, which are mainly to introduce the topics for our discussion. If now is not convenient we can arrange to have a discussion at another time that is better for you. Would you be interested in participating?

- <If “no”>. Thank you for your time
- <If “not now”>: What time would be more convenient for you? <schedule a time at the interviewee’s earliest convenience >.
- <If “yes”>: Proceed with the interview.

<If people ask how they were selected, to be interviewed, say they were selected from a list of people that the Mine Adoption Team identified as being likely to be directly interested or affected by the <name the leading practice> that is being considered for adoption. If they still persist and want to obtain satisfaction on this point, promise that someone from the adoption team will contact them to provide a more detailed explanation. The Adoption Team Leader or the agreed adoption team member should then be informed accordingly. If necessary the interview may thus need to be arranged for a future time.>

Note: It is best from the point of view of the information gathered that the interviewee does not have time to prepare for the interview, so the above conversation should be arranged to take place at a venue that is suitable for the interview.

Conducting a one-on-one direct enquiry interview

The solicitation process prior to commencement of the interview, as outlined above, should have gone a long way in creating an environment conducive to comfort and collaboration. The interviewer should therefore continue to ensure that the interviewee feels comfortable and respected. An interviewee who feels respected is more likely to talk freely than one who feels any discomfort or disrespect, even if such feelings are slight. The interviewer should convey this respect without in any way being patronizing. A patronising attitude would damage trust and the interviewer’s credibility.

A one-on-one direct enquiry interview depends on the voluntary collaboration of the interviewee in an environment of trust. Confidentiality is thus critical. The interviewer must be committed to ensure that the interviewee’s responses are kept confidential and that only a summarized form of all interviews will be reported. As indicated earlier, this information must be conveyed to the interviewee before the start of the interview to let the interviewee know that no personally identifying information will be passed along.

Opening remarks are critical in setting the tone of a one-on-one direct enquiry interview to ensure that the requisite results are achieved. It is important to understand that it is difficult to know if the interviewee is sharing personal thoughts or just saying what the interviewee believes should be told the interviewee. The role of the interviewer in ensuring the former and preventing the latter is crucial, particularly in the opening remarks before proceeding to the questions. An example the interviewer’s opening remarks in a one-on-one direct enquiry interview is provided below for guidance, and adaptation for possible use.

Sample of opening remarks

As I mentioned previously, I am conducting interviews to help the <leading practice > Leading Practice Adoption Team. I’d like to give you a brief overview of the leading practice and of the team’s plans and then ask for your thoughts on the specific challenges you face with <focus area> at the mine and about things that could be done to help introduce the practice, or of things that would work against successfully introducing the practice into your workplace.

I have some questions to help guide our discussion, but please feel free to raise any topic related to this subject that comes to mind as we go along. As I said there are no right or wrong answers, and all of the comments you provide will help us understand what is important to you and your colleagues.

Before we start, please note that this is an entirely voluntary process and we can only proceed if you are happy. We are obviously interested in your thoughts on these issues which will help us in improving health and safety at this mine. However, if you are uncomfortable about continuing with this interview at any stage, please let me know so that we can stop. Lastly, although I will be taking notes to ensure that I remember what you say, please remember that what you say will be kept confidential and that the results will only be reported in summarised form for all of the interviews together. No personally identifying information will be passed along to any one associated with the mine.

May we proceed on that basis? Thank you

Note: It is possible that interviewers may want to have someone present to take notes, or to record the interview, but if this is to be done then it will be essential to check whether the interviewee is comfortable for this to be done. It is recommended that the interviewer take notes that are then expanded upon immediately after the interview, as outlined in section 6.5 of the Handbook and in the Leading Practice Adoption Guide.

Begin the interview process as follows:

- Share the agenda: Our conversation will cover essentially two topics. First, I'm going to ask you about the risk of <focus area> at your mine, and then I'm going to ask you about how the Adoption Team's proposed leading practice for <focus area> might be adopted at your mine.
- Provide background information: Ensure that the interviewee is following the dialogue then provide background information. Explain that the Mine Adoption Team is working to significantly reduce <focus area> in mining operations. Indicate the goal that industry is aiming to achieve <state the milestone targets> by 2013.
- Proceed to the questions: Begin by emphasising that you want to hear what the interviewee thinks or knows, and that there are no right or wrong answers. The best answers are those that indicate exactly what the interviewee knows or thinks. If the interviewee is happy to go forward, the interviewer can now continue the interview taking into account the tips set out below to help ensure an effective one-on-one direct enquiry interview.

Tips for conducting direct enquiry interviews

The following tips should be considered by the interviewer in preparing for the one-on-one direct enquiry interviews:

- Find a quiet place to conduct the interview, ensuring no interruptions or background noise. The selected venue should not have the effect of making the interviewee feel uncomfortable, or intimidated. Make sure that co-workers understand they are not to disturb you while an interview is taking place (perhaps by posting an "Interview in Progress" sign on the interview venue) and that electronic devices (such as radios and cell phones) are turned off.
- Be courteous and respectful of the Interviewee at all times. Treat the Interviewee in a professional manner, but not overly formal.
- Main questions should always be read in their entirety to ensure that the meaning of the question is properly conveyed. Follow-up questions (probes and prompts) should be more conversational in nature, and generally do not need to be read in their entirety.
- If an interviewee does not understand a question, you may try rephrasing the question as long as you do not lose its meaning.
- Allow the Interviewee to answer all the main questions and follow-ups, but be careful not to lead them in any way.

- Never assume a question has already been answered. If you believe a question may have been already answered earlier in the interview, you may state: "I know you may have already covered this topic, but I'm going to ask the following question in case you have anything more to add."
 - Keep a neutral tone and stance, including body language. No value judgments should be inadvertently communicated through tone, stance or body language.
 - Do not answer for, fill in the blanks, or lead the interview in any way. Never suggest responses.
 - To assure the Interviewee that you are listening, you may say "I see" or simply "hmmm" in response to their thinking, but avoid terms of judgment, such as "yes" or "good" or "correct", as this implies a judgment either right versus wrong or that you agree with the Interviewee's statement.
 - Do not try to make people consistent in their answers regarding their *beliefs, attitudes and feelings, but ensure that what is said is accurately recorded*
 - Be flexible to explore relevant issues in sufficient depth to obtain a full understanding of the interviewees thinking, but return and stick to the framework of questions in the worksheet.
- If the Interviewee hesitates when responding or thinks that he or she does not know enough to answer the question, please use follow-ups; however, don't press if the Interviewee still does not want to answer a question.
 - Give the Interviewee sufficient time to consider their answer.
 - Repeat the question slowly.
 - Remind interviewee that there are no right or wrong answers: "I'm just interested in hearing what you think. Again, there are no right or wrong answers."
 - When an Interviewee seems to veer off course from the main interview topic or is particularly long-winded and repetitive, it is necessary to close the question and move on to manage the length of the interview. This needs to be done respectfully. Suggestions for doing this include:
 - "If you have touched on your main points here, I'm going to move on now so I can get your input on the rest of our questions before our time runs out."
 - "If you have other thoughts to add at the conclusion of the interview, we can take some more time then."

Note: This is now dealt with in the Leading Practice Adoption Guide – see Reference Doc #47

Name of Leading Practice:

Instructions: MOSH or Mine Adoption Teams to indicate any particular instructions that need to be followed

Unique Interview reference number	Interview Date	Name of Mine	Name of Worker Position
[example: FOG 1]	[example: 25 July 2009]	[example: Impala Plats]	[example: Mine Overseer]
Part A: Adopter/Stakeholder beliefs about [the hazard] (Causes and outcomes)			
1	Please describe your role and responsibilities at the mine.	Note: The space provided in this illustrative worksheet for the interviewee's responses should be enlarged to accommodate the full response, including responses to probing follow-up questions. The space provided is thus not indicative of the length of the expected response and the worksheet should thus be adapted as necessary.	
2	Please describe [the risk/hazard] in your own words. - How may [the risk/hazard] occur? - What are the possible causes of [the risk/hazard]?		
3	What happens as a result of [the hazard]? - How might you be affected by [the risk/hazard]? - Who else may be most affected by [the risk/hazard]? - What may happen to people who are affected by [the risk/hazard]?		
4	How important do you think it is to find a way to better protect people [the risk/hazard]? Why do you say that?		
Part B: Adopter/Stakeholder Beliefs about Leading Practices			
5	What do you think could be done to better protect people from [the risk/hazard]? Why?		
Interviewer to say: This mine is currently working to bring about leading practices to better protect people from [the risk/hazard]. Describe the proposed leading practice in simple neutral terms.			
6	What should leaders and supervisors in the mine <u>do</u> to help make sure that these practices are successful? Why should they do this?		
7	What should leaders <u>not do</u> in order to make sure that these practices are successful? Why should they not do this?		
8	What other kinds of things might stand in the way of the leading practice being successful at this mine? How should these things be addressed?		
9	What information would be important for people like you to know about how people can be affected by the risk and what is being done to protect them? Why is this important?		
10	What is the best way for people like you to receive this information? Why is this the best way?		

Analysis of Results from Interviews

Note: This is now dealt with in the Leading Practice Adoption Guide – see Reference Doc #47

Name of Leading Practice

Instructions: To be used to summarize results of individual interviews from the Interview Response Worksheet – Worksheet Doc #41. See guidance provided in the Leading Practice Adoption Guide

Part A: Adopter/Stakeholder beliefs about [the risk/hazard] (Causes and impacts)

1	List and tabulate Interviewees' roles and responsibilities.	
2	List and tabulate mentioned <i>causes</i> of [the risk/hazard]	- Which, if any, of these causes agree with the Risk Summary / Previous interview results? - List any causes that disagree with the Risk Summary/ Previous interview results. Describe how people who were interviewed may be wrong in their thinking about the hazard and risk.
	List any information on causes that Interviewees say they want to know.	
3	List and tabulate mentioned impacts of [the risk/hazard]. Include description of who may be affected.	- Which, if any, of these impacts agree with the Risk Summary/ Previous interview results? - List impacts that may disagree with the Risk Summary/ Previous interview results? Describe any areas where people who were interviewed may be wrong in their thinking about possible impacts.
	List any information on impacts that Interviewees say they want to know.	
4	Summarize Interviewees' comments on the importance and value of better protecting people from [the risk/hazard]?	

Summary of Part A. Compare the results above to the mental models report used to develop the generic behaviour-based plans.

What, if any, are the <i>key similarities</i> between the results in Part A and those of the spectrum of potential adoption mines, the generic case, which should be emphasized in behavioural communications and leadership behaviour plans?	What, if any, are the <i>key differences</i> between the results in Part A and those of the generic case that should be emphasized in behavioural communications and leadership behaviour plans?

Part B: Adopter/Stakeholder Beliefs about Leading Practices		
5	List and tabulate mentioned opportunities to better protect people from the hazard. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Are there any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
6	List and tabulate mentioned <i>leadership behaviors that should be done</i> to ensure the success of leading practice. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Are there any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
7	List and tabulate mentioned <i>leadership behaviors that should not be performed</i> to ensure the success of leading practice. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
8	List and tabulate mentioned potential barriers to the success the leading practice at this mine? Describe Interviewees' perceptions on how should these things be addressed?	- Which, if any, of these ways barriers and possible solutions agree with the features of the leading practice? - Describe any these ways barriers and possible solutions differ from the features of the leading practice? Explain the possible reasons for this disagreement.
9	List and tabulate the information people need. Describe why, in the interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
10	List and tabulate the mentioned best ways to communicate with people. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
Summary of Part B. Compare the results above to the mental models results presented in the Leading Practice Adoption Guide.		
What, if any, are the key similarities between the results in Part B and those of the spectrum of potential adoption mines, the generic case, which should be emphasized in behavioural communications and leadership behaviour plans?		What, if any, are the key differences between the results in Part B and those of the generic case that should be emphasized in behavioural communications and leadership behaviour plans?

Note: This is now dealt with in the Leading Practice
Adoption Guide – see Reference Doc #47

Team Workers, Team Leaders and Miners

Antecedents (Required inputs or “prompts” for desired behaviour)	Desired Behaviour	Consequences (Encouraging, timely, important and highly probable experiences occurring after the behaviour)
Clear Team Contract and understanding	Each member accepts his role and responsibility and understands the role and responsibility of the other members of the team with regard to the preventions of uncontrolled falls of ground. (The team members are given “permission” to care!)	Positive re-enforcement, positive feedback from supervisors and other leaders whom crew members respect. (May include union representatives)
- All Members are made competent to Identify Hazards from training, instruction and evaluation. - Knowledge of previous Incidents and Accidents	Identify hazardous ground and support conditions and at risk behaviours	- Positive feedback from Team Leaders(s), Miner(s) and Production Supervisors with constructive coaching to resolve shortcomings in performance of specific desired behaviours. - Coaching is positive and pin-pointed so crew members know immediately what best to do and how best to do it.
Bar, Support, Barricade, Call for Assistance, Withdraw from Dangerous Work	Rectify each Hazard (Care for self and mutual support for each other)	Positive feedback with constructive coaching for supervisor.
Understand the magnitude of the problem	Stop (withdraw) and make safe from a position of safety or call for assistance when necessary	- Positive feedback for having “done the right thing” under the circumstances observed by the crew member. - Positive recognition for the crew member with his peers.
- Safe to say “yes” or “no” in the team without fear of reprisal. - Meaningful Safety Dialogue	- Each member signs consensus on - Declaration together with the team at the end of the examination and making safe process. - Discussion and finalization of the Hazard rectification plan.	- Positive re-enforcement for the crew members and “celebration” of team success in having completed the make safe process. - Through dialogue, positive discussion on any opportunities to improve procedures. - Improvements are expressed in terms of new key behaviours.

General consequences or desired results from performance of behaviours include:

- Each person understands his role in deciding on his own safety
- Valued inclusion of team members in the team decision
- Team performances and rewards are self identified and applied from within the team
- Injury and loss avoidance
- Optimizing the process of dealing with hazards
- Improved work flow processes.
- Injury and loss avoidance
- Optimizing the process of dealing with hazards
- Improved work flow processes
- Eliminate “Short Cuts”
- Competent positive problem solving
- “Good to Go!” feel good confidence.
- Positive feed-back on communications and effectiveness of the process.

Additional Points for Team Leaders and Miners

Antecedents (Required inputs or “prompts” for desired behaviour)	Desired Behaviour	Consequences (Encouraging, timely, important and highly probable experiences occurring after the behaviour)
- Positive support from the team - Effective orientation, training and understanding of values and responsibilities - Training in dialogue skills - Establishment of Key Behaviours in KPA's - Appropriate work schedule and organizational demand	- Facilitate and create a clear team contract understanding to ensure each member's valued input and enhance team performance. - Team members are kept competent to identify and evaluate hazards correctly so that injuries and losses are avoided and hazards are dealt with correctly. - All dangerous ground is effectively made safe, or supported or barricaded off, or assistance is timeously called for and persons are allowed to withdraw from dangerous work. - Provide positive coaching as appropriate for team members. - Eliminate “short cut” behaviours within the team. - Each member of the team is allowed to sign his / her consensus on the declaration sheet and allowed to discuss his or her views on the state of the safety of the workplace without fear of ridicule or reprisal.	- Positive performance of desired behaviours by team members - Regular and positive re-enforcement from supervisors - Positive, pin-pointed feedback from supervisors on KPA performance. - Positive re-enforcement from “celebration” with crews over demonstrated elimination of acceptability of short cuts among team members. No short cut behaviours. - Positive feedback from Miners and Team Leaders on successful completion of leading practice.

General consequences or desired results from performance of the behaviours:

- Positive support and feedback from the team
- Safe conditions and Safe Activities – (FOG Incident free days)
- Improved work organization, productivity and safe quality blasts
- Achievement of meaningful team goals.
- No uncontrolled falls of ground

Production Supervisors

Antecedents (Required inputs or “prompts” for desired behaviour)	Desired Behaviour	Consequences (Encouraging, timely, important and highly probable experiences occurring after the behaviour)
- Cohesive teams are in place and functioning - Clear standards and procedure reviews - Work output evaluations - Work schedules and updated plans are available when needed. - Correct equipment and necessary material supplied, available and systems functioning properly.	- Team members agree when asked whether their team is cohesive and functioning well. - Effectively orientates, trains and coaches crew members to enable performance of key behaviours and re-endorse team values and responsibilities. - Regularly tests understanding of team members regarding required safe acts and safe conditions. - Conducts regular dialogue conversations with team members and others to provide pin-pointed feedback on their performance relative to key behaviours established in Key Performance Areas	- Positive re-enforcement from team members on team cohesiveness - High marks on training and coaching evaluations from team members. - Positive re-enforcement on dialogue effectiveness from Miners and Team Leaders (May be asked by them to “train” others in dialogue). - Positive re-enforcement from Miners and Team Leaders. - Feedback from teams that behaviour is seen to be respectful, fair and non-discriminatory.

	- Ensures all persons are aware of work schedules and kept abreast of organizational demands. - Evaluates awareness and currency of understanding on organizational demands through regular dialogue. - Assumes full accountability for sufficient availability of fit for purpose materials and equipment for use by the teams - Conduct Planned Task Observations, share outcomes and commend correct performances - Discourages unsafe behaviours through appropriate coaching and constructive disciplinary controls when advisable.	

General consequences or desired results from performance of the behaviours:

- Positive support and feed-back from work teams
- Team values and “Sedibas” are strengthened and developed
- Team knowledge is maintained at optimum levels
- Teams can perform to the required output standards.
- Work outputs are delivered as required and short cuts are eliminated
- Ensure standards and procedures are kept up to date and current with conditional / situational requirements

Mine Overseers and Management

Antecedents (Required inputs or “prompts” for desired behaviour)	Desired Behaviour	Consequences (Encouraging, timely, important and highly probable experiences occurring after the behaviour)
- Team values are known by all team members and Supervisors - A learning and supportive culture characterizes the working place - Key behaviours required for safe conditions and performance in K.P.A.s are known to all - Legal requirements are unambiguous for early shift inspections by Production Supervisors - Positive underground visitation and staff motivation	- Re-enforces team cohesiveness through their values and “Sedibas” - Through in-person audits and dialogue, ensures that Production Supervisors are continually training and coaching teams in the examination and making safe processes. - Ensures that Production Supervisors comply with the required safety management programme requirements. - Control Production Supervisor's early shift roster and activities - Analyses information from Production Supervisors in order to provide pin-pointed feedback on results. - Positively motivates the Team Examination Process during underground visits - Gives 360 degree feedback through meetings	- Positive re-enforcement from Senior leaders. - Senior leaders share performance here with others as an “exemplary” action of leadership. - Positive re-enforcement from Team Members, Team Leaders, Miners and Production Supervisors and high value of feedback.

General consequences or desired results from performance of behaviours:

- Team members support each other to live up to their value requirements.
- People do not take short cuts because they know the correct procedures and are aware of the risks
- Safety systems are applied uniformly and safe quality blasts are achieved
- Examination and Making Safe processes are adequately supervised and legal requirements covered
- Willing compliance to Team based examination and making safe processes.

Customization of leadership behaviour and behavioural communication plans

Note: This is now dealt with in the Leading Practice Adoption Guide – see Reference Doc #47

Name of Leading Practice

Instructions: To be used to customise the leadership behaviour and behavioural communication plans. See guidance provided in the Leading Practice Adoption Guide or section 6.5 of the Handbook. Provide any other instructions that should be followed and leave adequate space for responding to the various questions.

Guiding questions for customisation of the leadership behaviour plan:

- With respect to the stakeholders and adopters involved, who are considered to be the *additional or different* key leaders involved in accomplishing adoption of the leading practice?
- For each of these identified *new leaders*, what key behaviours or actions must they perform to appropriately influence the decisions and actions of the stakeholders and adopters. (The set of Behaviours) Why?
- What must the leaders be provided with to enable them to perform these behaviours? (The set of Antecedents). Why?
- What consequences – positive, immediate and certain action – must follow performance of these key behaviours that will encourage them to be repeated and sustained? (The set of Consequences). Why?
- What, if any, of the key behaviours, antecedents and consequences in the generic leadership behaviour plan should be included in this mine's leadership behaviour plan? Why?
- What, if any, of the key behaviours, antecedents and consequences in the generic leadership behaviour plan should be omitted from this mine's leadership behaviour plan? Why?
- What is the best way to go about implementing the leadership behaviour plan?

Guiding questions for customisation of the behavioural communication plan:

- What, if any, of the modes of communication in the generic behavioural communication plan should be included in this mine's plan? Can any be removed without affecting the overall quality of the plan?
- What, if any, of the content or key messages in the different modes in the generic behavioural communication plan should be kept in this mine's plan?
- What, if any, new content or key messages should be added to the behavioural communication plan for this mine?
- Will these changes best match with the modes that should be used and key messages that should be conveyed in the adoption mine as revealed through the interview results?
- What is the best way to go about implementing the behavioural communication plan?

Additional questions that should be addressed in customising the communication content of the behavioural communication plan. They should be addressed by directly using the interview results just considered.

- From the interview results, what correct understandings about the hazard should be emphasized in communications?

- What incorrect beliefs or mis-understandings about the hazard should be corrected through communications? What key messages should be emphasized to do so?

- What do people not know and is important to understand in order to fully appreciate the nature of the hazard, and therefore, should be emphasized in communications?

- What information about [the risk / hazard] do people most want to know, and therefore should be emphasized in communications?

- What sorts of messages should be emphasized to help people judge the trustworthiness and competence of their fellow employees and leaders involved in addressing the hazard?

Doc #45 - Reference (Section 5.16 & 15.6)		Framework plan for adoption of a documented leading practice																	
Step	Activity	Weeks																H-book section	Comment
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	Facilitate adoption decision																		
	1.1-Prepare and present case for adopting the leading practice at the mine.																	5.13	
	1.2-Obtain top management decision about adoption of the practice																	6.2	Key milestone T97
2	Secure support for adoption																		
	2.1-Secure support of regional and mine level union representatives																	5.4	
	2.2-Issue written mine-wide briefing note advising of decision to adopt																	5.4	
3	Establish and effective mine adoption team																		
	3.1-Identify and appoint a suitable project leader / champion																	5.4	
	3.2-Identify person to oversee customisation of behavioural plans																	5.9	
	3.3-Train project leader and behavioural plans overseer																	5.9	
	3.4-Secure establishment of an appropriate adoption team at the mine																	6.2	Key milestone T98
	3.5-Provide adoption team with copies of leading practice adoption guide																		
4	Prepare initial plan for adoption																		
	4.1-Workshop leading practice adoption guide - mine project team																		
	4.2-Review / refine example adoption plan																		Key milestone T100
	4.3-Identify an appropriate piloting section / area at the mine																	6.2	
	4.4-Identify/arrange specialist technical support considered necessary																	6.4	
	4.5-Agree critical enabling factors for successful adoption of the practice																	6.1	
	4.6-Ensure that sufficient time / resources have been provided																		
5	Initiate baseline monitoring programme																		
	5.1-Identify key measurements to determine performance of the practice																	6.6	
	5.2-Initiate collection of baseline data																	6.6	
6	Establish effective relationship with the COPA																		
	6.1-Meet with COPA coordinator to establish working relationship																	6.4	
	6.2-secure support / input / secondment / training via COPA interaction																		
7	Update key stakeholders on progress																		
	7.1-Provide feedback on adoption challenges / successes to COPA																	6.4	
	7.2-Prepare and issue progress updates to key stakeholders																	5.2	
8	Plan and conduct direct enquiries																		
	8.1-Review / update expert causal chain risk summary																	15.6	
	8.2-Identify adopters and key stakeholders																	15.6	
	8.3-Identify persons to conduct direct enquiry interviews																	15.6	
	8.4-Train and brief the interviewers																	15.6	
	8.5-Select persons to be interviewed																	15.6	
	8.6-Conduct the interviews																	15.6	Key milestone T103
9	Customise generic behavioural plans																		
	9.1-Identify persons to analyse the interview results																	15.6	
	9.2-Analyse results of direct enquiry interviews																	15.6	Key milestone T105
	9.3-Customise leadership behaviour & behavioural communication plans																	15.6	Key milestone T104
	9.4-Ensure that customisation checks have been fully satisfied																	15.6	Including NORMS
	9.5-Identify any new special communication requirements																		
	9.6-Secure top management approval of customised behavioural plans																		Key milestone T100
10	Harmonise leading practice with with mine standards																		
	10.1-Review leading practice against current mine operational standards																		
	10.2-Identify non-core adjustments to harmonise practice with standards																		
	10.3-Adjust leading practice to harmonise with mine standards																		Key Milestone T102
11	Assess risks and develop final adoption plan for approval																		
	11.1-Plan roll-out of adoption across the mine																		
	11.2-Conduct "what if" exercise and adjust plans as necessary																		
	11.3-Conduct risk assessment of planned changes																		Key milestone T106
	11.4-Update and finalise adoption plan																		
	11.5-Clarify and agree criteria and time scale for completion of the project																		
	11.6-Secure top management sign-off of adoption plan																		Key milestone T108
12	Develop training and communication materials																		
	12.1-Plan training necessary for successful adoption																	5.11	
	12.2-Prepare training documentation																	5.11	Key milestone T107
	12.3-Develop required behavioural communication material																	5.10	
	12.4-Prepare documentation / signage to assist in adopting the practice																	5.10	
13	Brief and train key mine persons																		
	13.1-Brief supervisory levels involved in adopting the practice																		
	13.2-Brief the workers involved in adopting the practice																		
	13.3-Implement aspects of the two behavioural plans not included in training																		
	13.4-Train the persons involved in adopting the practice																		
14	Implement pilot adoption of the practice																		
	14.1-Arrange access to any required intellectual property																	5.11	
	14.2-Arrange purchase of the required equipment																		
	14.3-Set up the required maintenance arrangements																		
	14.4-Conduct preliminary pilot scale adoption of the practice																		Key milestone T109
15	Monitor evaluate and report on performance																		
	15.1-Set up monitoring and data collection arrangements																	6.6	
	15.2-Implement the monitoring and reporting programme																	6.6	
	15.3-Store key data in an electronic data base for later analysis																	6.6	
	15.4-Analyse data to establish the performance and impact of the practice																	6.6	
	15.5-Report on adoption and performance achieved - to COPA																	6.6	
16	Finalise and implement mine-wide roll-out plan																		
	16.1-Decide/document any refinement to practice prior to roll-out																	6.6	
	16.2-Introduce and confirm effectiveness of identified refinements																		
	16.3-Finalise plans and commence mine-wide roll-out																		Key milestone T110

**Identify and plan to address critical success factors for adoption
at the lead adopter (or demonstration) mine**

No	Critical success factors	Comment - special action to be taken
	Effective demonstration of OHS performance	
	Credible identification of non-OHS impacts	
	Effective communication with future adopters	
	Adequate allocation of time and resources	
	Effective customisation of the practice	
	Maintenance of management interest and support	
	Effective monitoring and documenting arrangements	
	Support of Unions and the mine's OHS Committee	
	An effective post-demonstration workshop	
	Other - by Adoption Team	Check unintended consequences assessment of Section 5.14, consider outcome of checklist exercise of Section 6.1 and check notes from introductory workshop at the mine

This reference document should be read in conjunction with Section 5.16, which provides guidance to the MOSH Adoption Teams on the preparation of their Leading Practice Adoption Guides. Following these introductory comments, this document has been structured in the format of a generic example of a Leading Practice Adoption Guide and is provided to serve as a starting point for Adoption Teams in preparing their Leading Practice Adoption Guides.

Much of the material provided has been drawn from relevant sections of this handbook. The draft material must therefore be critically reviewed by the adoption team and adjusted as necessary to meet requirements that are specific to the leading practice they are considering

Some of the example material provided is in respect of particular leading practices to illustrate the detail or format of the material that should be included in the guide. In those cases where acceptable example material is not available explanatory notes are provided instead. Clearly, Adoption Teams should provide the relevant material for the leading practice in question, taking the example material and guidance notes into account, and then deleting them from their draft guide.

The example generic Leading Practice Adoption Guide follows:

MOSH LEARNING HUB Leading Practice Adoption System



Draft Leading Practice Adoption Guide for *Entry Examination and Making Safe Procedures*

Rev 0
xx Month 2010

Note: This draft guide is for use at the first of the adopter mines. It will be updated to take account of experience gained and input received while securing successful adoption at the first adopter mine.

The content of this note-box
needs to be varied according
to the status of the guide

Prepared by:
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- A N Other – Company affiliation
- Etc
- Etc

Example cover page

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THE MOSH LEADING PRACTICE ADOPTION SYSTEM

Milestones in Health and Safety

In June 2003, at the third Mine Health and Safety Council (MHSC) Summit, the Chamber of Mines of South Africa and its social partners, government and labour, established occupational safety and health milestones to be attained over a 10 year period. This was followed in 2005, and later reinforced in 2008, by the Chief Executive Officers in the mining industry expressing the commitment of industry to achievement of the milestones and continuous improvement towards zero harm.

Importantly, in 2006 a Mining Industry Occupational Safety and Health (MOSH) Task Force was established to identify the barriers and aids to the reduction of fatalities and occupational injuries and diseases on mines, and to find sustainable solutions for the attainment of the 2013 milestones. It was concluded that there were pockets of industry leading practice that had directly contributed to superior health and safety performance on some mines, and that if applied widely in the industry, they would contribute significantly to the achievement of the milestones. As a result, in December 2007, the Chamber of Mines agreed to pilot the Mining Industry Occupational Safety and Health (MOSH) Leading Practice Adoption System that had been devised to facilitate the identification and widespread adoption of the most promising of these leading practices throughout industry.

The MOSH Leading Practice Adoption System

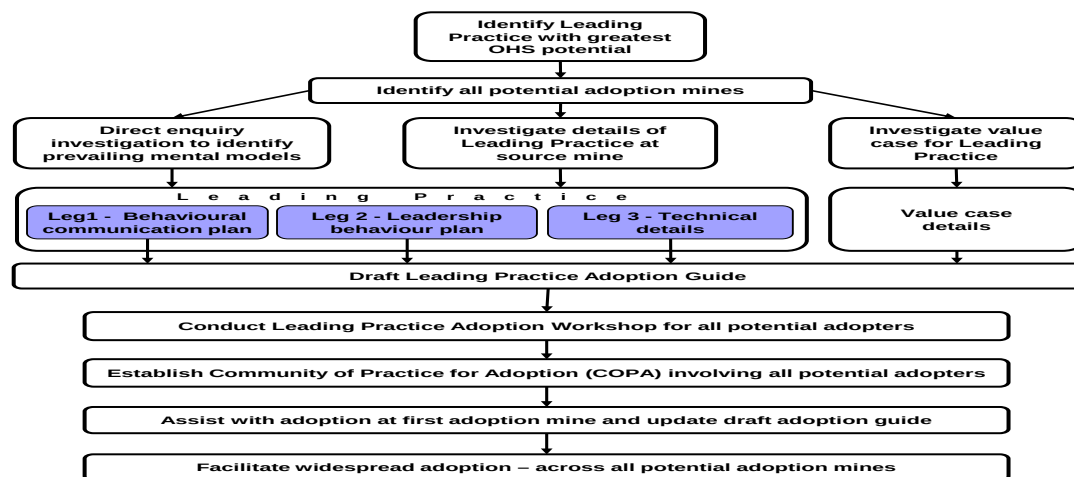
The MOSH Leading Practice Adoption System is a process that identifies promising leading practice, selects the best of these, documents it (possibly with refinements) at the operational mine (the source mine) and identifies possible aids and barriers to its adoption at potential adoption mines. Technological details of the leading practice together with detailed leadership behaviour and behavioural communication plans, and procedures for their adoption are then compiled by the relevant MOSH Adoption Team into a Leading Practice Adoption Guide. This guidance is tested at the first adoption mine, or at a special demonstration mine, and then updated by the MOSH Adoption Team to take account of lessons learned. The MOSH Adoption Team facilitates dissemination of this guidance throughout industry by presenting details at a Leading Practice Adoption Workshop and establishing a Community of Practice for Adoption (COPA). The COPA includes key persons from all potential adoption mines and is then used as a forum for providing on going assistance to mines, and for mines to learn from each other in adopting and continuously improving the practice.

The MOSH Leading Practice Adoption System fully recognises that, while a technological or procedural solution may have demonstrated effectiveness, success in adoption of the leading practice at another operation will depend on the key people at that operation - at all levels of employment and leadership. It is the behavioural communication (to address knowledge gaps and misperceptions) and leadership behaviour (to facilitate desired behaviour) aspects of the MOSH Leading Practice that address this challenge. Without the buy-in and support of these key people at the mine, enforced "top down" implementation of the practice at the mine is likely to be short-lived.

The two distinguishing features of the Adoption System and why it is so different from past approaches are thus, in addition to the usual necessary technical detail about the practice, the inclusion of:

- a structured communication strategy to achieve appropriate behaviours of key people at the mine, and
- a leadership behaviour strategy to set out and achieve the desired behaviours of key people at all levels.

Fundamental to the development of leadership behaviour and behavioural communication strategies is an understanding of stakeholder and adopter perceptions (mental models) with regard to the risk/hazard being addressed by the recommended leading practice. The behavioural communication and leadership behaviour strategies that form part of the leading practices have been developed to align with and respond to these mental models of potential stakeholders and adopters of the leading practice at each mine that decides to adopt the practice.



Simple schematic of MOSH Leading Practice Adoption System

Explanatory note: The standard explanatory note provided here should be included as a front page. It sets out a relatively brief explanation of the MOSH Leading Practice Adoption System. Experience warns that many persons at mines, at all levels, are not adequately familiar with either the MOSH Leading Practice Adoption System and processes. When this note is removed the text box and the diagram can be expanded to fill the page.

Executive summary

Executive summary: The “one-page” executive summary should be written with the mine manager and his executive management team in mind. In particular it should seek to bring out the following points:

- The distinguishing features of the leading practice – the features that are likely to catch the attention of the mine manager and his executive management team.
- The inclusion of behavioural communication and leadership behaviour plans to address barriers to adoption and to secure sustainable adoption
- The notable experience of the source mine in operating the practice
- The major benefits and value that adoption of the practice is expected to deliver to individual mines and industry as a whole.
- The scope of the guidance provided in the guide. In doing this it should be pointed out that the guide contains a one-page summary description of the 16-step adoption process and a one page detailed framework planning schedule of all envisaged adoption activities, and that for convenient reference these are provided immediately after this executive summary.
- The expected time scale of the adoption process
- The availability of assistance to mines through the COPA that has been established.

Reproduced here for ready future access, and as an extension of the executive summary, is a summary schedule of the 16 step adoption process, a one-page summary description of the 16 steps, and a one-page detailed framework of the particular activities involved in adopting the leading practice. Together they summarise the essence of the leading practice adoption guide.

Summary framework of overall adoption plan																		
Step	Activity	Weeks																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Facilitate adoption decision																	
2	Secure support for adoption																	
3	Establish and effective mine adoption team																	
4	Prepare initial plan for adoption																	
5	Initiate baseline monitoring programme																	
6	Establish effective relationship with the COPA																	
7	Update key stakeholders on progress																	
8	Plan and conduct direct enquiries																	
9	Customise generic behavioural plans																	
10	Harmonise leading practice with with mine standards																	
11	Assess risks and develop final adoption plan for approval																	
12	Develop training and communication materials																	
13	Brief and train key mine persons																	
14	Implement pilot adoption of the practice																	
15	Monitor evaluate and report on performance																	
16	Finalise and implement mine-wide roll-out plan																	

One page summary of adoption process

Important note: Most of the activities described below overlap and need to be undertaken in parallel. Guidance on the sequence of their initiation is provided in an [example plan](#) and a [chronological check list](#), which the mine adoption team must review and update according to the mine's needs.

1. Facilitate adoption decision

The mine must properly investigate the case for adopting the leading practice – a [check-box](#) investigation process is provided. The decision must be endorsed by senior general manager and the completed form sent to the MOSH Adoption Team Manager. [More](#)

2. Secure widespread support for adoption

The support of regional and mine level union representatives must be secured as soon as possible and a mine-wide briefing note issued to advise of the decision to adopt the leading practice. [More](#)

3. Establish an effective adoption team

A suitable person must be tasked with leading the mine adoption team, and another to assist in overseeing customisation of the behavioural plans that form part of the leading practice. Training of these persons should be discussed / arranged through the MOSH Adoption Team Manager. The Mine Adoption Team Manager must ensure establishment of a multi-disciplinary team with the competencies required for successful adoption of the practice. [More](#)

4. Prepare first version adoption plan

The Mine Adoption Team Manager must arrange a team workshop to ensure that all team members have a common understanding of the adoption process and to prepare an initial adoption plan. An [example plan](#) and process [check-list](#) is provided. At this stage the team must select the piloting area for the practice, schedule acquisition of the practice and agree the critical enablers for successful adoption. The MOSH Adoption Team Manager can assist with this workshop. [More](#)

5. Initiate monitoring programme

The key measurements needed to quantify performance and impacts must be identified at an early stage collection of the necessary baseline data must be initiated as soon as possible. [More](#)

6. Establish effective relationship with COPA

A meeting with the MOSH Adoption Team Manager should be arranged as soon as possible after the decision to adopt to set up appropriate COPA membership and arrangements for obtaining support, training and other assistance through the COPA and its members. [More](#)

7. Update key stakeholders on progress

Arrangements for keeping key stakeholders informed of progress, challenges and key developments must be established at an early stage to pave the way for eager adoption. This should include top management at the mine and the COPA. [More](#)

8. Plan and conduct direct enquires

A common expert understanding of the risk situation must be established as a datum for identifying any gaps or misunderstanding at the mine. The [generic expert risk summary](#) must therefore be reviewed and updated. Key persons involved in adopting the practice must be identified and about 30 people from all levels identified for direct enquiry interviews – [Worksheet](#). Most importantly, suitable persons must be selected, trained and properly briefed to conduct the interviews. Only then should the interviews be conducted using the [questions](#) provided. [More](#)

9. Customise generic behavioural plans

Suitable persons must be selected to analyse the interview results using the guidance provided in an [analysis worksheet](#). The results must then be compared to the updated expert risk summary, the

[generic mental models report](#), and the [generic behavioural communication](#) and [leadership behaviour](#) plans to identify any adjustments needed. Having made the identified adjustments the new communication requirements should be identified. The updated behavioural plans should then be presented to top management for approval. [More](#)

10. Harmonise practice with mine standards

The [technical elements of the leading practice](#) must also be reviewed and adjusted to ensure that the practice does not result in undue disruption. Adjustments needed to harmonise the practice with mine standards should be identified and introduced, provided that they do not compromise the core-elements of the practice. [More](#)

11. Develop approved mine-wide adoption plan

Having customised the three legs of the leading practice to take account of mine specific circumstances, the adoption team must conduct a detailed risk assessment of the planned changes. Identified risks must be addressed and mine-wide roll-out planned. The initial adoption plan should then be reviewed, updated and finalised for sign-off by top management. [More](#)

12. Develop training and communication materials

The customised behavioural plans and technical elements and supplier documents must be reviewed to carefully identify and plan the required training and both worker and supervisory levels. The training schedules should then be established and the training documentation and training lesson plans prepared. Arrangements must be made to develop the required behavioural communication material and to prepare any special documentation of signage needed for successful adoption. [More](#)

13. Brief and train key mine persons

Prior to implementing the training programme all supervisory levels and the workers should be briefed about the training and adoption programme. Aspects of the behavioural communication not included in the training programme should be implemented in these briefing sessions and in other activities as appropriate. The required training should then be provided as planned. [More](#)

14. Pilot adoption of the practice

Access to intellectual property and purchase of the required equipment must be arranged as early in the adoption process as is reasonably possible to minimise delays due to long delivery times. The necessary maintenance infrastructure / arrangements must also be set up in good time so that adoption of the practice is not delayed. Adoption at the piloting site should commence on completion of the briefing and training. [More](#)

15. Monitor, evaluate and report on performance and impacts

Procedures schedules and responsibilities for making, recording and reporting on the necessary measurements to monitor and determine the performance of the practice must be set up and implemented. The performance and impact of the leading practice should be written up and presented to management and to the COPA. [More](#)

16. Finalise and implement mine-wide roll-out plans

Once the leading practice has been successfully adopted at the piloting site the mine adoption team need to test and document any refinements to the practice considered necessary, and then finalise and implement the plans for mine-wide roll-out of the leading practice. [More](#)

Doc#47 Appendix A1		Framework of overall adoption plan																
Guide Section	Activity (See Guide sections G1 to G16 for guidance)	Weeks																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Links
1	Facilitate adoption decision																	G1
	1.1-Prepare and present case for adopting the leading practice at the mine.																	
	1.2-Obtain top management decision about adoption of the practice																	Key milestone T97
2	Secure support for adoption																	G2
	2.1-Secure support of regional and mine level union representatives																	
	2.2-Issue written mine-wide briefing note advising of decision to adopt																	
3	Establish and effective mine adoption team																	G3
	3.1-Identify and appoint a suitable project leader / champion																	
	3.2-Identify person to oversee customisation of behavioural plans																	
	3.3-Train project leader and behavioural plans overseer																	
	3.4-Secure establishment of an appropriate adoption team at the mine																	Key milestone T98
	3.5-Provide adoption team with copies of leading practice adoption guide																	
4	Prepare initial plan for adoption																	G4
	4.1-Workshop leading practice adoption guide - mine project team																	
	4.2-Review / refine example adoption plan																	Key milestone T100
	4.3-Identify an appropriate piloting section / area at the mine																	
	4.4-Identify/arrange specialist technical support considered necessary																	
	4.5-Agree critical enabling factors for successful adoption of the practice																	
	4.6-Ensure that sufficient time / resources have been provided																	
5	Initiate baseline monitoring programme																	G5
	5.1-Identify key measurements to determine performance of the practice																	
	5.2-Initiate collection of baseline data																	
6	Establish effective relationship with the COPA																	G6
	6.1-Meet with COPA coordinator to establish working relationship																	
	6.2-secure support / input / secondment / training via COPA interaction																	
7	Update key stakeholders on progress																	G7
	7.1-Provide feedback on adoption challenges / successes to COPA																	
	7.2-Prepare and issue progress updates to key stakeholders																	
8	Plan and conduct direct enquiries																	G8
	8.1-Review / update expert causal chain risk summary																	
	8.2-Identify adopters and key stakeholders																	
	8.3-Identify persons to conduct direct enquiry interviews																	
	8.4-Train and brief the interviewers																	
	8.5-Select persons to be interviewed																	
	8.6-Conduct the interviews																	Key milestone T103
9	Customise generic behavioural plans																	G9
	9.1-Identify persons to analyse the interview results																	
	9.2-Analyse results of direct enquiry interviews																	Key milestone T105
	9.3-Customise leadership behaviour & behavioural communication plans																	Key milestone T104
	9.4-Ensure that customisation checks have been fully satisfied																	Including NORMS
	9.5-Identify any new special communication requirements																	
	9.6-Secure top management approval of customised behavioural plans																	Key milestone T100
10	Harmonise leading practice with mine standards																	G10
	10.1-Review leading practice against current mine operational standards																	
	10.2-Identify non-core adjustments to harmonise practice with standards																	
	10.3-Adjust leading practice to harmonise with mine standards																	Key Milestone T102
11	Assess risks and develop final adoption plan for approval																	G11
	11.1-Plan roll-out of adoption across the mine																	
	11.2-Conduct "what if" exercise and adjust plans as necessary																	
	11.3-Conduct risk assessment of planned changes																	Key milestone T106
	11.4-Update and finalise adoption plan																	
	11.5-Clarify and agree criteria and time scale for completion of the project																	
	11.6-Secure top management sign-off of adoption plan																	Key milestone T108
12	Develop training and communication materials																	G12
	12.1-Plan training necessary for successful adoption																	
	12.2-Prepare training documentation																	Key milestone T107
	12.3-Develop required behavioural communication material																	
	12.4-Prepare documentation / signage to assist in adopting the practice																	
13	Brief and train key mine persons																	G13
	13.1-Brief supervisory levels involved in adopting the practice																	
	13.2-Brief the workers involved in adopting the practice																	
	13.3-Implement aspects of the two behavioural plans not included in training																	
	13.4-Train the persons involved in adopting the practice																	
14	Implement pilot adoption of the practice																	G14
	14.1-Arrange access to any required intellectual property																	
	14.2-Arrange purchase of the required equipment																	
	14.3-Set up the required maintenance arrangements																	
	14.4-Conduct preliminary pilot scale adoption of the practice																	Key milestone T109
15	Monitor evaluate and report on performance																	G15
	15.1-Set up monitoring and data collection arrangements																	
	15.2-Implement the monitoring and reporting programme																	
	15.3-Store key data in an electronic data base for later analysis																	
	15.4-Analyse data to establish the performance and impact of the practice																	
	15.5-Report on adoption and performance achieved - to COPA																	
16	Finalise and implement mine-wide roll-out plan																	G16
	16.1-Decide/document any refinement to practice prior to roll-out																	
	16.2-Introduce and confirm effectiveness of identified refinements																	
	16.3-Finalise plans and commence mine-wide roll-out																	Key milestone T110

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2. Summary description of the practice
3. Summary of documented performance and impacts
4. The generic value case

Part 2 – Detailed adoption guidance

One-page summary of adoption process

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- G2. Secure support for adoption
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- G4. Prepare initial plan for adoption
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- G14. Implement pilot adoption of the practice
- G15. Monitor, evaluate and report on performance
- G16. Finalise and implement mine-wide roll-out plan

Part 3 – Details of the leading practice

- P1 Technical elements
- P2 Behavioural communication
- P3 Leadership behaviour

Appendix A: Supporting work documents

- A1 Framework of overall adoption plan
- A2 Adoption process checklist
- A3 Systematic leading practice review process
- A4 MOSH Brochure outlining the Adoption Process
- A5 Guidance document for the eight-step customisation process
- A6 Expert causal chain risk summary – for customisation
- A7 Likely key stakeholders and adopters
- A8 Identification of adopters and stakeholders at the mine
- A9 Guide to interviewers for direct enquiry interviews
- A10 Questions for direct enquiry interviews at the mine
- A11 Analysis worksheet for direct enquiry responses
- A12 Generic mental models report
- A13 Portfolio of evidence

Appendix B: Supporting reference documents

- B1 Example documents / communications / signage / etc
- B2 Example training material

Table of contents

The table of contents should be similar to that shown here, but with page numbers included. The example shown here should be carefully reviewed and adjusted to suit the requirements of the particular leading practice.

It should serve as a good indication of the scope of the adoption guide, but should preferably fit on a single page

In an electronic version of the Leading Practice Adoption Guide, the various headings should be hyperlinked to the applicable section.

Part 1 – Strategic context

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The strategic context part of the guide must be kept brief. Its content must however leave the reader feeling that all potential adoption mines must seriously consider adopting the leading practice. Many readers may be inclined to just page through this section so highlighted key points, simple tables and graphs should be used where appropriate to attract the reader's attention.

1. The problem addressed:

A brief but clear indication of the nature and magnitude of the problem that is addressed by the leading practice should be given, at an industry and or sector level. This should be related to the milestones that need to be reached by 2013, or any other later milestones that may have been agreed upon. The potential contribution of the leading practice towards achieving these milestones, if it is widely adopted, should also be given. The relevance of the leading practice to this agreed strategic objective of industry should thus be made clear. The material presented should allow the reader to conclude that the adoption team's selection and work to date on the leading practice has been well worthwhile.

2. Summary description of the practice:

This should be drawn from the report covering the investigations at the source mine, (section [5.11](#)). In due course it may be updated to take account of successful adjustments introduced at the first adoption (or demonstration) mine, see section [6.7](#). It should set out the key elements of the practice, drawing attention in broad terms to any special skills or training necessary to successfully introduce and operate the practice. A brief comment should be included regarding the availability of any required equipment, intellectual property, special skills and training. It should be no longer than two pages and preferably only one. Its purpose is to provide top management with a clear idea of the key elements of the practice.

3. Summary of documented performance and impacts:

In preparing the value case the adoption team should have gathered all available information on the performance and impact of the leading practice. A clear summary of this information should be presented. The summary should include tables or charts of observed performance data. Importantly, it should be based on hard data and not projected performance. It would however be appropriate to draw attention to any limitations in the data. Once again, when updating and finalising the guide it may be possible to update the summary using information gathered at the first adopter (or demonstration) mine.

4. The generic value case:

Following a brief introductory comment a one-page summary of the generic value case developed in section [5.13](#) should be presented. This should be sufficient to complete the strategic context, including the implications of adopting the leading practice, but if not, it should be expanded upon to the extent necessary.

Part 2 – Detailed adoption guidance

One-page summary of the adoption process

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Once the leading practice has been successfully adopted at the piloting site the mine adoption team need to test and document any refinements to the practice considered necessary, and then finalise and implement the plans for mine-wide roll-out of the leading practice. [More](#)

Introductory comment

The adoption process comprises of 16 interrelated steps involving various activities that need to be systematically and fully undertaken to achieve successful adoption. The 16 steps and the various activities are shown in the activity schedule presented in Appendix A1. A summary of the schedule is provided below.

Summary framework of overall adoption plan																	
Step	Activity	Weeks															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Facilitate adoption decision																
2	Secure support for adoption																
3	Establish and effective mine adoption team																
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5	Initiate baseline monitoring programme																
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14	Implement pilot adoption of the practice																
15	Monitor evaluate and report on performance																
16	Finalise and implement mine-wide roll-out plan																

Guidance on the particular activities identified in the detailed activity schedule of Appendix A1 is provided below using the same numbering sequence as that of the schedule.

Sequence of adoption activities

Importantly, the activity schedule presented in Appendix A1 indicates the envisaged timing of the various activities and thus also the approximate sequence of their envisaged initiation. It is not possible to provide more precise guidance on this since many of the activities need to be carried out in parallel and the precise order of their initiation is in many cases not critical. Deciding on when to initiate the various activities is an important management responsibility. Nevertheless, an adoption progress checklist in approximately the chronological order of the activities in Appendix A1 is provided in Appendix A2.

Documenting of the adoption process - Compilation of a portfolio of evidence

Systematic filing of documents that are an important in successfully undertaking a project is fundamental to good project management, and should be seen as a requirement in undertaking the adoption process outlined in this guide. While the nature and extent of the documentation maintained will vary between mines and mine adoption team managers, for the adoption process outlined in this guide there are certain documents that are considered particularly important. Together these documents constitute evidence of a successfully executed adoption process, and are thus referred to as a portfolio of evidence. The relevant documents are listed in Appendix A13, in the form of a table of contents for the file that should be kept by adoption teams.

G1. Facilitate adoption decision

G1.1. Prepare and present case for adopting the leading practice at the mine:

- The relevant specialist at the mine should evaluate the case for adopting the leading practice. (This is an implicit requirement of both the Mine Health and Safety Act and the Mining Charter). A check box style process flow diagram for such an assessment is provided in Appendix A3.
- The mine specific benefit and value of adopting the leading practice, or lack thereof, should be clearly identified and documented. The generic value case prepared by the MOSH Adoption Team should be consulted in undertaking this assessment. It is available on MOSH website at www.mosh.co.za.

G1.2. Obtain top management decision about adoption of the practice:

- Top management at the mine need to be fully aware of what the MOSH Leading Practice and the adoption process entail, before deciding about whether or not to adopt. To achieve a fully successful outcome they must be supportive of both the practice and the adoption process.
- The simple explanation and diagram presented earlier, and the brochure about the adoption system presented in Appendix A4 are provided to assist in the preparation of a brief explanation of the MOSH Adoption System to top management. A 15 minute explanatory DVD is also available from the MOSH Secretariat.
- Should additional assistance be required in preparing or presenting the case to top management, the MOSH Adoption Team Manager should be contacted.
- The Senior General Manager at the mine should record the decision about adoption on the assessment form of Appendix A3 and arrange for the signed form to be returned to the MOSH Adoption Team Manager.

Points to consider in updating this section

- During the process of interacting with the key persons at potential adoption mines the MOSH Adoption Team might have already provided the identified Mine Managers with a copy of the MOSH DVD.
- In the event that the MOSH Adoption Team has produced additional DVD or other material to assist in securing a good understanding of the leading practice and the adoption process, this should be provided as part of guide, with this section being appropriately updated.

G2. Secure support for adoption

G2.1. Secure support of regional and mine-level union representatives:

- Regional and mine-level Union Representatives should be engaged as soon as possible to secure their understanding, buy-in and support for the leading practice. This is crucial. The extent of the support provided, or withheld, can greatly facilitate or inhibit the adoption process.

G2.2. Issue written mine-wide briefing note advising of decision to adopt:

- A mine-wide briefing note should be issued by management to inform employees of the intention to adopt the leading practice at the mine. This

should be done as soon as possible after engaging the unions, and preferably with their support.

- The note should advise that the adoption process will involve detailed discussions with various employees at all levels to get their input into the adoption process. (These discussions are the one-on-one direct enquiry interviews described under G8.)

G3. Establish an effective mine adoption team

G3.1. Identify and appoint a suitable project leader / champion:

- An important aspect of top management's decision to adopt the leading practice must be that a suitable person will be assigned the task of leading the project and championing the leading practice and the adoption process at the mine. This is crucial to the success of the adoption process.
- The selected person must have time to properly fulfil the role of adoption team manager, and leading practice champion. This is not an understatement and the mistake of overloading a competent person must not be made.
- Systematic execution of the adoption process and successful adoption of the leading practice should become a key performance criterion in the selected person's performance contract with the mine.
- The attributes of an ideal leading practice adoption team manager and champion are provided in the check-box table below to assist the mine making this selection.

Attributes of a Leading Practice Adoption Team Manager / Champion		
1	Credibility: An essential requirement is that the champion should be credible. This individual should preferably be someone linked directly to the specific discipline and should be at an appropriately high level in the organisation. He/she should have good levels of knowledge, energy, leadership, communication skills and personal credibility.	0
2	Involvement: Having selected an individual with the right potential, it is essential that he/she has sufficient time available to adequately perform the functions of project management and championship. To do this, the person needs to become deeply involved in the details of the technology as well as the people components of the leading practice, to appreciate the issues and problems, and to assist in, or be knowledgeable about their solution.	0
3	Leadership: An important role of the person selected will be that of providing leadership in overcoming implementation problems that arise, including that of energising lagging aspects of the process. It will also include the provision of insightful input into the development of strategies and plans for the progressive adoption of the leading practice across the mine.	0
4	Communication: A particularly key role will be that of being an effective spokesperson for the leading practice being championed. To do this	0

effectively, the champion should accumulate key data and prepare appropriate documents and presentations to communicate such performance and technical data to interested parties, initially at the mine, but in due course on behalf of the mine at industry workshops, conferences, and so on.

G3.2. Identify a person to oversee customisation of behavioural plans:

- A specific person needs to be identified and allocated the responsibility for overseeing the process of customising the generic behavioural plans to take account of mine specific circumstances and then integrating them into the mine's adoption plan. To gain the people related benefits of the MOSH adoption process it is essential that this process is properly carried out. A *behavioural plans overseer* is required to ensure that this is the case.
- The generic behavioural communication and leadership behaviour plans are provided in Part 3, in sections P2 and P3 respectively. They are integral parts of the MOSH Leading Practice – they address the knowledge gaps and other identified barriers to successful adoption, and help ensure the behaviours needed at all levels for a sustainable adoption. They must be customised to take account of mine specific circumstances and then implemented for adoption of the MOSH Leading Practice to be *complete*.
- To assist in clarifying what needs to be overseen, and why oversight responsibility needs to be allocated to a specific person, an outline of the eight-step process for customising the behavioural plans is presented in a single document in Appendix A5. Relevant details are however presented at the appropriate point in this part of the guide.
- Given that the mine may in future adopt other MOSH leading practices with similar customisation requirements, consideration should be given to identifying a person well placed to assist future adoption teams at the mine. The nature of the work suggests that such a *Behavioural Plans Overseer* could well be drawn from the Human Resources department.
- For other MOSH leading practices this responsibility has sometimes been allocated to the Mine Adoption Team Manager but this has not worked well.

G3.3. Train project leader and behavioural plans overseer:

- The project leader (the *Mine Adoption Team Manager*) should liaise with the MOSH Adoption Team Manager and the *Group Adoption Coordinator*, (if his mining company has appointed one) to identify suitable training arrangements for himself and the identified *behavioural plans overseer*.
- No formal training courses are yet available and at this stage one of the MOSH Adoption Team Managers or one of the

- In the event that more specific training arrangements become available this section should be appropriately updated to reflect this.

- Consideration should be given to including a list of mines that have already successfully worked through the process of customising behavioural plans for other leading practices.

Learning Hub Specialists may need to provide the necessary training and mentorship.

- An alternative that should also be explored with the MOSH Adoption Team Manager is that of arranging for the two mine persons to spend time with their equivalents at a mine that has already successfully worked through an adoption process.

G3.4. Secure establishment of an appropriate adoption team at the mine:

- In addition to the *Mine Adoption Team Manager* and the *Behavioural Plans Overseer*, the mine adoption team should include:
 - a person from the training department,
 - the line manager of the section in which the adoption process is to be initiated,
 - a person representing labour,
 - a mine safety specialist, and
 - a specialist in the area of the leading practice.
- All of the persons in the Mine Adoption Team must have sufficient time available to fulfil their role and responsibilities on the adoption team, and this should be appropriately reflected as a key performance area in their performance contracts with the mine.

- Depending on the leading practice and the experience of the MOSH Adoption Team, the team may wish to advise a different composition of the Mine Adoption Team.
- When updating the guide after adoption at the first adopter mine, the experience obtained at that mine should be taken into account when updating the guide.

G3.5. Provide adoption team with copies of leading practice adoption guide:

- This should be done at least a few clear days before holding a workshop to review and initiate the adoption process. Team members should familiarise themselves with the guide before the workshop.

G4. Prepare first version adoption plan

G4.1. Workshop leading practice adoption guide - mine project team:

- A workshop should be arranged to enable all members of the Mine Adoption team to have a good and common understanding of both the leading practice and the adoption process. The agenda for the workshop should include the following:
 - Opening by Mine manager to explain the steps already taken
 - The case for adopting the leading practice
 - Key elements of the MOSH Adoption System
 - Potential assistance from the COPA and the MOSH Adoption Team
 - Key technical elements of the leading practice
 - The concepts of leadership behaviour and behavioural communication

- The leading practice adoption guide
- The mine's role in facilitating industry-wide adoption of the practice
- Modus operandi of the Mine Adoption Team
- Much of the material required for the initial agenda points is in the leading practice adoption guide, but these agenda points should be presented and discussed before going through the guide. These presentations and discussions will provide a context that will be helpful when working through the guide.
- The Mine Adoption Team Manager should consider inviting the MOSH Adoption Team Manager to attend the workshop to assist in presenting some of the concepts and in answering some of the questions that could arise.

G4.2. Review / refine example adoption plan

- The Mine Adoption Team must properly understand and take ownership of the adoption plan to be implemented. The framework plan provided in Appendix A1 must thus be carefully reviewed and adjusted as appropriate to take account of mine and team specific requirements. The adoption guide should then also be adjusted / annotated / and used accordingly.
- The team needs to allocate date specific timing to each of the various activities. Particular attention must be given to the time required for arranging access to any intellectual property, capital funds or major equipment, and to scheduling early action to minimise the impact of such time requirements.
- The team should ensure that any adjustments to the example plan do not compromise proper customisation and implementation of the behavioural plans. The MOSH Adoption Team Manager should be consulted in the event of any uncertainty on this point.

G4.3. Identify an appropriate piloting section / area at the mine

- Initiation of the adoption process at the mine should be piloted in a carefully selected site. The selected site should be:
 - of sufficient size to meaningfully implement all aspects of the leading practice that will be encountered in extending its adoption across the mine, and
 - well managed, and not beset with unusual operational problems.
- Ensuring that these criteria are met will minimise risks and enable adoption challenges to be appropriately addressed.

Points to consider in updating this section

- The experience gained at the first adoption (or demonstration) mine should be reviewed and used as appropriate when updating the guide, to provide more specific information to assist in selecting the piloting section at adoption mines.

G4.4. Identify/arrange any specialist technical support considered necessary

- During the course of reviewing and updating the framework adoption plan the team should identify any areas where they consider specialist technical support to be necessary.
- Training or specialist support required for handling the direct enquiry and analysis work involved in customising the behavioural plans is dealt with under points G8.3 and G8.4. Requirements additional to these should be arranged as appropriate.

G4.5. Agree critical enabling factors for successful adoption of the practice

- The Mine Adoption Team and senior management at the mine should be clear about, and agree upon, the factors which are critical enablers for adoption of the practice at the mine to be successful.
- These factors should be identified by the Mine Adoption Team for discussion and agreement with senior and top management.
- Consideration should be given to factors such as:
 - Understanding and ownership of the adoption process
 - Effective communication with all key stakeholders and operational adopters
 - Adequate allocation of time and resources
 - Effective customisation of the practice and behavioural plans
 - Management involvement, interest and support
 - Union involvement
 - Other factors identified by the Mine Adoption Team.

Points to consider in updating this section

- Based on experience and considerations at the first adoption mine (or demonstration) mine, when updating the guide the MOSH Adoption Team may be able to provide additional guidance on this point.

G4.6. Ensure that sufficient time / resources have been provided:

- At this point the Mine Adoption Team Manager should make an explicit and careful assessment of the time allowed for the project, and of the resources allocated to it.
- The Mine Manager should be advised of the outcome of this review and at that time any shortcomings that cannot be readily addressed by the team should be raised with the Mine Manager.
- Both the Mine manager and the Mine Adoption Team Manager have a special responsibility to ensure that no inappropriate short cuts or omissions occur due to understaffing or the imposition of deadlines that are too tight.

G5. Initiate baseline monitoring programme**G5.1. Identify key measurements to determine performance of the practice**

- Identification and planning of the monitoring process to acquire data to quantify the impact of the leading practice should start as soon as possible after the decision to adopt.

- The key measurements needed to quantitatively indicate the performance and impact of the practice must be identified by the Mine Adoption Team well before implementation of the practice begins.
- Consideration should be given to measuring parameters such as:
 - Relevant OHS indicators
 - Operational problems encountered
 - Equipment availability
 - Non-compliance incidents
 - Relevant production indicators
 - Absenteeism
- The identified parameters and the procedure and responsibility for making the measurements should be written up in a brief document. The document should also indicate the envisaged analysis and the responsibility for its execution. The document should thus cover:
 - Data collection procedures
 - Quality assurance
 - Data storage
 - Data analysis
- These details must be regarded as an important aspect of the adoption plan and not as a nice to have.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be in a position to provide more specific and helpful guidance.

G5.2. Initiate collection of baseline data

- Arrangements to gather the necessary baseline data must be implemented as soon as possible, otherwise the opportunity to credibly quantify the performance / impact of the leading practice will be lost.
- The data routinely collected by the mine may simply be assumed to be adequate. They are unlikely to be fully sufficient for this purpose and additional measurements will probably be necessary.

G6. Establish effective relationship with the COPA

G6.1. Meet with COPA coordinator to establish a working relationship:

- The Mine Adoption Team Manager should meet with the MOSH Adoption Team Manager to clarify the mine's membership of the COPA, and the nature and extent of support and assistance that might be sourced from either the MOSH Adoption Team, the source mine, or COPA members.
- A number of key people at the mine should already have been contacted by the MOSH Adoption Team Manager and some may thus already be members of the COPA. The Mine Adoption Team Manager and should become the regular member, with the Behavioural Plans Overseer should attending when

necessary. It would be appropriate for someone from the mines top management team to also be a member, but not more than this.

- A modus operandi for active and productive membership of the COPA, including obtaining assistance when needed, should be discussed and agreed with MOSH Adoption Team Manager.

- The MOSH Adoption Team Manager may wish to arrange for the interaction and relationship with key persons at adoption mines to be initiated differently. If so this section should be adjusted accordingly.
- Whatever the adjustment, the net effect must be to secure an effective working and liaison relationship with the key persons at adoption mines, particularly the first few mines that decide to adopt the leading practice.

G6.2. Secure support / input / secondment / training via COPA interaction:

- This must be seen as an on-going activity. Particular needs are likely to arise as the adoption process unfolds and these should be explored through the COPA according to the modus operandi agreed upon in point G6.1. Active participation in the COPA will help enable this.
- Depending of the skills of identified team members, the need for support through the COPA, in one form or another, could well emerge at an early stage – see point G4.4. This should be acted on without delay.

G7. Update key stakeholders on progress

G7.1. Provide feedback on implementation challenges / successes to COPA

- Detailed feedback should be provided to the COPA on significant difficulties encountered and on key successes achieved.
- Voluntarily sharing of problems encountered and successes achieved should be regarded as an important way of learning and of passing on hard earned experience.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be able to provide more specific guidance on this point.

G7.2. Prepare and issue progress updates to key stakeholders

- The Mine Adoption Team Manager must ensure that key stakeholders are kept informed of progress.
- Brief progress updates should be prepared and issued regularly to the Union leaders, mine management, and the MOSH Adoption Team Manager.
- Progress on the adoption process should be reported to and discussed with the Mine Manager at least once per month.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be able to provide more specific guidance on this point.

G8. Plan and conduct direct enquiries

G8.1. Review / update expert causal chain risk summary

- The Mine Adoption Team, with the assistance of relevant experts at the mine, should critically review the causal chain expert risk model provided in Appendix A6.
- The expert risk model should be updated to include any important mine specific being addressed by the leading practice that is not reflected in the expert model of Appendix A6.
- Discarded or added aspects should be identified and retained as they may assist the process of customising the behavioural plans.
- In concluding the review process it is essential to ensure that all participants have the same understanding of the risks situation at the mine that is being addressed by the leading practice. *(It is this expert understanding of the mine's risk situation that allows the team to identify important knowledge gaps or misperceptions that must be addressed through the customised behavioural communication plan.)*

G8.2. Identify adopters and key stakeholders

- The Mine Adoption Team must identify the adopters and stakeholders that will be involved in the process of adopting the leading practice at the mine. This should be done with the guidance provided by:
 - the list of anticipated adopters and key stakeholders identified in Appendix A7 , and
 - The notes included on the Worksheet of Appendix A8 to facilitate identification of the appropriate people at the mine.

G8.3. Identify persons to conduct direct enquiry interviews

- Persons trained in conducting direct enquiry interviews should be used to conduct the interviews.
- The mining company's *Group Adoption Coordinator*, if appointed, is expected to maintain a list of persons in the Group who have been trained in direct enquiry interview techniques, and he should be contacted to establish whether trained persons can be made available to conduct the interviews.
- In the event that trained persons are not available through with the *Group Adoption Coordinator*, the Mine Adoption Team Manager together with the Behaviour Plans Overseer should select persons for training in direct enquiry interview skills.
- The persons selected should not be directly involved in adopting or operating the leading practice. They should be persons who are most likely to:
 - Cause interviewees to feel comfortable within an interview setting, that is, to feel free to speak openly and candidly about their observations and views,
 - Be considered credible by those being interviewed, and

- Diligently complete each scheduled interview on time and in the required manner.

G8.4. Train and brief the interviewers

- The Mine Adoption Team Manager should liaise with the MOSH Adoption Team Manager to arrange any required training.
- The trained interviewers should be provided with the briefing material provided in Appendix A9.
- They should then be collectively briefed by the about the leading practice, the risks being addressed, the objectives of the interview process, the procedures and logistics of arranging the interviews, the persons they are scheduled to interview, and the time scale of the process. They should also be taken through the briefing material provided to them.
- The Behavioural Overseer must ensure that all interviewers know that they must prepare for their interviews by:
 - Studying and discussing the updated summary risk story with an appropriate member of the Mine Adoption Team to ensure that they have a thorough understanding of the risks being addressed by the leading practice.
 - Ensuring that they are fully familiar with the interviewer's briefing and guidance provided in Appendix A9, on conducting a one-on-one direct interview properly.
 - Practicing the interview at least once (perhaps with a mine adoption team member), and finally,
 - Reviewing with him their understanding of the interview process and how it should be conducted and documented.

G8.5. Select persons to be interviewed

- The people selected should range across the various categories of adopters and stakeholders in such a way as to ensure good representation of those most involved in accomplishing adoption of the practice.
- The number of persons to be interviewed should be between 25 and 30. This has been shown to be an appropriate number to get meaningful interview results.
- The sample should be drawn from across the entire mine and not just the site selected to pilot the adoption process.
- Identifiers for the selected interviewees should be entered into the worksheet of Appendix A8. The names of those to be interviewed should not be entered as they should be kept confidential to the Mine Adoption Team.

G8.6. Conduct the interviews

- The direct enquiry interview questions to be used in the direct enquiry interviews are provided in Appendix A10. The interview seeks to establish the following:
 - Stakeholders/ Adopters beliefs about the causes and outcomes of the risk
 - Stakeholders/ Adopters beliefs about the leading practice and how best to protect people from the risk, and
 - Stakeholders/Adopters beliefs about key leader behaviours and behavioural communication needs
- Each interviewer should schedule all of their allotted interviews to be conducted one-on-one in a place suitably private and free from noise and other distractions.
- Interviewers should ask all questions fully, prompting for as complete and in-depth answers as possible. It is the prompting aspect of the interviewing procedure that should be focused upon in the practice sessions
- Interview responses should be carefully documented at the time of the interview using the Interview Worksheet of Appendix A10 and the Interviewee's own words. It should be typed up to facilitate the analysis process.
- Recorders may be used to assist the process of accurately capturing the interviewees responses, but only if the interviewee is explicitly asked and clearly gives approval.

G9. Customise generic behavioural plans**G9.1. Identify persons to analyse the interview results**

- Persons capable of reliably summarising the interview results must be chosen to undertake this work. A number of the members of the Mine Adoption Team should be well suited for this task.
- Alternatively, the task may be assigned to two or more individuals associated with the team and adoption effort, but not to only one person.

G9.2. Analyse results of direct enquiry interviews

- Each analyst must ensure that they have a sound understanding and familiarity with the updated expert risk model, as well as the generic mental models report provided in Appendix A12.
- Analysts must carefully read each set of interview responses and make notes against key questions posed in the analysis worksheet of Appendix A11.
- Working alone, each analyst should read and note their observations against the questions posed in the analysis worksheet.
- Once all interviews have been analysed in this way, the analysts should meet in a group session to share and compare the results of their analyses. The

analysts should identify where their individual analyses agree, and why, and where they disagree and why. Unresolved disagreements between analysts should be noted.

- As a group the analysts should address the main questions in the worksheet for analysis, writing mutually agreed detailed answers to the questions, and identifying the most influential beliefs, and their underlying rationale in the process of doing so.
- As a final check, the analysts should re-read the interviews to ensure that they have adequately captured and described the key beliefs expressed in the answers to the questions asked of the stakeholders and adopters.
- Using their completed Appendix [A11](#) Analysis Worksheet, and with a view to identifying any important differences, the results of their analyses should be compared with the updated expert risk model and the generic mental models report provided in Appendix [A12](#). It is these differences that need to be taken into account in customising the behavioural plans.

G9.3. Customise leadership behaviour and behavioural communication plans

- The Mine Adoption Team Manager and the Behavioural Plans Overseer must ensure that they fully understand the leadership behaviour and the behavioural communication plans and their derivation, before proceeding with the process of customising the plan. These plans are provided in Part 3 in sections [P3](#) and [P2](#) respectively.
- Customisation of the two behavioural plan must be based strictly on answers to the guiding questions set out in the analysis worksheet of Appendix [A11](#).
- New material to be introduced into either of the plans should be expressed in the form of behavioural outcomes - actions that can be observed (what should they be seen to do?) or the expression of an understanding or beliefs in particular circumstances (what should they be heard to say?).
- In customising the behavioural communication plans the contents of each communication should be adjusted to take account of the answers to the questions in Appendix [A11](#), and also the modes of communication that are available at the mine
- The material in the generic plans should be taken as guidance on the formulation of new content. Once updated each of the customised plans should be checked and adjusted to ensure that it is both coherent and self-consistent.
- The Mine Adoption Team Manager should liaise with the MOSH Adoption Team Manager to explore the possibility of having the customised plan reviewed, by either the MOSH Adoption Team Manager or by an appropriate Specialist at the MOSH Learning Hub.

G9.4. Ensure that customisation checks have been fully satisfied

- The Behavioural Plans Overseer must ensure that each of the 8 steps in the process of customising the behavioural plans has been properly done before allowing the team to progress to the next.
- On completion of the customisation process, a final overall check should be done jointly by the Mine Adoption Team Manager and the Behaviour Plans Overseer

G9.5. Identify any new special communication requirements

- The Mine Adoption Team should critically review the customised plans in relation to the example materials provided with this guide to identify any new communication material considered necessary, such as signage, posters, slides, video etc.

Points to consider in updating this section

- The experience gained at the first adoption (or demonstration) mine should be reviewed at the time of updating the guide. In particular the review should focus on identifying more specific guidance about sourcing or producing some of the key materials identified in the generic behaviour communication and leadership behaviour plans.

G9.6. Secure top management approval of customised behavioural plans

- Given the nature of the behavioural communication and leadership behaviour plans, and their potential impact on the management culture at the mine, the customised behavioural plans should be presented in detail to top management to get their buy-in and approval.
- The Mine Manager should be asked to explicitly approve implementation of the plans
- In presenting the plans, the results of the direct enquiry process should be highlighted – in particular the generic mental model and the new mine specific findings should be brought out and their broad implications for the mine discussed.

G10. Harmonise leading practice with mine standards**G10.1. Review leading practice against current mine operational standards**

- The operational details of the leading practice must be reviewed in relation to mine standards to identify any potential conflicts or operational problems.
- The practicality and acceptability of the operational details in implementing the leading practice should also be tested and confirmed with the operational managers at the mine.

G10.2. Identify non-core adjustments to harmonise practice with mine standards

- Any changes or adjustments to the leading practice that need to be made to harmonise the practice with mine standards must be carefully assessed to ensure that they do not detract from the essence and effectiveness of the leading practice.

- In particular the identified changes must not impact negatively on the core aspects of the leading practice.
- In the event that that this assessment cannot be made with certainty, the MOSH Adoption Team Manager should be consulted.

G10.3. Adjust leading practice to harmonise with mine standards

- The Mine Adoption Team should work out when and how best to implement and test the identified adjustments to harmonise the leading practice with mine standards.
- If possible, this should be done before initiating the full piloting process.
- Details of successfully implemented harmonisation adjustments should be shared with members of the COPA.

G11. Assess risks and develop final adoption plan for approval

G11.1. Plan roll-out of adoption across the mine

- The Mine Adoption Team needs to initiate planning of the process for extending adoption of the leading practice across the mine at an early stage. Such planning should involve:
 - Obtaining input from the relevant operational managers at the mine.
 - Scheduling of feedback sessions to senior management and operational managers on progress, problems encountered and solutions found – see G7.
 - Arrangements for operational persons to visit the piloting site at appropriate times.
 - Scheduling of the envisaged roll-out activities.

Points to consider in updating this section

- The experience gained at the first adopter (or demonstration) mine should be reviewed and used as appropriate when updating the guide, to provide more specific guidance on the factors that need to be considered and on the specific steps that should be taken

G11.2. Conduct "what if" exercise and adjust plans as necessary

- Most mines routinely conduct a "what if" exercise in planning their project work and a similar due diligence exercise is envisaged here, to identify and put in place any contingency plans considered necessary.
- Each of the implementation actions should be systematically considered by the Mine Adoption Team in a session arranged for this purpose.
- The adoption implementation plans should be adjusted as necessary.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide it may be possible to provide more definitive guidance in regard "what if" issues that should be considered.

G11.3. Conduct risk assessment of planned changes

- In many respects the “what if” exercise should deliver the same outcomes as a systematic risk assessment of the planned changes. The risk assessment must however involve a more holistic assessment. In practice the two exercises may be combined and be outcomes from the same session of the Mine Adoption Team.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may elect to combine points #35 and #36 into a single point concerned with risk management

G11.4. Update and finalise adoption plan

- Having completed the planning process the adoption plan should be updated to reflect any changes considered necessary and finalised for presentation to top management at the mine. The plan should be in a convenient format and form for on-going review and use.

G11.5. Clarify and agree criteria and time scale for completion of the project:

- The Mine Adoption Team should critically review the finalised adoption plan and agree the criteria and timescale for completion of the adoption process.
- It is important to specify criteria for completion of the adoption process so that both the Mine Adoption Team and Mine Management have the same understanding of when the adoption process is complete.
- The criteria for completion should include successful mine-wide adoption to the point where the leading practice is operating to the satisfaction of the responsible operational management.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, it may be possible to provide more definitive guidance in regard to the criteria for completion when updating the guide.

G11.6. Secure top management sign-off of adoption plan:

- In the event that top management has been kept properly informed of progress and developments, a formal sign-off on the implementation plan may appear to be unnecessary at this stage. The temptation to skip this step should be resisted.
- Arrangements should thus be made to present the finalised adoption plan to top management in order to maintain their involvement and support.

G12. Plan / develop training and communication materials**G12.1. Plan training necessary for successful adoption**

- The Mine Adoption Team Manager, the Behaviour Plans Overseer, the Training Manager and the Production Manager or his nominee should together plan the training necessary for successful adoption of the leading practice.
- The starting point of this planning process should be an in-depth consideration of the following:

- The customised leadership behaviour and behavioural communication plans, to identify key elements that need to be built into the training materials for each level of the hierarchy involved in adoption of the practice.
- The example training materials included in this guide.
- Any special training requirements identified by equipment or other service providers associated with supply of the leading practice.
- The mine's existing training arrangements should then also be considered in relation to the findings from the above to clearly identify the scope and content of the additional training considered necessary for successful adoption.
- A schedule of who is to receive what training and when should then be developed and agreed, initially for those involved in the pilot adoption, but then also for others involved in adoption of the practice as it is rolled-out across the mine.

Points to consider in updating this section

- The training implemented at the first adopter (or demonstration) mine should be reviewed to identify any additional guidance that could be added when the guide is updated and finalised.
- In particular, ways of avoiding or dealing with any particular difficulties that might arise in this planning process should be provided.

G12.2. Prepare training documentation

- The Mine Adoption Team Manager, the Training Manager, and the Behavioural Plans Overseer should agree the responsibilities and procedures for preparing the necessary training material and training lesson plans.
- The Training Manager and the Behavioural Plans Overseer should oversee the process of developing the necessary training documents, and for ensuring a quality outcome.

G12.3. Develop required behavioural communications material

- The Behavioural Plans Overseer and the person at the mine responsible for developing mine communications material should meet to review and decide upon how best to produce all of the behavioural communications materials that arise from the behavioural communication and leadership behaviour plans. Much of this will be for use in the training programme, but some should also be for use elsewhere, such as in the briefing sessions and in various other operational situations not covered in the training programme.
- The Behavioural Plans Overseer must ensure that materials produced are of acceptable quality, and that they are produced in good time for use as planned.

G12.4. Prepare documentation / signage to assist in implementing the practice

- The Mine Adoption Team Manager and the Behaviour Plans Overseer must together identify and arrange for production any additional documents, posters, and signage needed to secure successful adoption of the leading practice.

- Together they must ensure that all of the communication materials for successful implementation of the adoption process have been identified and appropriately addressed in one way or another.

G13. Brief and train key mine persons

G13.1. Brief supervisory levels involved in adopting the practice

- The Mine Adoption Team Manager should discuss and agree arrangements for briefing supervisors and workers involved in adoption the leading practice.
- The first of the two briefings should be held soon after identifying the key stakeholders and adopters involved in the adoption process. The primary point of the initial briefing should be to explain the direct enquiry process to alert them to the fact that certain people would be selected to participate in confidential interviews to make input into the adoption process.
- It should also be explained that in due course all people involved in adoption of the leading practice would receive appropriate training.
- A brief description of the practice should also be given and an opportunity provided for any uncertainties to be raised and addressed either then or in follow-up sessions.
- The need for workers to be properly briefed about what lies ahead should also be appropriately covered.
- The second of the two briefings should be held prior to implementation of the training programme. The Mine Adoption Team Manager should brief all supervisors of the training and other arrangements relevant to implementation of the adoption process.
- As part of this briefing, and as an *aide memoir*, the supervisors should be provided with a schedule setting out details and timing of their and their staff's training, as well as a brief document summarising key operational aspects of the adoption process.

Points to consider in updating this section

- Based on the experience gained at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be in a position to provide more specific information and guidance of the content of these briefings

G13.2. Brief the workers involved in adopting the practice

- The first of the two briefings by supervisors must be focused on informing staff about the direct enquiry process to obtain input into the adoption process, that some staff from all levels will be invited to participate, and that all persons involved with the practice would be appropriately trained prior to its adoption.
- A brief description of the practice should also be given and an opportunity provided for any uncertainties to be raised and addressed, either then or in follow-up sessions if necessary.

- In the second of the two briefings, details about the nature and timing of the impending training should be provided, along with any other detail considered necessary prior to the training sessions. The briefing may also include delivery of certain elements of the behavioural communications plan.

Points to consider in updating this section

- When updating the guide, the MOSH Adoption Team may be in a position to provide more specific information and guidance of the content of these briefings and this section should be expanded to accommodate such guidance.

G13.3. Implement aspects of the two behavioural plans not included in training

- Much of the behavioural communication and leadership behaviour plans will have been integrated into the training programme in one way or another (some for delivery directly by the trainer, and some to be provided to supervisors for their use in operational communications with those who report to them).
- Those aspects of the two behavioural plans that are not included in the training programme should be identified by the Mine Adoption Team, along with the persons responsible for their delivery or for ensuring that they are implemented. This may involve persons at higher levels of management.
- The Mine Adoption Team Manager along with the Behaviour Plans Overseer should arrange to meet with these people individually or collectively as appropriate to properly brief them on what is required, to clarify any points of uncertainty, and to provide them with the necessary communication material.
- Follow up sessions with various individuals should be arranged as necessary to ensure a full understanding of what is required.

G13.4. Train the persons involved in adopting the practice

- Initiate the training process according to the training programme that has been developed, with the initial focus being on those who require training to enable successful adoption of the leading practice at the piloting site.
- Follow-on with the training programme according to plan, which should extend right through to completion of the mine-wide roll-out process for the leading practice.

G14. Implement pilot adoption of the practice

G14.1. Arrange access to any required intellectual property

- As indicated in the example adoption plan, access to any required intellectual property should be one of the first actions taken by the Mine Adoption Team. This requirement should seldom arise. However, when it does, the need to obtain such access and the process for doing so should be highlighted at the time of presenting the case to top management for adopting the leading practice.

Points to consider in updating this section

- In the event that there is a need to acquire access to intellectual property the MOSH Adoption Team should provide clear detail about this in PART 3 of the guide.
- This section should include reference to that detail, as well as setting out more specific detail that would be appropriate to add here

- The Mine Adoption Team Manager, in liaison with the *Group Adoption Coordinator* and with the support of legal counsel when necessary, should secure access to the required intellectual property if the Group has not already done so.

G14.2. Arrange purchase of the required equipment

- As with intellectual property, arrangements for the purchase of the equipment may need to start at a time similar to that of arranging access to any required intellectual property, particularly if long delivery times apply, or if the purchase is subject to a lengthy capital approval process.
- Depending on the time scale on the procurement process, scheduling of the various adoption activities may need to be substantially adjusted, and perhaps to some extent reordered.

Points to consider in updating this section

- The experience at the first adoption (or demonstration) mine could point to more specific guidance that should be included in this section when the guide is updated.

G14.3. Set up the required maintenance arrangements

- The Mine Adoption Team Manager must arrange for any required maintenance arrangements to be set up as an integral part of the leading practice, as outlined in PART 3 of this guide.
- In doing so, any aspects of the behavioural plans that are applicable to the maintenance arrangements should also be put in place.

Points to consider in updating this section

- Based on experience and considerations at the first adopter (or demonstration) mine, the MOSH Adoption Team may be able to provide additional guidance on this point.

G14.4. Conduct preliminary pilot-scale adoption of the practice

- Most of the arrangements for implementing the practice at the pilot site should already have been taken through the training or briefing activities outlined above.
- The Mine Adoption Team Manager should meet with the team of supervisors responsible for installing the required equipment and or procedures to arrange implementation the practice, and to deal with any other issues that need attention, including those raised by the operational supervisors.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when preparing or updating the guide the MOSH Adoption Team may be able to provide more specific guidance on this point.

G15. Monitor, evaluate and report on performance

G15.1. Set up monitoring and data collection arrangements

- The Mine Adoption Team manager should ensure that effective arrangements are put in place for making and recording the necessary measurements, and for gathering any other data needed to assess the performance and impact of the leading practice being adopted.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be able to provide more specific guidance on this point.

G15.2. Implement the monitoring and reporting programme

- The Mine Adoption Team Manager must ensure consistent implementation of the monitoring and reporting arrangements that have been put in place, and that quality gathered data is being gathered, and regularly reported.

G15.3. Store key data in an electronic data base for later analysis

- The Mine Adoption Team Manager should ensure that all data is entered into an electronic data base for later analysis. This should be seen as an integral part of activities G15.1 and G15.2

G15.4. Analyse data to establish the performance and impact of the practice

- Once sufficient data has been collected, the Mine Adoption Team Manager should arrange for the data to be analysed to establish the performance of the practice and the impact that it has had at the mine.
- This should be written up in the form of a brief report for presentation to key stakeholders, starting with top management, who should be given the chance to comment on the report before it is finalised for wider distribution.
- The report should then be distributed to all key stakeholders, including those directly involved in the adoption process. Supervisors should be tasked with sharing outcomes with their staff at the earliest opportunity.
- At least one follow up report should be prepared within the next 6 to 12 months to identify any longer-term impacts, and consistency of the performance achieved.

Points to consider in updating this section

- Based on experience and considerations at the first adoption (or demonstration) mine, when updating the guide the MOSH Adoption Team may be able to provide more specific guidance on this point.

G15.5. Report on adoption and performance achieved - to COPA

- In the example adoption plan provided in Appendix A1, a number of the activities are identified as key milestones. The Mine Adoption Team Manager should advise the MOSH Adoption Team Manager when each of these key milestone activities have been completed. This will assist in keeping the COPA and Executive Management in Industry advised of the extent to which the leading practice has been adopted at mines.
- On completion of the brief report referred to in point G15.4, the Mine Adoption Team Manager should arrange to make a presentation at a COPA meeting about the mine's experience in adopting the leading practice.

G16. Finalise and implement mine-wide roll-out plan**G16.1. Decide/document any refinement to practice prior to roll-out**

- The Mine Adoption Team Manager must monitor progress at the piloting site closely to identify any particular difficulties encountered. Any special measures taken to address such difficulties should be carefully documented.

- Depending on operating experience during of the piloting phase, at an appropriate time the Mine Adoption Team Manager should convene a meeting to review the adoption experience and consider and decide whether any refinements to the practice are necessary.

G16.2. Introduce and confirm effectiveness of identified refinements

- In the event that some form of refinement is considered necessary, the Mine Adoption Team should arrange for any necessary refinements to be implemented and tested until their effectiveness has been satisfactorily confirmed.
- The details of the refinements introduced should then be documented in detail to ensure consistent implementation as the practice is rolled-out across the mine. Details of the refinement should be provided to the MOSH Adoption Team Manager for presentation at a future COPA meeting.

G16.3. Finalise plans and commence mine-wide roll-out

- As soon as the leading practice is working satisfactorily at the pilot site, the roll-out process should be initiated.
- This should begin with a critical review of the roll-out plans developed earlier, to identify any adjustments that may need to be made to take account of experience to date.
- Once these adjustments have been made and effectively communicated to all concerned, implementation of the roll-out plan should proceed.

Part 3 – Details of the leading practice

- P1 Technical elements**
- P2 Behavioural communication**
- P3 Leadership behaviour**

It is important to emphasise that the MOSH Leading Practice comprises of three equally important legs, as follows:

- **Leg 1 - Technical elements:** The equipment, structures and procedures for operating the practice,
- **Leg 2 - Behavioural communication:** The communication that is necessary to address identified barriers to successful adoption, and
- **Leg 3 - Leadership behaviour:** The leadership behaviours needed to secure successful and sustainable adoption, and a culture of continuous improvement.

As explained in Part 2 of this guide, the details of each of these three legs needs to be reviewed and customised where necessary to take account of mine specific circumstances. The details of each of the three legs are presented in this part of the guide.

P1. Technical elements

The technical details, structures and procedures for installing and operating the leading practice were documented at the source mine and they are presented below under the following headings:

- P1.1. Management structure**
- P1.2. Roles responsibilities and required expertise**
- P1.3. Special change management procedures**
- P1.4. Proprietary knowledge or technology**
- P1.5. Required equipment**
- P1.6. Required supporting physical infrastructure**
- P1.7. Installation of equipment**
- P1.8. Equipment maintenance**
- P1.9. Risk management**
- P1.10. Instruction Documentation**
- P1.11. Operational procedures**
- P1.12. Relevant mine standards**
- P1.13. Incentive arrangements**
- P1.14. Training content and procedures**
- P1.15. Signage used**
- P1.16. Monitoring and reporting arrangements**
- P1.17. Key performance measures**

Points to consider in preparing / updating this section

- The headings provided here are indicative only of the sort of detail that is envisaged. The headings and the detail provided under each will clearly be determined according to the leading practice and the details documented by the MOSH Adoption team at the source mine.
- The detail provided should be kept brief, but nevertheless as detailed as necessary to enable an adoption mine to faithfully reproduce the leading practice based on the description provided.
- In updating the guide to take account of experience gained at the first adoption (or demonstration) mine, the detail provided should be revised to eliminate any difficulties encountered in understanding what is required.

Derivation of the generic behavioural communication plan

It is important to recognise the basis of the generic behavioural communication plan presented below. In this regard there are a number of points that are relevant.

1. An initial draft of the generic behavioural communication plan was developed by the MOSH Adoption Team for the spectrum of identified potential adoption mines. The process involved the team identifying the stakeholders and adopters who are key to the process of adopting the practice at an operating mine, and then, through a process of direct enquiry and analysis, arriving at a behavioural communication plan to address the identified barriers to adoption. These are the misperceptions, knowledge gaps and mistaken beliefs about the risks and the leading practice.
2. In parallel with this, the MOSH Adoption Team also conducted investigations at the Source mine to determine the behavioural communications implicitly used to secure adoption of the leading practice at the mine. To readily enable comparison, these communications were set out in the same format as that of the draft behavioural communication plan described above and presented below.
3. Through a process of detailed comparison, the draft behavioural communication plan was then upgraded to include all key aspects of behavioural communication identified at the source mine not already in the plan. This then became the draft generic behaviour communication plan presented here.
4. It is this generic behavioural communication plan that needs to be customised to take account of any mine specific circumstances identified through the direct enquiry, analysis and customisation process described in Part 2 of this guide.
5. Implementation of the customised behavioural communication plan represents a well-founded direct approach to providing information specifically designed to address the identified barriers to adoption. By addressing the barriers to adoption in this way, adopters and other key stakeholders are provided with a sound basis for positively approaching the prospect of adopting of the leading practice in question.

Points to consider in updating this section

- Depending on the process followed in arriving at the behavioural communication plans to be presented in the guide, the MOSH Adoption Team may need to add to and or redraft some or all of the draft material presented here.
- In particular, any improvements to the generic behavioural communication plan introduced as a result of experience gained at the first adoption (or demonstration) mine will need to be identified and explained.

Against this background it should be evident that the generic behavioural communication presented below forms an essential element of the leading practice, in that it greatly facilitates both eager and successful adoption of the practice.

Generic behavioural communication plan										
No	Recipient	Belief / Issue & Desired behaviour	Message content	Mode	Tools / means	When	Who to deliver	Who to ensure	Evaluation / control measure	Row No
Applicable to all mines										
Leading practice specific										
Adoption mine specific										

Note: For each **Recipient** there may be more than one **Belief/Issue/Desired behaviour** and for each **Belief/Issue/Desired behaviour** there may be more than one **Message**. In producing the table cells may therefore need to be combined in the interests of clarity. The numbering on the left is thus provided to identify the recipients and the numbering on the right to identify the messages and the persons responsible for their delivery.

Derivation of the generic behavioural communication plan

As with the behavioural communication plan it is important to recognise the basis of the generic leadership behaviour plan presented below. In this regard there are a number of points that are relevant.

1. An initial draft of the generic leadership behaviour plan was developed by the MOSH Adoption Team based on the hierarchy of key persons involved in operating the leading practice at the source mine and an in-depth consideration of key desired behaviours for successful adoption of the leading practice.
2. This initial version of the leadership behaviour plan serves the purpose of identifying some of the questions included in the direct enquiry process conducted to identify the prevailing mental models at potential adoption mines. The results obtained from these direct enquiries were then analysed to upgrade the initial draft of the generic leadership behaviour plans.
3. Following on from this, detailed investigations were conducted at the Source mine to determine the leadership behaviours implicitly used to successfully operate the practice at the mine.
4. Through a process of detailed comparison, the emerging generic leadership behaviour plan is then upgraded to include all key aspects of leadership behaviour identified at the source mine not already in the plan. This upgraded version then becomes the draft generic leadership behaviour plan presented in this guide.
5. It is this draft of the generic behavioural communication plan that needs to be customised to take account of any mine specific circumstances identified through the direct enquiry, analysis and customisation process described in Part 2 of this guide.
6. Implementation of the customised leadership behaviour plan represents not only a soundly based approach to putting in place leadership behaviours that will secure successful adoption and operation of the leading practice, but also sustainable adoption and continuous improvement.

As for the behavioural communication plan, the leadership behaviour plan presented below forms an essential element of the leading practice, in that it greatly facilitates successful and sustainable adoption of the practice.

Points to consider in updating this section

- Depending on the process followed in arriving at the leadership behaviour plans to be presented in the guide, the MOSH Adoption Team may need to add to and or redraft some or all of the draft material presented here.
- In particular, any improvements to the generic behavioural communication plan introduced as a result of experience gained at the first adoption (or demonstration) mine will need to be identified and explained.

Generic leadership behaviour plan			
Adopter / leader level	Antecedents	Desired Behaviour	Consequences
Applicable to all mines			
Operator	.	.	.
Supervisors	.	.	.
Mine Overseer	.	.	.
Production Manager	.	.	.
Mine Manager	.	.	.
Leading practice specific			
Operator	.	.	.
	.	.	.
	.	.	.
	.	.	.
	.	.	.
Adoption mine specific			
Operator	.	.	.
	.	.	.
	.	.	.
	.	.	.
	.	.	.

Appendix A

Supporting work documents

- A1** Framework of overall adoption plan
- A2** Adoption process checklist
- A3** Systematic leading practice review process
- A4** MOSH Brochure outlining the Adoption Process
- A5** Guidance document for the eight-step customisation process
- A6** Expert causal chain risk summary – for customisation
- A7** Likely key stakeholders and adopters
- A8** Identification of adopters and stakeholders at the mine
- A9** Guide to interviewers for direct enquiry interviews
- A10** Questions for direct enquiry interviews at the mine
- A11** Analysis worksheet for direct enquiry responses
- A12** Generic mental models report
- A13** Portfolio of evidence

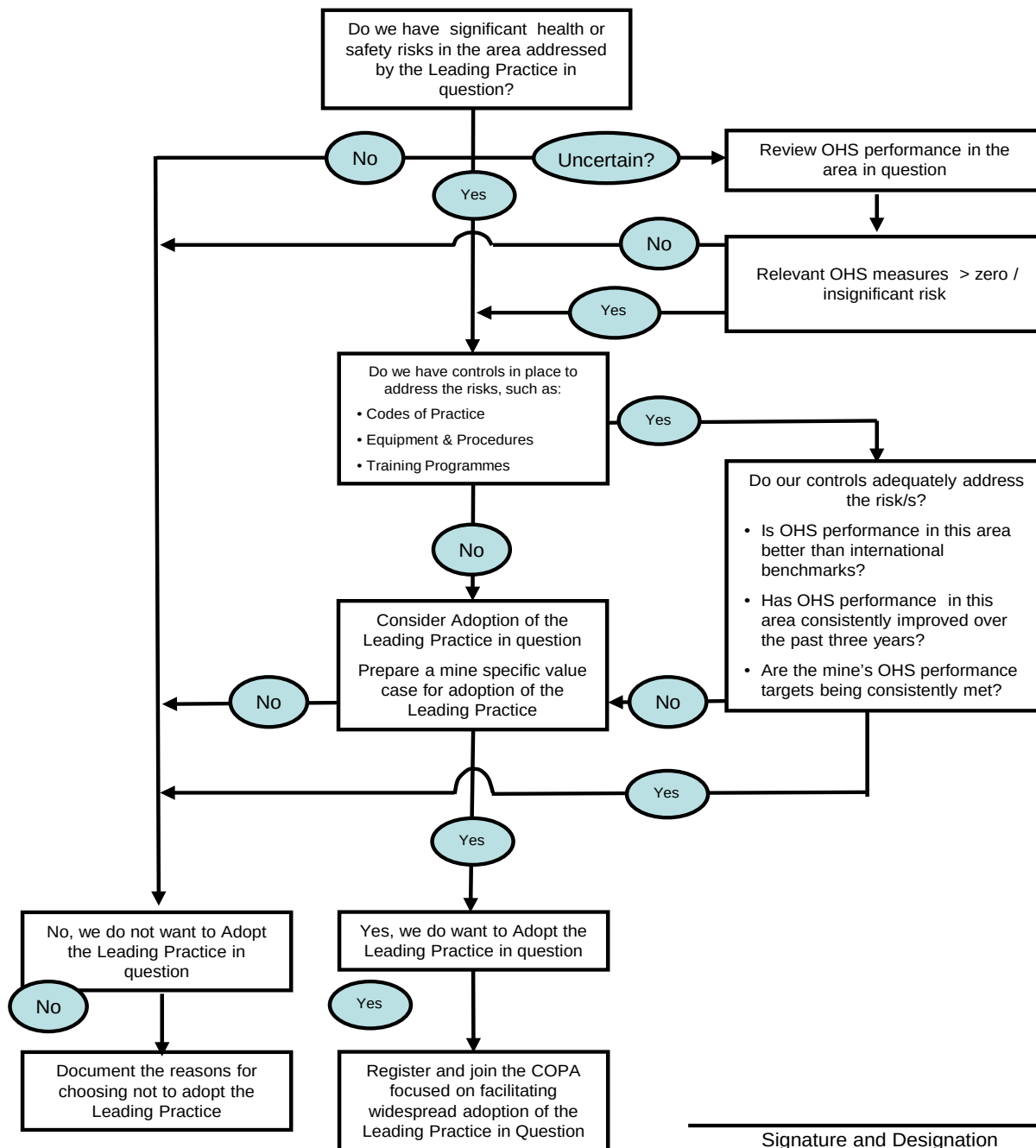
Doc#47 Appendix A1		Framework of overall adoption plan																	
Guide Section	Activity (See Guide sections G1 to G16 for guidance)	Weeks																Links	Comment
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1	Facilitate adoption decision																	G1	
	1.1-Prepare and present case for adopting the leading practice at the mine.																		
	1.2-Obtain top management decision about adoption of the practice																		Key milestone T97
2	Secure support for adoption																	G2	
	2.1-Secure support of regional and mine level union representatives																		
	2.2-Issue written mine-wide briefing note advising of decision to adopt																		
3	Establish and effective mine adoption team																	G3	
	3.1-Identify and appoint a suitable project leader / champion																		
	3.2-Identify person to oversee customisation of behavioural plans																		
	3.3-Train project leader and behavioural plans overseer																		
	3.4-Secure establishment of an appropriate adoption team at the mine																		Key milestone T98
	3.5-Provide adoption team with copies of leading practice adoption guide																		
4	Prepare initial plan for adoption																	G4	
	4.1-Workshop leading practice adoption guide - mine project team																		
	4.2-Review / refine example adoption plan																		Key milestone T100
	4.3-Identify an appropriate piloting section / area at the mine																		
	4.4-Identify/arrange specialist technical support considered necessary																		
	4.5-Agree critical enabling factors for successful adoption of the practice																		
	4.6-Ensure that sufficient time / resources have been provided																		
5	Initiate baseline monitoring programme																	G5	
	5.1-Identify key measurements to determine performance of the practice																		
	5.2-Initiate collection of baseline data																		
6	Establish effective relationship with the COPA																	G6	
	6.1-Meet with COPA coordinator to establish working relationship																		
	6.2-secure support / input / secondment / training via COPA interaction																		
7	Update key stakeholders on progress																	G7	
	7.1-Provide feedback on adoption challenges / successes to COPA																		
	7.2-Prepare and issue progress updates to key stakeholders																		
8	Plan and conduct direct enquiries																	G8	
	8.1-Review / update expert causal chain risk summary																		
	8.2-Identify adopters and key stakeholders																		
	8.3-Identify persons to conduct direct enquiry interviews																		
	8.4-Train and brief the interviewers																		
	8.5-Select persons to be interviewed																		
	8.6-Conduct the interviews																		Key milestone T103
9	Customise generic behavioural plans																	G9	
	9.1-Identify persons to analyse the interview results																		
	9.2-Analyse results of direct enquiry interviews																		Key milestone T105
	9.3-Customise leadership behaviour & behavioural communication plans																		Key milestone T104
	9.4-Ensure that customisation checks have been fully satisfied																		Including NORMS
	9.5-Identify any new special communication requirements																		
	9.6-Secure top management approval of customised behavioural plans																		Key milestone T100
10	Harmonise leading practice with with mine standards																	G10	
	10.1-Review leading practice against current mine operational standards																		
	10.2-Identify non-core adjustments to harmonise practice with standards																		
	10.3-Adjust leading practice to harmonise with mine standards																		Key Milestone T102
11	Assess risks and develop final adoption plan for approval																	G11	
	11.1-Plan roll-out of adoption across the mine																		
	11.2-Conduct "what if" exercise and adjust plans as necessary																		
	11.3-Conduct risk assessment of planned changes																		Key milestone T106
	11.4-Update and finalise adoption plan																		
	11.5-Clarify and agree criteria and time scale for completion of the project																		
	11.6-Secure top management sign-off of adoption plan																		Key milestone T108
12	Develop training and communication materials																	G12	
	12.1-Plan training necessary for successful adoption																		
	12.2-Prepare training documentation																		Key milestone T107
	12.3-Develop required behavioural communication material																		
	12.4-Prepare documentation / signage to assist in adopting the practice																		
13	Brief and train key mine persons																	G13	
	13.1-Brief supervisory levels involved in adopting the practice																		
	13.2-Brief the workers involved in adopting the practice																		
	13.3-Implement aspects of the two behavioural plans not included in training																		
	13.4-Train the persons involved in adopting the practice																		
14	Implement pilot adoption of the practice																	G14	
	14.1-Arrange access to any required intellectual property																		
	14.2-Arrange purchase of the required equipment																		
	14.3-Set up the required maintenance arrangements																		
	14.4-Conduct preliminary pilot scale adoption of the practice																		Key milestone T109
15	Monitor evaluate and report on performance																	G15	
	15.1-Set up monitoring and data collection arrangements																		
	15.2-Implement the monitoring and reporting programme																		
	15.3-Store key data in an electronic data base for later analysis																		
	15.4-Analyse data to establish the performance and impact of the practice																		
	15.5-Report on adoption and performance achieved - to COPA																		
16	Finalise and implement mine-wide roll-out plan																	G16	
	16.1-Decide/document any refinement to practice prior to roll-out																		
	16.2-Introduce and confirm effectiveness of identified refinements																		
	16.3-Finalise plans and commence mine-wide roll-out																		Key milestone T110

Week No.	Activity No	Activity (see Appendix A1 for functional grouping detail)	Date started	Check box ü	Date complete
1	1.1	Prepare and present case for adopting the leading practice at this mine.			
	1.2	Obtain top management decision to adopt the practice at the mine			
	3.1	Identify and appoint a suitable project leader / champion			
2	2.1	Secure support of regional and mine level union representatives			
	2.2	Issue mine-wide briefing note advising of decision to adopt			
	3.2	Identify person to oversee customisation of behavioural plans			
	3.4	Secure establishment of appropriate adoption team at the mine			
3	3.3	Train project leader and behaviour plan overseer			
	3.5	Provide adoption team with copies of leading practice adoption guide			
	6.1	Meet with COPA Coordinator to establish a working relationship			
	6.2	Secure support / input / training via COPA interaction			
4	4.1	Workshop leading practice adoption guide - mine project team			
	4.2	Review / refine example adoption plan			
	4.3	Identify an appropriate piloting section / area at the mine			
	4.4	Identify/arrange specialist technical support considered necessary			
	4.5	Agree critical enabling factors for successful adoption of the practice			
	4.6	Ensure that sufficient time / resources have been provided			
	5.1	Identify key measurements to determine performance of the practice			
	5.2	Initiate collection of base line data			
	8.1	Review / update causal chain risk summary			
	8.2	Identify adopters and key stakeholders			
	8.3	Identify persons to conduct direct enquiry interviews			
	8.4	Train and brief the interviewers			
	8.5	Select persons to be interviewed			
	9.1	Identify persons to analyse the interview results			
	10.1	Review leading practice against current mine operational standards			
	10.2	Identify non-core adjustments to harmonise practice with mine standards			
	11.3	Conduct risk assessment of planned changes			
	13.1	Brief supervisory levels involved in adopting the practice			
	13.2	Brief the workers involved in adopting the practice			
	14.1	Arrange access to any required intellectual property			
	15.1	Set up monitoring and data collection arrangements			
	15.3	Store key data in an electronic data base for later analysis			
5	7.1	Provide feedback on adoption challenges / successes to COPA			
	8.6	Conduct the interviews			
	9.2	Analyse results of direct enquiry interviews			
	10.3	Adjust leading practice to harmonise with mine standards			
	14.2	Arrange purchase of the required equipment			
6	7.2	Prepare and issue progress updates to key stakeholders			
7	9.3	Customise leadership behaviour and behavioural communication plans			
	9.4	Ensure that customisation checks have been fully satisfied			
	14.3	Set up the required maintenance arrangements			
8	9.5	Identify any new special communication requirements			
	9.6	Secure top management approval of customised behavioural plans			
	12.4	Plan training necessary for successful adoption			
9	11.1	Plan roll-out of adoption across the mine			
	11.2	Conduct "what if" exercise and adjust plans as necessary			
	11.4	Finalise integrated adoption plan			
	11.5	Clarify and agree criteria and time scale for completion of the project			
	11.6	Secure top management sign-off of adoption plan			
	12.2	Prepare training documentation			
	12.3	Develop required behavioural communication material			
	12.4	Prepare documentation / signage to assist in adopting the practice			
10	13.3	Implement aspects of the two behavioural plans not included in training			
	15.2	Implement the monitoring and reporting programme			
	15.4	Analyse data to establish the performance and impact of the practice			
11	13.4	Train the persons involved in adopting the practice			
12	14.4	Conduct preliminary pilot scale adoption of the practice			
15	16.1	Decide/document any refinement to practice prior to roll-out			
	16.2	Introduce and confirm effectiveness of identified refinements			
16	15.5	Report on adoption and performance achieved - to COPA			
	16.3	Finalise plans and commence mine-wide roll-out			

1. Facilitate adoption decision		
1.1. Prepare and present case for adopting the leading practice at this mine.	o	
1.2. Obtain top management decision to adopt the practice at the mine	o	
2. Secure widespread support for adoption		
2.1. Secure support of regional and mine level union representatives	o	
2.2. Issue mine-wide briefing note advising of decision to adopt	o	
3. Establish an effective adoption team		
3.1. Identify and appoint a suitable project leader / champion	o	
3.2. Identify person to oversee customisation of behavioural plans	o	
3.3. Train project leader and behaviour plan overseer	o	
3.4. Secure establishment of appropriate adoption team at the mine	o	
3.5. Provide adoption team with copies of leading practice adoption guide	o	
4. Prepare first version adoption plan		
4.1. Workshop leading practice adoption guide - mine project team	o	
4.2. Review / refine example adoption plan	o	
4.3. Identify an appropriate piloting section / area at the mine	o	
4.4. Identify/arrange specialist technical support considered necessary	o	
4.5. Agree critical enabling factors for successful adoption of the practice	o	
4.6. Ensure that sufficient time / resources have been provided	o	
5. Initiate monitoring programme		
5.1. Identify key measurements to determine performance of the practice	o	
5.2. Initiate collection of base line data	o	
6. Establish effective relationship with COPA		
6.1. Meet with COPA Coordinator to establish a working relationship	o	
6.2. Secure support / input / training via COPA interaction	o	
7. Update key stakeholders on progress		
7.1. Provide feedback on adoption challenges / successes to COPA	o	
7.2. Prepare and issue progress updates to key stakeholders	o	
8. Plan and conduct direct enquires		
8.1. Review / update causal chain risk summary	o	
8.2. Identify adopters and key stakeholders	o	
8.3. Identify persons to conduct direct enquiry interviews	o	
8.4. Train and brief the interviewers	o	
8.5. Select persons to be interviewed	o	
8.6. Conduct the interviews	o	
9. Customise generic behavioural plans		
9.1. Identify persons to analyse the interview results	o	
9.2. Analyse results of direct enquiry interviews	o	
9.3. Customise leadership behaviour and behavioural communication plans	o	
9.4. Ensure that customisation checks have been fully satisfied	o	
		9.5. Identify any new special communication requirements o
		9.6. Secure top management approval of customised behavioural plans o
		10. Harmonise practice with mine standards
		10.1. Review leading practice against current mine operational standards o
		10.2. Identify non-core adjustments to harmonise practice with mine standards o
		10.3. Adjust leading practice to harmonise with mine standards o
		11. Develop approved mine-wide adoption plan
		11.1. Plan roll-out of adoption across the mine o
		11.2. Conduct "what if" exercise and adjust plans as necessary o
		11.3. Conduct risk assessment of planned changes o
		11.4. Finalise integrated adoption plan o
		11.5. Clarify and agree criteria and time scale for completion of the project o
		11.6. Secure top management sign-off of adoption plan o
		12. Develop training and communication materials
		12.1. Plan training necessary for successful adoption o
		12.2. Prepare training documentation o
		12.3. Develop required behavioural communication material o
		12.4. Plan training arrangements o
		12.5. Prepare documentation / signage to assist in adopting the practice o
		13. Brief and train key mine persons
		13.1. Brief supervisory levels involved in adopting the practice o
		13.2. Brief the workers involved in adopting the practice o
		13.3. Implement aspects of the two behavioural plans not included in training o
		13.4. Train the persons involved in adopting the practice o
		14. Pilot adoption of the practice
		14.1. Arrange access to any required intellectual property o
		14.2. Arrange purchase of the required equipment o
		14.3. Set up the required maintenance arrangements o
		14.4. Conduct preliminary pilot scale adoption of the practice o
		15. Monitor, evaluate and report on performance and impacts
		15.1. Set up monitoring and data collection arrangements o
		15.2. Implement the monitoring and reporting programme o
		15.3. Store key data in an electronic data base for later analysis o
		15.4. Analyse data to establish the performance and impact of the practice o
		15.5. Report on adoption and performance achieved - to COPA o
		16. Finalise and implement mine-wide roll-out plans
		16.1. Decide/document any refinement to practice prior to roll-out o
		16.2. Introduce and confirm effectiveness of identified refinements o
		16.3. Finalise plans and commence mine-wide roll-out o

Review process to assess whether or not a Leading Practice should be adopted at a potential adoption mine.

Name of Mine: _____



Signature and Designation _____

Date _____

The information in this Appendix is provided to assist the user in developing a deeper understanding of the MOSH Leading Practice Adoption System and its processes. This will assist the user in responding to queries from colleagues and in explaining the system and its processes to peers.

Points to consider in updating this section

- A brochure describing the adoption system and its processes is provided in Reference Doc #64. It describes the shortened adoption process outlined in the handbook. Earlier brochures described the longer process and are thus out of date and could be more confusing than helpful.
- Reference Doc #64 should therefore be placed in the LPAG as Appendix A4, unless the Adoption Team has a more recent and more suitable description.
- Appendix A4 may also be structured to direct the user to a helpfully descriptive information that may in due course be available on the MOSH website.

Guidance document for the eight-step customisation process

Introduction

This appendix sets out the process for customising the generic behavioural communication and leadership behaviour plans provided in this guide to take account of mine specific circumstances. Although this process occurs in parallel with the many other activities identified in the overall adoption plan presented in Appendix A1, it is consolidated here into a single document to highlight the coherency of the process and to assist in securing a good operational understanding of what needs to be done. For clarity and ease of reference the information is presented as a series of numbered points.

Behavioural communication concept

1. Everywhere and everyday people make a wide variety of decisions which affect their interests. In many, if not most cases these decisions are taken without complete knowledge or understanding of the factors that are relevant to the situation at hand. What people know exists in their heads as a web of beliefs and information derived from past experience, observation and learning. On the basis of this, their mental model, in any given situation they then act in a way that seems most appropriate to them.
2. Behavioural communication plans are designed to provide information that addresses the knowledge gaps, misperceptions and attitudes that give rise to compromised decisions and actions. They are based on a direct enquiry research process has identified the mental models prevalent in those people most involved in adoption of the leading practice.
3. The key thing that distinguishes behavioural communication from other forms of communication is the sound basis for establishing what needs to be communicated to whom to facilitate eager adoption of the particular practice. It also identifies the most effective means of communicating this information.

Leadership behaviour concept

4. Leadership behaviour recognises that people in leadership positions cannot not-communicate. Everything that they say or do, including what they don't say, or do not do, is a form of communication. Leaders' behaviour thus has a profound influence on the behaviour of those they lead. The leadership behaviour concept is based on this simple realisation.
5. In practical terms leaders need to identify the actions (behaviours) needed for a successful outcome. They then need to identify and put in place those things that will enable these actions to be successfully performed (antecedents) by the employees concerned. They must then observe or otherwise monitor performance of these actions and then say or do things that discourage, correct, improve or reinforce the observed (consequences).
6. Implementation of the above in relation to a leading practice should be relatively straight forward. First, leaders must ensure that the detail of the job is clearly described. Second, they must provide employees with the necessary training, equipment, work environment and support structures to do the job. Thirdly, they must recognise and reward good performance, but also ensure appropriate consequences for undesirable performance.
7. This pattern of leadership behaviour needs to be replicated all the way up the management hierarchy.

Summary of the eight step process to customise behavioural plans

8. The diagram given below is a summary of the eight step customisation process that needs to be implemented. It also identifies the quality checks that should be made to ensure a good quality outcome.

Step	What	Check – go/no-go decision question
1	Identify adopters and key stakeholders at the mine	Do we have a good understanding and complete identification of potential adopters and stakeholders?
2	Select people to be interviewed	Have we chosen the appropriate people to interview?
3	Identify and brief the interviewers	Are the interviewers ready to interview?
4	Conduct the interviews	Have all the interviews been done and full worksheets completed and returned for processing?
5	Summarise the interview results	Have the interview results been systematically assessed and significant new findings clearly identified?
6	Use the findings to customise the leadership behaviour plan	Are the customised plans coherent and properly understood by the mine team and can they be implemented and effectively monitored in behavioural terms?
7	Use the findings to customise the behavioural communication plan	Are the customised plans coherent and properly understood by the mine team and can they be implemented and effectively monitored in behavioural terms?
8	Integrate the customised plans into the implementation plan at the mine	Is the overall implementation plan coherent and properly understood by the mine project team?

9. Importantly, this process enables the generic behavioural communication and leadership behaviour plans to be customised on the basis of insight and not guesswork about the thinking, key beliefs and values of the adopters and stakeholders at the mine.
10. The Mine Adoption Team Manager should establish a good working relationship with the MOSH Adoption Team Manager and the Community of Practice for Adoption, COPA, established to support and facilitate the adoption process. Should the need for assistance with the customisation process arise, this should be discussed with the MOSH Adoption Team Manager. The source and nature of the support provided would depend on the need and the extent to which the leading practice has been adopted across industry.
11. The Mine Adoption Team Manager should similarly make contact with the person appointed by his mining group as the *Group Adoption Coordinator*. In some cases, particularly in respect of providing access to people who have been trained in interview and or in the analysis of interviewee responses, this input of this person could be most helpful.
12. The guidance provided in this appendix should however be sufficient to enable the Mine Adoption Team to successfully undertake customisation of the generic behavioural plans provided with this guide. It is however important that the procedures outlined in this document are closely followed in terms of content and sequence.
13. Responsibility for overseeing the process to completion must be clearly assigned, as must responsibilities for completing the requisite individual tasks described later. The total number of persons involved in executing the customisation process should be kept relatively small, but not less than three, including the person with oversight responsibility

14. Importantly, either the Mine Adoption Team Manager, or a person at the mine with appropriate skill and orientation should be allocated the personal responsibility for overseeing the process. In the latter case the person may have performed a similar function in the adoption of another practice at the mine, or the mine may envisage the person playing a similar role in respect of future adoption of leading practices. In either case the selected person should be experienced in interacting effectively with a wide variety of people, be at ease with and be able to effectively listen to people, and to correctly interpret conversations with people.
15. The persons responsible for execution of the customisation process should meet to workshop the process to identify any specialist training considered necessary to successfully implement the process. The identification and suitable training providers should be discussed with the MOSH Adoption Team Manager.
16. Once the required persons have been identified and trained to the extent necessary, the eight-step customisation process should be systematically executed as outlined below.
17. At the end of each step, a checkpoint question and action is indicated. The checkpoint question is intended to act as a “go/no-go” decision point for the Mine Adoption Team. If the Mine Adoption Team cannot satisfactorily answer the checkpoint question, then they should not go to the next step. Instead, they must take action to rectify the matter.

Step one - Identify adopters and key stakeholders at the adoption mine.

18. Adopters and stakeholders are those people and groups who will be the focus of behavioural communication and leadership behaviour efforts at the mine.
19. Fundamental to the identification of these persons and groups is a clear appreciation of the details of the leading practice and of the risks that it addresses. Accordingly:
 - The Mine Adoption Team, along with relevant experts at the mine, should critically review the causal chain risk story provided in Appendix A6.
 - The risk story should be updated so that it accurately reflects the risk situation being addressed by the leading practice at the mine.
 - Discarded or added aspects should be identified and retained as they may assist in later steps of the customisation process.
 - In concluding the review process it is essential to ensure that all participants have the same understanding of the risks addressed by the leading practice.
20. Based on the understanding of the leading practice and the risks that it addresses, the Mine Adoption Team should identify the adopters and stakeholders that will be involved in achieving implementation of the leading practice at the mine. This should be done with the guidance provided by:
 - the list of anticipated adopters and key stakeholders identified by the MOSH Adoption Team in Appendix A7, and
 - The notes included on the Worksheet of Appendix A8, which is provided to facilitate the process of identifying and recording them.
21. The Mine Adoption Team should explicitly address the checkpoint question of whether the team has achieved a good understanding and complete identification of the potential adopters and stakeholders in order to make a “go/no-go” decision in respect of proceeding to the next step in the process.

Step two - Select people to be interviewed

22. The only way to accurately understand people's thinking is to directly enquire into it. People are complicated and their thinking is unpredictable. One cannot reliably guess or predict correctly people's thinking and their information needs. The process of direct enquiry requires that an appropriate number of persons spread across the mine be interviewed.
23. The people to be interviewed should be an appropriate sample drawn from the adopters and key stakeholders identified in Step1. The people selected should range across the various categories of adopters and stakeholders in such a way as to ensure good representation of those most likely to be most involved in accomplishing adoption of the practice. The sample should be drawn from across the entire mine, and not just the site selected to pilot the adoption process. The number of persons to be interviewed should be between 25 and 30. This has been shown to be an appropriate number to get useful interview results.
24. Identifiers for the selected interviewees should be entered into the worksheets of Appendix A10. The names of those to be interviewed should not be entered as they should kept confidential to the Mine Adoption Team.
25. The Mine Adoption Team should address the checkpoint question of whether appropriate people have been chosen to be interviewed in order to make the "go/no-go" decision in respect of proceeding to the next step in the process.

Step three – Identify and brief interviewers.

26. Interviews with the selected adopters and stakeholders should be done confidentially and one-on-one. No interviews of people in groups or in a group setting should be done because of challenges in accurately interpreting such results.
27. The circulation of printed questionnaires where people are asked to fill-in answers to questions is to be avoided because of challenges in producing satisfactory insights into people's thinking.
28. Experience has shown that persons trained in conducting direct enquiry interviews should be used to conduct the interviews. The *Group Adoption Coordinator* is expected to maintain a list of persons in the Group who have been trained in direct enquiry interview techniques, and he should be contacted to establish whether trained persons can be made available to conduct the interviews. He is also expected to liaise with *Adoption Coordinators* in other Groups with a view to arranging reciprocal access to trained persons within collaborating Groups. Trained interviewers could thus come from within the mine's Group, or perhaps by arrangement from other Groups.
29. In the event that trained persons are not available as described above, in discussion with the *Group Adoption Coordinator*, the Mine Adoption Team Manager should select persons for training in direct enquiry interview skills. The persons selected should be persons who are most likely to:
 - Cause interviewees to feel comfortable within an interview setting, that is, to feel free to speak openly and candidly with the person conducting the interview, and
 - Diligently complete each scheduled interview on time and in the manner prescribed.
30. The Mine Adoption Team Manager should liaise with the MOSH Adoption Team Manager to clarify how best to arrange the necessary training.

31. Once the trained interviewers are available they should be collectively briefed about the leading practice, the risks addressed, the objectives of the interview process, the procedures and logistics of arranging the interviews, the persons they are scheduled to interview, the time scale of the process. They should also be given and taken through the briefing material provided in Appendix A9.
32. It should be made clear to interviewers that they must ensure that they are well equipped to conduct the interviews by:
 - Studying and discussing the updated summary risk story with an appropriate member of the Mine Adoption Team to ensure that they have a thorough understanding of the risks being addressed by the leading practice.
 - Ensuring that they are fully familiar with the interviewer's briefing and guidance provided in Appendix A9 on conducting a one-on-one interview properly.
 - Practicing the interview at least once (perhaps with a mine adoption team member), and
 - Reviewing with the person appointed to oversee the customisation process and or the Mine Adoption Team Manager, their understanding of the interview and how it should be conducted and documented.
33. The Mine Adoption Team should check that the interviewers are ready to conduct the interviews in order make a "go/no-go" decision in respect of proceeding to the next step in the process.

Step four – Conduct the interviews.

34. The standard direct enquiry interview questions that form the basis of the direct enquiry interviews are provided in Appendix A10. The interview consists of two parts which seek to establish the following:
 - Stakeholders/ Adopters beliefs about the causes and outcomes of the risk
 - Stakeholders/ Adopters beliefs about the best ways to protect people from the risk, and
 - Stakeholders/Adopters beliefs about key leader behaviours and behavioural communication needs.
35. In point 34 the word *beliefs* should be taken to include attitudes and views that form part of a person's mental model. The term *risk* means the risk associated with the particular hazard that is under consideration. It encompasses the complete picture of the risks associated with a specific hazard in a way that is consistent with the treatment of both concepts in the causal chain risk summary.
36. Each interviewer should schedule all of their allotted interviews to be conducted one-on-one in a place suitably private and free from noise and other distractions. The interviews should be conducted as planned and as practiced. Interviewers should ask all questions fully, prompting for as complete and in-depth answers as possible. This is a particular aspect of the interviewing procedure that should be focused upon in the practice sessions.
37. Interview responses should be carefully documented at the time of the interview using the Interview Worksheet of Appendix A10 and the Interviewee's own words. Immediately after the interview, the brief notes taken during the interview should be expanded upon in the interview worksheets to fully document the detail of the interviewee's responses. One Interview Worksheet should be completed and typed up for each interview conducted.

38. The interviewers may use recorders to assist the process of accurately capturing the interviewees responses, but only if the interviewee is explicitly asked and clearly gives approval for their use.
39. Before going to the next step, the Adoption Mine Team should check that all the interviews have been done and that full worksheets have been completed and returned for processing in order to make a “go/no-go” decision in respect of proceeding to the next step in the process.

Step five – Summarize the interview results.

40. Persons capable of reliably summarising the interview results must be chosen to undertake this work. A number of the members of the Mine Adoption Team should be well suited for this task. This would have the advantage of ensuring that some or all of the adoption team members would have a first-hand understanding of the interview results. Alternatively, the task may be assigned to two or more individuals associated with the team and adoption effort, but not to only one person.
41. In essence, the analysts will need to carefully read each set of interview responses and make notes against key questions provided in an analysis worksheet provided in Appendix [A11](#). The analysis procedure outlined below is designed to yield results that will allow the Mine Adoption Team to better understand the thinking of their key stakeholders and adopters and to identify any important differences in comparison with:
 - The most informed understanding of the hazard, as summarized in the Risk Story provided by the MOSH Adoption Team, and as adjusted by the Mine Adoption Team – see step 1, and
 - The identified thinking of adopters and stakeholders at other potential adoption mines, upon which the generic behavioural plans for the leading practice are based. This thinking is captured in the mental models report provided in Appendix [A12](#).
42. In preparing for the analysis task, each analyst should ensure that they have a sound understanding and familiarity with the updated risk summary, as well as the mental models report.
43. Working alone, each analyst should read and note their observations against the questions posed in the analysis worksheet. Once all interviews have been analysed in this way, the analysts should meet in a group session to share and compare the results of their analyses. The analysts should identify where their individual analyses agree, and why, and where they disagree and why. Disagreements between analysts should be noted. As a group the analysts should address the main questions in the worksheet for analysis, writing mutually agreed detailed answers to the questions, and identifying the most influential beliefs, and their underlying rationale in the process of doing so.
44. As a final check, the group should re-read the interviews to ensure that the group has adequately captured and described the key beliefs expressed in the answers to the questions asked of the stakeholders and adopters.
45. Using the Analysis Worksheet provided in Appendix [A11](#), the analysts should then compare the results of their analyses with the mental models report provided in Appendix [A12](#), and with the expert understanding of the risk that the leading practice seeks to address, as developed in step 1. This analysis should note where mine’s results differ from those in the

mental model and expert risk story applicable to the spectrum of potential adoption mines, and upon which the generic behavioural plans are based. These differences serve as the basis for customising the behavioural communication and leadership behaviour plans to address the particular circumstances identified at the mine in question.

46. Before going to the next step, the adoption mine should check whether all of the interview results have been systematically reviewed and all of the significant differences clearly identified as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step six – Adjust the leadership behaviour plan.

47. The generic leadership behaviour plan for the leading practice is provided Part 3 of the Guide (section P3), which also sets out a description of the process that was used to arrive at the plan.
48. The plan sets out the key behaviours required of the various leadership levels for successful implementation of the practice, including the antecedents that need to be put in place to enable performance of the required behaviours, and the actions that leaders need to take as a consequence of observing either desirable or undesirable behaviours by those who report to them.
49. The Mine Adoption Team should ensure that they fully understand the leadership behaviour plan and its derivation, before proceeding with the process of customising the plan to suit their mine specific circumstances.
50. The Mine Adoption Team should then prepare the customised leadership behaviour plan based strictly on answers to the guiding questions set out in the analysis worksheet of Appendix A11. Key points in preparing the customised plan are as follows:
 - Where new material needs to be introduced into the generic plan to take account of mine specific circumstances, measurable objectives should be identified. These should be in the form of behavioural outcomes. That is, they should be expressed as actions of leaders that can be observed (what should they be seen to do?). They could also be understandings, concepts or beliefs expressed that need to be expressed in various circumstances (what should they be heard to say or be accurately reported to have said?).
 - The material in the generic plan should be taken as guidance on the formulation of new content. Once introduced the completed plan should be checked and adjusted to ensure that it is both coherent and consistent.
 - The Mine Adoption Team should liaise with the MOSH Adoption Team Manager to explore the possibility of having their customised plan reviewed, by either the MOSH Adoption Team Manager or by an appropriate Specialist at the MOSH Learning Hub.
51. The adoption mine project team should then check whether the customised leadership behaviour plans are coherent and properly understood, and that they can be readily implemented as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step seven – Customise the behavioural communication plan.

52. The generic behavioural communication plan for the leading practice is provided in Part 3 of the Guide (section [P2](#)) of, which also sets out a description of the process that was used to arrive at the plan.
53. The Mine Adoption Team should ensure that they fully understand the behavioural communication plan and its derivation before proceeding with the process of customising the plan to suit their mine specific circumstances.
54. The Mine Adoption Team should prepare the customised behavioural communication plan based strictly on answers to the guiding questions provided in the worksheet of Appendix [A11](#). Key points in preparing the customised plan are as follows:
- The modes of communication and the contents of each communication should be adjusted to take account of the answers to the questions in Appendix [A10](#), and also the modes of communication that are available at the mine.
 - Where new material is introduced into the plan, measurable objectives should be identified. These should be in the form of behavioural outcomes. This means that they should be expressed as actions that can be observed as the intended outcome from the communication in question (what would people be seen to do?). They could also be understandings, concepts or beliefs expressed in conversations or interviews that clearly and intentionally follow from the communications (what should people be heard to say?).
 - The material in the generic plan should be taken as guidance on the formulation of new content. Once introduced, the completed plan should be checked and adjusted to ensure that it is both coherent and consistent.
 - As with the leadership behaviour plan, The Mine Adoption Team should liaise with the MOSH Adoption Team Manager to explore the possibility of having their customised plan reviewed by the same person who is to review the leadership behaviour plan.
55. The Adoption Mine Team should then check whether the customised plans are coherent and properly understood, that they have readily measurable behavioural goals for communication, and that they can be readily implemented, as a basis for making a “go/no-go” decision in respect of proceeding to the next step in the process.

Step eight – Integrate behavioural communication and leadership behaviour plans into the implementation plan at the adoption mine.

56. A framework plan for adoption of the leading practice was presented in Appendix [A1](#), with guidance on implementation of each activity being given in Part 2 of this document. The framework plan identifies elements that are expected to be implicated in the process of integrating the behavioural plans into the overall plan for adopting the leading practice. Guidance on this integration is provided at the relevant point in Part 2.
57. Before beginning implementation of the behavioural plans at the mine, the Mine Adoption Team should check to ensure that the overall implementation plan is coherent and properly understood by the team, as a basis for making a “go/no-go” decision in respect of proceeding with implementation of the adoption plan.

Expert causal chain risk summary - for customisation -

Derivation of the expert causal chain risk summary

A key point about the expert causal chain risk summary is that it represents the most accurate description possible of the hazard, risks and impacts that may arise when persons are exposed to the hazard.

Accordingly, the MOSH Adoption Team involved many experts during the process of formulating the original fully detailed version of the expert causal chain risk model at the outset of its work in this area. However, once the leading practice had been identified, this fully detailed expert version of the causal chain risk summary was refined to focus more clearly on those risk addressed by the leading practice. It is this version of the expert causal chain risk summary that is presented below for consideration by the Mine Adoption Team.

Importantly, the Mine Adoption Team needs to enlist the help of experts at the mine to adjust and update the table below to ensure that it represents the most accurate description possible for the causal risk situation that the leading practice addresses at their mine.

The expert causal chain risk summary is presented below:

Points to consider in updating this section

- Depending on the process followed in arriving at the expert causal chain risk summary to be presented in the guide, the MOSH Adoption Team may need to add to and or redraft some or all of the draft material presented here.
- Consideration should be given to presenting appropriately simplified version of both the influence diagram and the causal chain summary table.
- In particular, consideration should be given to identifying and explaining some of the key issues that needed to be considered and taken into account in refining the risk story for presentation in the guide.
- In due course, when updating the guide the experience obtained at the first adoption (or demonstration) mine should be taken into account.

Likely key stakeholders and adopters - for consideration -

Explanatory note

Based on its investigations at the source mine The MOSH Adoption Team identified those persons or groups of persons who were considered to be most likely to exert a significant influence on the process of successful adopting the leading practice at an operating mine. A list of these persons is provided below as a guide to the persons who are likely to be the key stakeholders and adopters at most adoption mines.

It is this list of persons that was used to identify individuals across the spectrum of potential adoption mines for the direct enquiry interviews that led to the determination of the behavioural communication plan presented in Part 3. It is provided here as the starting point of the customisation process outlined in Part 2 (and Appendix 6) for adoption mines.

The list of key stakeholders and adopters is as follows:

Points to consider in updating this section

- Key issues that needed to be considered in identifying the key stakeholders and adopters at the demonstration mine should be briefly mentioned in a way that provides assistance and guidance to the Mine Adoption Teams at adoption mines.
- The importance and value of including Union representatives among the key stakeholders should be brought out on the basis of any particularly noteworthy experiences at the demonstration mine.

The list of key stakeholders and adopters should be presented here along with any notes that the MOSH Adoption Team consider to be helpful

Summary description of the risk/s addressed by the selected leading practice

Provide a brief description of the risk addressed by the leading practice, written in a way to help with the identification of the adopters and key stakeholders. It should draw from and be consistent with the expert derived causal chain risk story customised by the adoption mine.

Group	Adopters / End Users Grouping	Details of the Group	Persons selected for interview
1	Group 1 - Persons at risk who are directly responsible for implementing the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	List the names, position and mine section of the people selected for the interviews. Ensure that all groups are appropriately represented, but that the total number of persons does not exceed 30
2	Group 2 - Persons who implement / operate the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	
3	First line supervisors / direct managers of the practice	List the names and position of these people	
4	Other	Describe the group and attach a schedule listing the names, position and contact details of those representative of the group	

Note: Adopters are those persons who are directly involved in implementation of the leading practice in one way or another. They are the people whose will be directly responsible for the success or failure of the adoption.

Group	Key Stakeholder Grouping	Details of the Group	Persons selected for interview
1	Group 1 - Persons at risk, but who are not responsible for implementing the leading practice	Describe the group and attach a schedule listing the names, position and mine section of those representative of the group	
2	Group 2 - 3 levels of line management above the first line supervisor	List the names, position and contact details of these people	
3	Union leadership at the mine	As above	
4	Affected or interested support functions at the mine	As above	
5	Other	As above	

Important note:
This template should be expanded or adjusted as necessary to accommodate all of the information necessary for the mine to effectively plan and implement the direct enquiry process,.

Note: Key Stakeholders are those persons who are not directly involved in implementation of the leading practice, but who have a vested and direct interest in its success or failure. They are the people who are in a position to enable or otherwise influence those responsible for implementing the practice.

Purpose

The purpose of this document is to provide the selected interviewers with guidance to assist them in preparing for one-on-one direct enquiry interviews.

Introductory comment

The purpose of a one-on-one direct enquiry interview is to eliminate guesswork in acquiring from people central to the adoption process the information needed to customise the leadership behaviour and behavioural communications plans that are critically important elements of the adoption process. This is done by obtaining the information directly from the interviewees who have been selected from the group of people who are central to the adoption process. The integrity of the information obtained through this direct enquiry process is critical to the development of leadership behaviour and behavioural communication plans that are fully customised to address particular circumstances that prevail at the adoption mine.

It is in this context that a successful direct enquiry interview depends largely on the creation, in setting up and during the course of the interview, of a positive collaborative relationship between the interviewer and the interviewee. The ability of the interviewer to create this relationship lies to a large extent in the interviewer's level of preparedness before the interview, the protocol used in soliciting the interview; and of course the way in which the interview is conducted.

Preparation before the Interview

A one-on-one direct enquiry interview is intended to get what the interviewee *actually thinks and not what he/she would like the interviewer to think they think*. The interviewer should make every effort to ensure the creation of an environment of trust to assist in putting the interviewee into a collaborative state of mind. In this context the *credibility* of the interviewer in the eyes of the interviewee is very important. The interviewer must personally be clear about the purpose of the interview and must be fully familiar with the context in which the interview and the adoption process at the mine are taking place. The interviewer should therefore carefully read the relevant sections of the Leading Practice Adoption Guide to obtain this orientation. The interviewer should then pay special attention to implementing the guidance provided below in preparing for the interviews, irrespective of whether or not the person is an experienced interviewer.

- **The interviewee is the expert:** The simple fact of conducting a one-on-one direct enquiry interview is to get information about the thoughts and knowledge of the interviewee that can only come from that source. It is information that cannot and should not be guessed. Irrespective of the possibly lower level of the interviewee, the interviewer needs to clearly recognise that the interviewee is *de facto* an absolute expert on what he or she knows and thinks, and they should thus be afforded due respect.
- **Credibility and Trust:** It is imperative that interviewees feel comfortable in sharing their thoughts. With this in mind the process of interviewer selection will have sought to remove factors that could inhibit trust, such as selecting interviewers that function in the same reporting line. The selection process would

Points to consider in updating this section

- During the course of the initial direct enquiry process, and particularly the direct enquiry process at the first adopter (or demonstration) mine, the MOSH Adoption Team may have identified aspects of this document that warrant being upgraded. Such improvements should accordingly be introduced.

also have sought to identify person who would be credible in the eyes of the interviewees. However, personal credibility and trust should be further enhanced by following the guidance provided below.

- studying and discussing the updated risk summary / simple risk story, with an appropriate member of the Adoption Mine Team to ensure that they have a thorough understanding of the risks being addressed by the leading practice.
 - reading the interview protocol script several times to ensure familiarity with the protocol and greater fluidity in raising the various questions
 - practicing the interview at least once (perhaps with an adoption mine team member) to ensure the required level of fluidity with the interview protocol, the appropriate use of language, and adherence to the planned timing of the interview.
 - Ensuring that the list of persons to be interviewed does not include persons who speak a language that is beyond the capabilities of the interviewer. The interviewer should be able to converse comfortably with the interviewee in the language of choice of the interviewee.
- **Ensuring the required focus:** This should be done by reviewing with the person appointed to oversee the customisation process, or the Adoption Mine Team Manager, their understanding of the interview and how it should be conducted and documented, and resolving any points of divergence.
 - **Consistency of results:** In order to ensure consistency across the various interviews the interviewer should work out and use similar questioning language across the various interviews. This should not prevent the interviewer from pursuing emerging issues to identify an interviewee's understanding or reasoning, but in order to facilitate later analysis the interviewer must ensure that the full set of interview questions are consistently covered in all interviews.

Protocol in Soliciting an Interview

As explained in the guidance note the Mine Adoption Team will have selected the potential interviewees from the list of key persons involved in the adoption process, namely the adopters and key stakeholders. The process of contacting the interviewees with a view to setting up an interview should however be done by the interviewer who is to conduct the interview. This is part of the process of establishing a positive relationship with the interviewee and to create the requisite environment for a truthful and open discussion. As this is the first contact point between the interviewer and the interviewee, the interviewer has the opportunity of gauging the language level of the interviewee that would need to be used in the interview process.

Given below is an example of the interview solicitation dialogue that could be adapted to the interviewer's style and interviewee's language level to ensure that the interviewee is comfortable. Care must be taken to ensure that the interviewer does not appear to be reading a "script". This sample should therefore be treated as a guide.

Solicitation example

Hello, my name is <name>, although I don't work in your section, I have been asked to help the mine with its project to introduce a leading practice on < Name the practice> to improve health and safety in your section, and in due course in the rest of the mine. Are you aware of this initiative? *<wait for response and if necessary, give brief explanation of*

the adoption initiative and promise to send further information later. Notify the appropriate person to send more information if necessary> I am speaking to people in your section who are likely to be interested or involved in the operation of the system, like yourself, to learn about what you think is important about the risk and how it might be addressed by the leading practice. I would also like you to tell us about the things that you think would help introduction of the practice, or which would work against introducing the new leading practice into your workplace.

Your section supervisors know that persons like you will be asked if you would be prepared to participate in a private and confidential interview about the adoption of the <name the leading practice>. They also know that they will not be told of anything that you say. However, because what you and your colleagues think and say is important, the information collected from the persons interviewed will be analysed to identify what people think together, and of where they think differently, but no names will be used.

The mine and the Mine Adoption Team would be grateful for your contribution and I would thus like to know if you would be prepared to participate in an interview to discuss these things. Our conversation should take about <the number of minutes as identified in the practice session with colleague> minutes during which I will ask you some questions. There are no right or wrong answers to these questions, which are mainly to introduce the topics for our discussion. If now is not convenient we can arrange to have a discussion at another time that is better for you. Would you be interested in participating?

- <If “no”>. Thank you for your time
- <If “not now”>: What time would be more convenient for you? <schedule a time at the interviewee’s earliest convenience >.
- <If “yes”>: Proceed with the interview.

<If people ask how they were selected, to be interviewed, say they were selected from a list of people that the Mine Adoption Team identified as being likely to be directly interested or affected by the <name the leading practice> that is being considered for adoption. If they still persist and want to obtain satisfaction on this point, promise that someone from the adoption team will contact them to provide a more detailed explanation. The Adoption Team Leader or the agreed adoption team member should then be informed accordingly. If necessary the interview may thus need to be arranged for a future time.>

Note: It is best from the point of view of the information gathered that the interviewee does not have time to prepare for the interview, so the above conversation should be arranged to take place at a venue that is suitable for the interview.

Conducting a one-on-one direct enquiry interview

The solicitation process prior to commencement of the interview, as outlined above, should have gone a long way in creating an environment conducive to comfort and collaboration. The interviewer should therefore continue to ensure that the interviewee feels comfortable and respected. An interviewee who feels respected is more likely to talk freely than one who feels any discomfort or disrespect, even if such feelings are slight. The interviewer should convey this respect without in any way being patronizing. A patronising attitude would damage trust and the interviewer’s credibility.

A one-on-one direct enquiry interview depends on the voluntary collaboration of the interviewee in an environment of trust. Confidentiality is thus critical. The interviewer must be committed to ensure that the interviewee's responses are kept confidential and that only a summarized form of all interviews will be reported. As indicated earlier, this information must be conveyed to the interviewee before the start of the interview to let the interviewee know that no personally identifying information will be passed along.

Opening remarks are critical in setting the tone of a one-on-one direct enquiry interview to ensure that the requisite results are achieved. It is important to understand that it is difficult to know if the interviewee is sharing personal thoughts or just saying what the interviewee believes should be told the interviewee. The role of the interviewer in ensuring the former and preventing the latter is crucial, particularly in the opening remarks before proceeding to the questions. An example the interviewer's opening remarks in a one-on-one direct enquiry interview is provided below for guidance, and adaptation for possible use.

Sample of opening remarks

As I mentioned previously, I am conducting interviews to help the <leading practice > Leading Practice Adoption Team. I'd like to give you a brief overview of the leading practice and of the team's plans and then ask for your thoughts on the specific challenges you face with <focus area> at the mine and about things that could be done to help introduce the practice, or of things that would work against successfully introducing the practice into your workplace.

I have some questions to help guide our discussion, but please feel free to raise any topic related to this subject that comes to mind as we go along. As I said there are no right or wrong answers, and all of the comments you provide will help us understand what is important to you and your colleagues.

Before we start, please note that this is an entirely voluntary process and we can only proceed if you are happy. We are obviously interested in your thoughts on these issues which will help us in improving health and safety at this mine. However, if you are uncomfortable about continuing with this interview at any stage, please let me know so that we can stop. Lastly, although I will be taking notes to ensure that I remember what you say, please remember that what you say will be kept confidential and that the results will only be reported in summarised form for all of the interviews together. No personally identifying information will be passed along to any one associated with the mine.

May we proceed on that basis? Thank you

Note: It is possible that interviewers may want to have someone present to take notes, or to record the interview, but if this is to be done then it will be essential to check whether the interviewee is comfortable for this to be done. It is recommended that the interviewer take notes that are then expanded upon immediately after the interview, as outlined in section 6.5 of the Handbook and in the Leading Practice Adoption Guide.

Begin the interview process as follows:

- Share the agenda: Our conversation will cover essentially two topics. First, I'm going to ask you about the risk of <focus area> at your mine, and then I'm going to ask you about how the Adoption Team's proposed leading practice for <focus area> might be adopted at your mine.
- Provide background information: Ensure that the interviewee is following the dialogue then provide background information. Explain that the Mine Adoption Team is working to significantly reduce <focus area> in mining operations.

Indicate the goal that industry is aiming to achieve <state the milestone targets> by 2013.

- Proceed to the questions: Begin by emphasising that you want to hear what the interviewee thinks or knows, and that there are no right or wrong answers. The best answers are those that indicate exactly what the interviewee knows or thinks. If the interviewee is happy to go forward, the interviewer can now continue the interview taking into account the tips set out below to help ensure an effective one-on-one direct enquiry interview.

Tips for conducting direct enquiry interviews

The following tips should be considered by the interviewer in preparing for the one-on-one direct enquiry interviews:

- Find a quiet place to conduct the interview, ensuring no interruptions or background noise. The selected venue should not have the effect of making the interviewee feel uncomfortable, or intimidated. Make sure that co-workers understand they are not to disturb you while an interview is taking place (perhaps by posting an "Interview in Progress" sign on the interview venue) and that electronic devices (such as radios and cell phones) are turned off.
- Be courteous and respectful of the Interviewee at all times. Treat the Interviewee in a professional manner, but not overly formal.
- Main questions should always be read in their entirety to ensure that the meaning of the question is properly conveyed. Follow-up questions (probes and prompts) should be more conversational in nature, and generally do not need to be read in their entirety.
- If an interviewee does not understand a question, you may try rephrasing the question as long as you do not lose its meaning.
- Allow the Interviewee to answer all the main questions and follow-ups, but be careful not to lead them in any way.
 - Never assume a question has already been answered. If you believe a question may have been already answered earlier in the interview, you may state: "I know you may have already covered this topic, but I'm going to ask the following question in case you have anything more to add."
 - Keep a neutral tone and stance, including body language. No value judgments should be inadvertently communicated through tone, stance or body language.
 - Do not answer for, fill in the blanks, or lead the interview in any way. Never suggest responses.
 - To assure the Interviewee that you are listening, you may say "I see" or simply "hmmm" in response to their thinking, but avoid terms of judgment, such as "yes" or "good" or "correct", as this implies a judgment either right versus wrong or that you agree with the Interviewee's statement.
 - Do not try to make people consistent in their answers regarding their *beliefs, attitudes and feelings, but ensure that what is said is accurately recorded*

- Be flexible to explore relevant issues in sufficient depth to obtain a full understanding of the interviewees thinking, but return and stick to the framework of questions in the worksheet.
- If the Interviewee hesitates when responding or thinks that he or she does not know enough to answer the question, please use follow-ups; however, don't press if the Interviewee still does not want to answer a question.
 - Give the Interviewee sufficient time to consider their answer.
 - Repeat the question slowly.
 - Remind interviewee that there are no right or wrong answers: "I'm just interested in hearing what you think. Again, there are no right or wrong answers."
- When an Interviewee seems to veer off course from the main interview topic or is particularly long-winded and repetitive, it is necessary to close the question and move on to manage the length of the interview. This needs to be done respectfully. Suggestions for doing this include:
 - "If you have touched on your main points here, I'm going to move on now so I can get your input on the rest of our questions before our time runs out."
 - "If you have other thoughts to add at the conclusion of the interview, we can take some more time then."

Name of Leading Practice:			
Instructions: Mine Adoption Team to indicate any particular instructions that need to be followed			
Unique Interview reference number	Interview Date	Section on Mine	Name of Worker Position
[example: Interview # 01]	[example: 25 July 2009]	[example: 30 level west]	[example: Mine Overseer [
Part A: Adopter/Stakeholder beliefs about [the hazard] (Causes and outcomes)			
1	Please describe your role and responsibilities at the mine.		
2	Please describe [the risk/hazard] in your own words. · How may [the risk/hazard] occur? · What are the possible causes of [the risk/hazard]?		
3	What happens as a result of [the hazard]? · How might you be affected by [the risk/hazard]? · Who else may be most affected by [the risk/hazard]? · What may happen to people who are affected by [the risk/hazard]?	Important note The space allowed for recording answers in this template must not in any way serve as a constraint on what might be said by the interviewee or recorded by the interviewer. Extra space should be provided as necessary to fully record answers to the standard questions and any prompting during the course of the interview.	
4	How important do you think it is to find a way to better protect people [the risk/hazard]? · Why do you say that?		

Part B: Adopter/Stakeholder Beliefs about proposed Leading Practice		
5	What do you think could be done to better protect people from [the risk/hazard]? · Why?	
Interviewer to say: This mine is currently working to bring about leading practices to better protect people from [the risk/hazard]. Describe the proposed leading practice in simple neutral terms but in sufficient detail for interviewee to understand how it operates and how it might impact on him and his work..		
6	What should leaders and supervisors in the mine <u>do</u> to help make sure that these practices are successful? · Why should they do this?	
7	What should leaders <u>not do</u> in order to make sure that these practices are successful? · Why should they not do this?	
8	What other kinds of things might stand in the way of the leading practice being successful at this mine? · How should these things be addressed?	
9	What information would be important for people like you to know about how people can be affected by the risk and what is being done to protect them? · Why is this important?	
10	What is the best way for people like you to receive this information? · Why is this the best way?	

Name of Leading Practice

Instructions: To be used to summarize responses from the individual direct enquiry interviews conducted using the questions provided in Appendix A10- See guidance provided in Appendix A5

Part A: Adopter/Stakeholder beliefs about [the risk/hazard] (Causes and impacts)

1	List and tabulate Interviewees' roles and responsibilities.	
2	List and tabulate mentioned <i>causes</i> of [the risk/hazard]	- Which, if any, of these causes agree with the Risk Summary / Previous interview results? - List any causes that disagree with the Risk Summary/ Previous interview results. Describe how people who were interviewed may be wrong in their thinking about the hazard and risk.
	List any information on causes that Interviewees say they want to know.	
3	List and tabulate mentioned impacts of [the risk/hazard]. Include description of who may be affected.	- Which, if any, of these impacts agree with the Risk Summary/ Previous interview results? - List impacts that may disagree with the Risk Summary/ Previous interview results? Describe any areas where people who were interviewed may be wrong in their thinking about possible impacts.
	List any information on impacts that Interviewees say they want to know.	
4	Summarize Interviewees' comments on the importance and value of better protecting people from [the risk/hazard]?	

Summary of Part A. Compare the results above to the mental models report used to develop the generic behaviour-based plans.

What, if any, are the *key similarities* between the results in Part A and those of the spectrum of potential adoption mines, the generic case, which should be emphasized in behavioural communications and leadership behaviour plans?

What, if any, are the *key differences* between the results in Part A and those of the generic case that should be emphasized in behavioural communications and leadership behaviour plans?

Important note

The space provided should not act as a constraint on the analysis or the information that needs to be recorded for each question. The cells should be expanded as necessary to accommodate full and clear answers to the various questions / points.

Part B: Adopter/Stakeholder Beliefs about Leading Practices		
5	List and tabulate mentioned opportunities to better protect people from the hazard. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Are there any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
6	List and tabulate mentioned <i>leadership behaviors that should be done</i> to ensure the success of leading practice. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Are there any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
7	List and tabulate mentioned <i>leadership behaviors that should not be performed</i> to ensure the success of leading practice. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
8	List and tabulate mentioned potential barriers to the success the leading practice at this mine? Describe Interviewees' perceptions on how should these things be addressed?	- Which, if any, of these ways barriers and possible solutions agree with the features of the leading practice? - Describe any these ways barriers and possible solutions differ from the features of the leading practice? Explain the possible reasons for this disagreement.
9	List and tabulate the information people need. Describe why, in the interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
10	List and tabulate the mentioned best ways to communicate with people. Describe why, in the Interviewees' words.	- Which, if any, of these ways agree with the features of the leading practice? - Describe any ways mentioned that differ from the features of the leading practice? Explain the possible reasons for this disagreement.
Summary of Part B. Compare the results above to the mental models results of the demonstration mine project.		
What, if any, are the key similarities between the results in Part B and those of the spectrum of potential adoption mines, the generic case, which should be emphasized in behavioural communications and leadership behaviour plans?		What, if any, are the key differences between the results in Part B and those of the generic case that should be emphasized in behavioural communications and leadership behaviour plans?

Explanatory Note

The generic mental models report presented below was derived from the direct enquiry process conducted with key stakeholders and adopters drawn from the spectrum of potential adoption mines. It therefore represents the mental model that is generically applicable to adoption of the leading practice at these mines. It is these mental model findings that formed the basis of the behavioural communication plan and which assisted in the formulation of the leadership behaviour plans. Both plans are presented in Part 3 of this guide. Accordingly, as described in Part 2 (and Appendix 5), it is this generic mental models report that provides the basis for identifying any aspects of the mental model findings at the adoption mine that are significantly different, and which therefore need to be taken into account in customising the behavioural communication and leadership behaviour plans for application at the mine.

Points to consider in updating this section

- The MOSH Adoption Team should reflect on the experience in using the generic mental models report at the first adopter (or demonstration) mine and update the section with any guidance from that experience that will assist the adoption mine.

A summary of the Generic Mental Models Report is presented below:

Portfolio of evidence

For adoption of ... <Name of leading practice> at< Name of mine>

Table of contents

1. Completed risk review and adoption decision document signed by the mine general manager
2. Copy of brief advising employees of decision to adopt the leading practice
3. Copy of appointment letters to Mine Adoption Team Manager and Behavioural Plans Overseer
4. Copy of completed COPA registration forms for the mine's COPA representatives
5. Copy of the mine's initial leading practice adoption plan
6. Plan for baseline and leading practice performance monitoring
7. Summary description of customised the leading practice listing adjustments made
8. Copy of direct enquiry questionnaire used by the mine
9. A selection of typical response sheets derived from the direct enquiry process
10. Summary description of the identified mine specific mental model to be taken into account
11. Copy of customised leadership behaviour plan
12. Copy of customised behavioural communication plan
13. Summary of operational risk assessment for introduction of the leading practice
14. Copy of training lesson plans
15. Copy of final adoption plan signed off by mine general manager
16. Copy of mine-wide roll out plan for the leading practice
17. Summary of leading practice performance review following adoption

Points to consider in updating this section

The MOSH Adoption Team should update the default portfolio of evidence contents list provided here to the extent considered necessary for the leading practice in question. In doing so, the adoption team should be cautious about adding much to the above already extensive list, as this could have a counter-productive effect.

Appendix B

Example documents

- B1** Example documents / communications / signage / etc
- B2** Example training material

Example documents - communications / signage etc. -

Guidance note: Depending on the extent and nature of the example documents associated with the leading practice it may be necessary or appropriate to break this appendix into a number of different appendices. It is envisaged that the MOSH Adoption Team will identify and include within this guide all documents that will be of material assistance to the Mine Adoption Team in achieving adoption of the leading practice.

Guidance note: The training material developed and used at the source mine, should be refined based on the experience gained at the demonstration mine, and provided in this appendix for consideration and use by the adoption mine. In doing so, and based on their experience at the demonstration mine, the MOSH Adoption Team should draw attention to those issues that may need adjustment to take account of mine-specific circumstances, such as the behavioural communication aspects that are contained within the training material.

Generic behavioural communication plan

No	Stakeholders/ Adopters (recipients)	Belief / issue addressed & Desired behaviour	Messages . Communication content	Mode	Tools / means	When	Responsibility for delivery	Who to ensure	Evaluation / control measure

Leadership behaviour plan

Details of relevant levels of leadership	Antecedent Things that are required to precede or prompt desired behaviour	Behaviour Desired key behaviours that are necessary for success	Consequences Actions following behaviour to increase, maintain or decrease behaviour
Operator / technician	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
Informal peer group leader	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
First line supervisor	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
Second line supervisor	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
Third level supervisor	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
Fourth level supervisor	1. 2. 3. Etc	1. 2. 3. Etc	1. 2. 3. Etc
Other			

No	Points for investigation
1	What are the key features of the candidate SLP that must be adopted for the practice to operate successfully?
2	What benefits of the practice have been quantitatively demonstrated and recorded in routine operations at the source mine?
3	Is the technology, practice or knowledge ready for transfer and adoption by industry?
4	Has the equipment to be tested been adequately designed to withstand the harsh underground environment?
5	Has the operation of the technology or practice been adequately simplified for mine application?
6	What technical support is needed to assist mine staff with the adoption process?
7	Which persons or mines are going to be most affected by adoption of the technology or practice?
8	What steps need to be taken to ensure proper communication about the new technology or practice in regard to its application and its positive and negative impacts?
9	What special training is necessary for mine staff to facilitate successful adoption?
10	Which persons on the host mine could make or break the project and how have they been accommodated?
11	What will be the benefits to the various people on the mine who are or will be affected by adoption of the technology or practice, in particular the workers and first line supervisors?
12	What measures, in addition to training, need to be adopted to gain support of the workforce for the new technology or practice?
13	Which persons will be negatively affected and how have their concerns been taken into account to secure their support?
14	Which mines have the potential to benefit from the identified technology or practice?
15	Which mines would benefit most from adoption of the technology or practice?
16	Are new skills or organisational structures needed to achieve successful adoption?
17	What are the possible unintended consequences of the technology or practice and how will they be addressed if they arise?
18	What are the criteria for the technology or practice to be considered a success once adopted?
19	Are any other special procedures necessary for successful adoption of the practice at a potential adoption mine?

Note: The space provided for each question is not indicative of the extent of the response required. The responses should be complete and the spaces expanded as necessary

Description of the candidate SLP			Review comment
No.	Criteria for assessing a candidate SLP	Data acquired and presented for assessment	Review comment
i	Worthwhile benefits: The practice must have delivered worthwhile benefits in quantitative terms at one or more operating mines		
ii	Significant adoption potential: The practice should have the potential to be adopted at more than 10 mines or impact on the health or safety of at least 10% of persons employed in the mining industry.		
iii	Little impact on other practices: Adoption of the practice should involve no significant adjustment to other existing practices on the mine		
iv	Few people and levels of management: Adoption of the practice should involve few people and levels of management		
v	Few implementation steps: Adoption of the practice should involve few implementation steps		
vi	Little or no training: Adoption of the practice should involve little or no training		
vii	Little or no external assistance: Adoption of the practice should involve little or no external assistance		
viii	Assurance of any needed assistance: The extent of any assistance that may be required by a mine to successfully adopt the practice must have been identified and clearly outlined with at least one of the source mines having explicitly agreed to provide such		
ix	No negative impacts: Adoption of the practice at a mine must have no materially negative impact on any person or group of persons at that mine.		

Note:
The spaces provided in this template should be expanded as necessary to properly deal with the issue in question.

This reference document should be read in conjunction with Section 7.2, which provides guidance to the MOSH Adoption Teams on the preparation of an SLP Adoption Brief. This document provides additional guidance in the form of an annotated pro forma version of an adoption brief, as well as an example adoption brief that was prepared for an approved SLP. The pro forma adoption brief provides draft material for the teams to consider in the preparation of their adoption briefs. In doing this the teams must ensure that the draft material is critically reviewed and extended, reduced or otherwise adjusted to fully address the needs of the SLP in question.

Key guidance points

1. *Primary purpose of the adoption brief:* It is important to recognise that the primary purpose of the adoption brief is to provide potential adoption mines with all the information they need to be able to adopt the SLP at their mine. Although brief, it nevertheless needs to be a stand-alone document. This has clear implications in respect of the level of detail that needs to be provided.
2. *Secondary purposes of the brief:* The adoption brief must also serve the purpose of providing relevant information to key people at potential adoption mines, and more generally to a broad range of persons involved in one way or another with health and safety in mines. Through its intended wide distribution it also serves as a vehicle linking the Chamber and the Learning Hub with real steps that are being taken towards achieving the ultimate goal of zero harm. In this context it has an important branding effect.
3. *Standard format:* The adoption brief should be user-friendly and of high quality. It should be prepared in the standard format that has been designed to meet these two needs, as shown in the pro-forma document and example adoption brief presented below. Its content must strongly address the primary and secondary purposes of the brief mentioned above. Guidance on any changes that might in future be introduced by the Learning Hub to make the document even more effective will be provided by the team's adoption specialist. Key points about the format are as follows:
 - The standard MOSH masthead on the front page and Chamber logo in the footer should always be used. This is necessary for branding purposes.
 - The front page of the brief should always include a stand-alone box containing a standard description of the MOSH Leading Practice Adoption System, and of the SLP concept.
 - A right side margin should be used to provide space to insert points of emphasis, to provide space for users to enter margin notes and to make the text more readable and user-friendly. The number of characters per line should be kept below about 85, with 80 being a good target. The text should be right justified.
 - Arial font should be used for text in general, with line spacing set at 1.5, and font size for text in the body of the brief at either 9 or 10.

The annotated pro forma version of the adoption brief, along with the example adoption brief is provided below:



Pro forma SLP Adoption Brief

The Chamber of Mines MOSH LEARNING HUB Leading Practice Adoption System

Note: Include this side box as a standard description of the adoption system and of the SLP concept

The MOSH Adoption System

Background: The MOSH Leading Practice Adoption System was established by industry in 2007 to assist in achieving the tripartite agreed 2013 occupational health and safety milestones. In 2005 the CEOs of major mining companies had committed their companies to achieving these milestones.

System: The system is based on the simple concept of identifying, documenting and then facilitating widespread adoption of leading practices that have enabled superior OHS performance at existing mines. Although conceptually simple, the barriers to successful technology transfer make it notoriously difficult to consistently achieve in practice. The MOSH system therefore includes special behaviour management techniques to address these barriers.

Behaviour management plans: The behaviour management techniques of the MOSH adoption process need to be implemented as part of the leading practice. They are derived from mental models research conducted specifically to identify the various barriers that prevent successful adoption.

Simple Leading Practice, SLP: A leading practice is classed as a simple leading practice when both the practice and its adoption do not depend on securing a change in the behaviour of many people. An independent review panel is established in each case to formally make this assessment. In the event that the practice is confirmed as an SLP, behavioural communication and leadership behaviour plans that are generically applicable may be customized and used. Such plans are provided in this adoption brief.

Adoption process: Importantly, sustainable adoption of a leading practice, including a simple leading practice, must include adoption of not only the technical leg, but also its behavioural communication and leadership behaviour legs. In concept, a leading practice, including an SLP, must therefore be considered to comprise of the three legs depicted below:

MOSH Leading Practice / SLP

Behavioural communication plan

Leadership behaviour plan

Technical aspects

Simple Leading Practice Adoption Brief

.....Insert title below line here

This simple leading practice etc.....

Note: A brief description of the SLP should be provided here – provide the reader with a brief but clear introductory picture of what the SLP is, and of its typical application, and why. If possible, provide a picture to help illustrate the SLP or its application.

Documented benefits to date

Etc.....

Note: Under this heading a brief but clear statement of the quantitative benefits of the SLP documented to date should be provided. These benefits should have been documented at the time of investigating the SLP at the source mine. If possible include an appropriate table or graph to present the key benefits in quantitative terms.



Summary of the generic value case

The essence of value case for deciding to adopt the SLP outlined in this brief is as follows:

Issue		Details
1		
2		
3		
4		
5		
6		
7		
8		

Note: It should be possible to present the essence of the value case for the SLP in about 6 or 7 well-stated points. Use more if necessary, but the number of points should be kept below 10. They should be listed in order of importance. Too many points will weaken the impact of the value case. In most cases the list should start by presenting the OHS benefits.

Note: Consider inserting a borderless text box with text or other information that provides extra emphasis to points that bring out the real practical value of the SLP.

Generic SLP behavioural plans

Behavioural communication: The elements of the behavioural communication plan set out below identify beliefs and issues that are generally present in mines, and which act as barriers to adoption of new technology and practice. The provision and presentation of convincing information is thus necessary to address the misperceptions or knowledge gaps associated with these beliefs and issues.

No.	Generic belief / issue	Essence of required communication
1	There will be no personal benefit	The direct benefit to the operators and first line supervisors of adopting the SLP must be clearly identified and communicated to them
2	SLP will have a negative impact on production	Any possible impact on production of adopting the SLP must be clearly and explicitly outlined to all affected operational levels
3	SLP will involve extra work effort	The impact on required work effort following adoption of the SLP must be clearly and explicitly outlined and justified to the relevant operators.
4	Short cuts are taken to meet production targets	The harm of taking (any) short-cuts must be graphically explained – impact on individuals, their families and the mine must be emphasized. The reasons for a safe mine being a productive mine must be explained to all.
5	Trust and buy-in are needed for adoption	Repeatedly emphasise to all supervisory levels the importance of regular dialogue with their staff to identify and properly address any and all concerns about the SLP
6	Leaders must lead by example	Explain that a leader's behaviour is his most powerful means of communication – employees are always watching. Leaders / supervisors cannot expect behaviour from their staff that is better than what they demonstrate.
7	Workers have a disregard for health and safety	Explain to managers / supervisors that this is a reflection of the way that they and their colleagues implicitly communicate / demonstrate their own beliefs and priorities. In their day to day activities managers and supervisors must regularly demonstrate their high regard for health and safety; equally they must respond appropriately to any display of unsafe behaviour by their colleagues and employees.
8	Workers fail to implement training provided	Explain to supervisors that they must not allow sub-standard activity – they will get what they allow. They must provide constructive coaching or if necessary send the person for re-training

Note: The essence of the required communication provided in the behavioural communication table should be customised by the adoption team to appropriately include material relevant to the SLP in question.

Communication materials

It is the responsibility of the mine to develop the communication material required to effectively (convincingly) convey the substance of the key messages set out in this generic behavioural communication plan, which has been customized for the <name of SLP in question>.

It will also be important to identify and brief those responsible for delivering the various messages.

Leadership behaviour: The elements of the customised leadership behaviour plan that must be implemented in adopting the SLP are set out below. The provision of appropriate briefing and training will be necessary to achieve the leadership behaviours identified in this plan.

Antecedents (To enable the behaviour for successful adoption)	Behaviours (By the relevant person for successful adoption of the SLP)	Consequences (By next level supervisor in response to observed behaviour)
Operational adopters (Indicate who)		
- Appropriate training / instruction to all operational adopters - Briefing before implementation - Regular enquiries from supervisors about SLP performance	- Install / Operate / maintain SLP as instructed - No short cuts - Report any problems with SLP - Request explanations to ensure full understanding	- Immediate positive feedback from supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance
First level supervisors (Indicate who)		
- Appropriate training / instruction to all first level supervisors - Briefing before implementation - Regular meetings with next level supervisor	- Regularly dialogue to check on SLP and operator performance - Ensure operational adopters receive any necessary training / instruction - No short cuts allowed or tolerated - Prompt action on any reported SLP problems - Provide immediate positive feedback on observing desired behaviour - Provide constructive coaching on observing sub-standard behaviour	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance
Second level supervisors (Indicate who and add other levels as necessary)		
- Briefing before implementation - Regular meetings with next level supervisor	- No short cuts allowed or tolerated - Ensure that operators and supervisors receive any necessary training / instruction - Enquire about SLP performance at regular meetings with supervisors - Provide immediate positive feedback on observing desired behaviour - Provide constructive coaching on observing sub-standard behaviour	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance

Note: The elements of the required communication provided in the behavioural communication table should be customised by the adoption team to appropriately include material relevant to the SLP in question.

Training

It is the responsibility of the mine to develop the training and briefing material required for implementation of the generic leadership behaviour plan that has been customised for the < name of SLP in question >.

Guidance on implementation of the leadership behaviour and behavioural communication plans is provided later.

SLP technical details

The relevant technical aspects of the <SLP> are given below:

1.
2.
3.
4. Etc.....

Note: Provide all the technical detail needed for the adoption mine to be able to acquire and implement the SLP in question. Present the information as a series of bullets if possible, and support the points with appropriate pictures and or diagrams if necessary. Identify any particular training requirements.

Adoption procedures

Notwithstanding the simple nature of the practice, the systematic process outlined below should be used, with adjustment where necessary, to manage adoption SLP at the mine.

Note: In preparing the guidance table the adoption team may find that fewer (or more) steps / activities are appropriate. The table should thus be adjusted as necessary. The guidance provided for each activity should be sufficiently informative for persons at adoption mines to know what they need to do.

Steps for mine-wide adoption of the < Name > SLP		
Step No.	Activity	Guidance notes / Comment
1	Facilitate decision to adopt	
	Prepare and present case for adopting the SLP.	Indicate who should do this and why it is important even if the generic case for adopting the SLP appears obvious
	Obtain top management decision to adopt SLP	Emphasise the importance of this for successful adoption. Advise that this should include a presentation to the mine's executive team.
2	Secure support for adoption	
	Secure support of mine health and safety reps	Advise that support provided, or withheld by worker representatives can facilitate or hold back the adoption process. Provide guidance.
	Issue mine-wide briefing note about adoption	Advise that the mine's usual briefing system should be used. The main features and benefits of the SLP should be explained.
3	Establish an effective adoption team	
	Identify person to lead / champion adoption	The person must have credibility, good leadership and communication skills, and be provided with the necessary time
	Ensure / enable provision of any needed support	The SLP may require the input and support of others, and the manager needs to enable and ensure that this is provided
4	Develop mine-wide adoption plan	
	Identify appropriate piloting arrangements	Bring out that even for a SLP, a piloting step should be included as an key step in the mine's adoption process
	Develop mine-wide adoption & roll-out plan	Advise that this should be properly done by the appointed project leader as one of his key enabling deliverables
	Conduct risk assessment of planned changes	Bring out the importance of doing this and that it should be another of the project leader's key responsibilities
	Clarify and agree time scale and success criteria	Indicate the importance of reaching agreement on this - the Mine Manager and other key stakeholders must know what to expect
5	Develop and implement a monitoring plan	
	Identify measurements to document SLP impact	Bring out that this is an essential element of the adoption process and indicate any particularly important measurements to be made
	Develop and action monitoring plan	Indicate some of the key elements that should be considered in developing and implementing the plan
	Analyse data and report on SLP impacts	Explain the importance of doing this on an on-going basis and of ensuring that key information is provided to key stakeholders
6	Harmonise SLP with mine standards	
	Critically review SLP against mine standards	Indicate that this should be done with a view to identifying and eliminating any potentially unnecessary clashes
	Check acceptability of identified SLP changes	Identify core elements of the SLP that must not be compromised in the interests of standardisation
7	Develop training & communication materials	
	Identify people who need to be briefed or trained	Indicate who in particular will need to be briefed and trained. Bring out that the mine should identify any others
	Develop required briefing and training material	Emphasise that special materials may be needed for effective presentation of the behavioural and technical detail given here.
8	Brief and train mine persons	
	Plan briefing and training programme	Point out that although the briefing and training needs may be brief, it needs to be planned and appropriately scheduled.
	Brief all relevant supervisory levels	Explain that relevant material from both behavioural plans should be included in these briefing sessions. Give guidance / examples.
	Brief all workers involved in adopting the SLP	Explain that the material selected for workers may need to differ from that selected for supervisors. Give guidance / examples
9	Pilot adoption of the SLP	
	Conduct adoption of SLP at the pilot site	Identify any particular points that the mine needs to take into account in planning and implementing this piloting step
	Identify and test any needed SLP improvements	Emphasise the importance of ensuring that any improvement to the SLP is properly tested before initiating mine-wide roll-out.
10	Finalise & implement mine-wide roll-out plan	
	Review and finalise mine-wide roll-out plans	Indicate that the project leader must ensure that this step is explicitly done and the outcome communicated to the manager.
	Implement mine-wide roll-out plan	Identify any particular points that should be taken into account in planning and implementing this key step.
	Distribute progress updates to key persons	Bring out the importance of keeping future adopters at the mine informed about progress in the roll-out process.

Critical success factors

1. Top management buy-in and support
2. A credible adoption champion with adequate time and support
3. Proper briefing and training of key people
4. A well designed and executed adoption roll-out plan

Training and communication materials

Relatively simple training and communication materials are envisaged for the winch cover SLP.

Some of the identified behavioural communication messages may warrant being communicated to all employees. The development of more substantial material and presentation arrangements may thus be justified in those cases. This is a matter that should be seriously considered and decided by management.

End notes

1. Any queries in relation to the practice or adoption procedures outlined in this adoption brief should be raised with the MOSH Adoption Team Manager: <Name of team>, or the team's Adoption Specialist (Phone 011 498 7574).





Example SLP Adoption Brief

The Chamber of Mines MOSH LEARNING HUB Leading Practice Adoption System

Simple Leading Practice Adoption Brief Winch Covers

This simple leading practice involves fitting a cover over the operating drums of a scraper winch to reduce the harmful dust exposure experienced by winch operators. Winch operators have been identified across industry as the occupation with the highest exposure to silica dust.

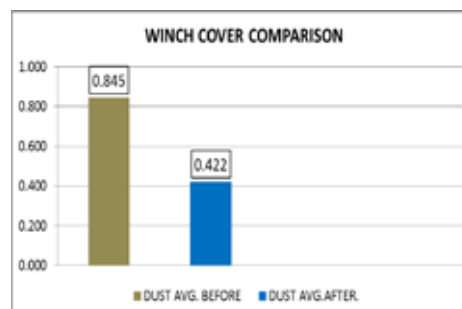
In principle, the winch cover simply involves fitting a cover to the winch drum guard of existing winches. The two pictures below illustrate a winch drum guard before and after fitting the winch cover.



Existing winches should be retro-fitted with the covers and all replacement or new winches should be equipped with covers prior to being sent underground. Specifications for the covers should be drawn up by the mine. More detail about the cover and the adoption process is provided later.

Documented benefits to date

The installation of a winch cover has been found to result in a 50% reduction in aerosol particles in the breathing zone of winch operators. The measurements were made over ten minute sampling periods using a spot sampling instrument (side pack).



The MOSH Adoption System

Background: The MOSH Leading Practice Adoption System was established by industry in 2007 to assist in achieving the tripartite agreed 2013 occupational health and safety milestones. In 2005 the CEOs of major mining companies had committed their companies to achieving these milestones.

System: The system is based on the simple concept of identifying, documenting and then facilitating widespread adoption of leading practices that have enabled superior OHS performance at existing mines. Although conceptually simple, the barriers to successful technology transfer make it notoriously difficult to consistently achieve in practice. The MOSH system therefore includes special behaviour management techniques to address these barriers.

Behaviour management plans: The behaviour management techniques of the MOSH adoption process need to be implemented as part of the leading practice. They are derived from mental models research conducted specifically to identify the various barriers that prevent successful adoption.

Simple Leading Practice, SLP: A leading practice is classed as a SLP leading practice when both the practice and its adoption do not depend on securing a change in the behaviour of many people. An independent review panel is established in each case to formally make this assessment. In the event that the practice is confirmed as an SLP, behavioural communication and leadership behaviour plans that are generically applicable may be customized and used. Such plans are provided in this adoption brief.

Adoption process: Importantly, sustainable adoption of a leading practice, including a simple leading practice, must include adoption of not only the technical leg, but also its behavioural communication and leadership behaviour legs. In concept, a leading practice, including an SLP, must therefore be considered to comprise of the three legs depicted below:

MOSH Leading Practice / SLP

Behavioural communication plan

Leadership behaviour plan

Technical aspects

Summary of the generic value case

The value case for deciding to adopt the winch cover SLP outlined in this brief includes is as follows:

Issue		Details
1	OHS benefit	The risk of silicosis to winch operators, the employees who are most at risk, will be very significantly reduced. This is of real value to both workers and management.
2	Progress towards zero harm	Death from silicosis caused by excessive exposure to silica dust is the greatest cause of mortality in mine workers. Reducing this risk in the group most at risk will constitute a significant step towards achieving the ultimate goal of zero harm
3	Initial cost	If the cover is fitted by the winch supplier the estimated cost is R2500 per winch. If the covers are made and fitted using existing mine personnel and redundant conveyor belt, the real extra cost to the mine becomes negligible.
4	Operational costs	No measurable increase in operational costs have been identified
5	Improved working relationships	Implementation of the behavioural communication and leadership behaviour plans has the potential to significantly improve the operational working relationship between supervisors and their staff
6	Buy-in and support	The mine-wide intervention in the interests of protecting the health of those most at risk will help engender buy-in and support for the intervention, and of employees for management
7	Legal compliance	The installation of winch covers will assist in meeting regulated maximum dust exposure levels. It will also be a good case of management doing what is <i>reasonably practicable</i> to provide and maintain a working environment that is safe and without risk to the health of winch operators.
8	Reduced compensation	In the longer term the mining industry, including the mine, will benefit from a reduction in compensation and other costs associated with silicosis.

Generic SLP behavioural plans

Behavioural communication: The elements of the behavioural communication plan set out below identify beliefs and issues that are generally present in mines, and which act as barriers to adoption of new technology and practice. The provision and presentation of convincing information is thus necessary to address the misperceptions or knowledge gaps associated with these beliefs and issues.

No.	Generic belief / issue	Essence of required communication
1	There will be no personal benefit	The direct health benefits to winch operators from a 50% reduction of silica dust inhalation must be clearly identified and communicated to them. The indirect benefits derived from adopting the winch cover SLP must be identified and explained to the relevant supervisors and engineering maintenance staff
	It will have a negative impact on production	Experience illustrating that adoption of the winch cover SLP has no impact on production must be explained to all supervisors and winch operators.
3	It will involve extra work effort	The extra maintenance work required of the winch operator and engineering maintenance staff must be made part of their defined work.
4	Short cuts are taken to meet production targets	The reasons for a safe mine being a productive mine must be explained to the winch operators, engineering staff and their supervisors. The harm of ill-advised short cuts to health, safety and production should be brought out.
5	Trust and buy-in are needed for adoption	The importance of regular dialogue with staff to identify and address any and all concerns about the SLP to be explained to all relevant supervisory levels.
6	Leaders must lead by example	Leaders responsible for ensuring operation or maintenance of the equipment must regularly check and ensure that the equipment is in proper working order.
7	Workers have a disregard for health and safety	Managers and supervisors must communicate their high regard for health and safety through their actions, and in particular by ensuring that workers do not sacrifice health and safety considerations in the interests of production.
8	Workers fail to implement training provided	Explain to supervisors that they will get what they allow. Persons who do not do what they have been trained to do must be constructively coached or sent for re-training if necessary.

The value case

An important point about a value case is that it contains more than a conventional business case. Much of the value from an intervention to improve health or safety performance cannot be readily assessed in hard financial terms. Much of the value derived from many health and safety interventions is of strategic or long-term benefit, and it therefore needs to be recognized in those terms.

Extract from Mine Health and Safety Act: section 5. (1)

As far as is reasonably practicable, every employer must provide and maintain a working environment that is safe and without risk to the health of employees.

Communication materials

It is the responsibility of the mine to develop the required communication material to effectively (convincingly) convey the substance of the key messages set out in this generic behavioural communication plan which has been customized for the winch cover SLP.

It will also be important to identify and brief those responsible for delivering the various messages.

Leadership behaviour: The elements of the customised leadership behaviour plan that must be implemented in adopting the winch cover SLP are set out below. The provision of appropriate briefing and training will be necessary to achieve the leadership behaviours identified in this plan.

Antecedents (To enable the behaviour for successful adoption)	Behaviours (By the relevant person for successful adoption of the SLP)	Consequences (By next level supervisor in response to observed behaviour)
Operational adopters (Winch operator / Engineering Technician)		
- Operator training on operation and required regular maintenance - Technician training on installation and maintenance of covers - Briefing before implementation - Regular performance enquiries by supervisors	- Operator to operate and clean winches with covers as instructed - Technician to install and maintain winch covers to specification as trained. - No short cuts - Report any problems with SLP - Request explanations to ensure full understanding	- Immediate positive feedback from supervisor on observing desired behaviour - Constructive coaching to address any observed problems (no abuse) - Special recognition for exceptional performance
First level supervisors (Miner / Foreman)		
- Briefing of miner on operation and required regular maintenance - Briefing of foremen on installation and maintenance of winch covers - Briefing prior to implementation - Regular meetings with next level supervisor	- Regular dialogue to check on equipment and operator performance - Ensure operators / technicians receive any necessary training / instruction - No short cuts allowed or taken - Prompt action on any reported problems - Provide immediate positive feedback on observing desired behaviour - Provide constructive coaching on observing sub-standard behaviour	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance
Second level supervisors (Shift boss / Mine Overseer / Engineer)		
- Briefing before implementation - Regular meetings with next level supervisor	- No short cuts allowed or taken - Ensure that operators and supervisors receive any necessary training / instruction - Enquire about winch cover performance / problems at regular meetings with supervisors - Provide immediate positive feedback on observing desired behaviour - Provide constructive coaching on observing sub-standard behaviour	- Immediate positive feedback from next level supervisor on observing desired behaviour - Constructive coaching to address observed problems (no abuse) - Special recognition for exceptional performance

Training

It is the responsibility of the mine to develop the training and briefing material required for implementation of the generic leadership behaviour plan that has been customised for the winch cover SLP.

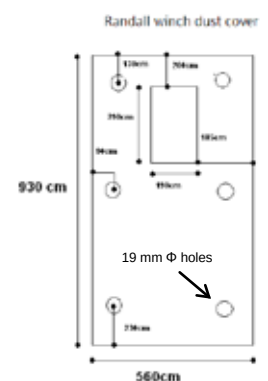
Guidance on implementation of the leadership behaviour and behavioural communication plans is provided later.

SLP technical details

The relevant technical aspects of the SLP are given below:

- The winch cover should be made from a non-flammable material, such as conveyor belting that conforms with SANS 971
- It should also meet relevant requirements of the DMR guideline for the compilation of a mandatory code of practice for the safe use of conveyor belt installations for the safe transport of mineral, material or personnel (DMR 16/3/2/2-A8)
- Full specification of the cover, such as dimensions and bolting arrangements should be decided and specified by the mine engineering department to suit the winches in use at the mine. An example of dimensional arrangements provided at the source mine for a winch cover is shown alongside.
- Establish a winch cover installation and routine maintenance programme for all existing and new winches at the mine, using mine or outsourced resources as appropriate.
- Ensure proper alignment of winches on installation underground to enable the operator to see the drum and avoid rope entanglement.
- Accumulation of dust under the cover to be cleaned away on a weekly basis using water.
- Ensure that water is appropriately available to winch operators to enable cleaning when necessary.
- Provide one-hour on-site training of winch operators on operation of an equipped winch, and on inspecting and cleaning the cover when necessary.

Example of dimensions for a particular type of winch



Adoption procedures

Notwithstanding the simple nature of the practice, the systematic 10-step process outlined below should be used, with adjustment where necessary, to manage adoption of the winch cover SLP at the mine.

Steps for mine-wide adoption of winch cover SLP		
Step No.	Activity	Guidance notes / Comment
1	Facilitate adoption decision · Obtain top management decision to adopt	Environmental specialist to develop and present a mine-specific value case for mine-wide adoption Top management buy-in and support is essential for successful adoption
2	Secure widespread support for adoption · Issue mine wide briefing note about adoption · Brief mine health and safety representatives	Advise all mine staff of the adoption decision; point out that this will benefit all underground staff and not only winch operators Brief health and safety representatives through dialogue
3	Establish an effective adoption team · Identify a person to lead / champion adoption process · Ensure / enable provision of any needed support	Manager to ensure that the selected person has the stature and time needed to lead and champion the process. Manager to hold a meeting with relevant persons to brief / instruct about the needed support
4	Develop mine-wide adoption plan · Identify appropriate piloting arrangements · Develop mine-wide roll out plan	Identify a suitable piloting section to enable checking and troubleshooting before mine-wide roll out Develop a mine-wide winch cover installation and maintenance programme
5	Implement a monitoring programme · Identify measurements to show impact of practice · Design monitoring plan and initiate data collection	This should include appropriate dust measurements, as well as relevant measurements to show any impacts on winch performance and operator perceptions The monitoring plan must include analysis and reporting arrangements for the duration of the plan
6	Harmonise practice with mine standards · Review leading practice against mine circumstances · Adjust non-core aspects of the practice as necessary	Engineering department to draw up specifications for the winch covers to suit the mine's winches and operating conditions Adoption Leaders to ensure retention of core elements of the practice
7	Develop training and communication materials · Identify persons who need to be trained or briefed · Develop required training and briefing materials	All persons involved in operating or overseeing adoption and successful operation and maintenance of the winch covers should be identified for briefing / training. The mine to develop the necessary materials to implement the behavioural communication and leadership behaviour plans provided in this brief Materials will be required, in particular, for use with winch operators, technicians, supervisors and foremen
8	Brief and train mine persons · Plan and implement briefing and training programme	Existing communication systems on the mine should be used, such as management briefs, posters, waiting place discussions, etc Responsibility for conducting the briefing sessions and providing the necessary training for successful adoption must be clearly identified. Appropriate elements of the behavioural communication material should be used to address the entire workforce and in awareness training during induction of new employees and returnees from leave.
9	Pilot adoption of the practice · Conduct pilot scale adoption of the practice · Monitor, identify and test any needed improvements	The piloting arrangements should include a sufficient number of winch covers and be long enough to allow operational difficulties to emerge and be addressed
10	Finalise and implement mine-wide roll out plans · Review and finalise mine-wide roll out plans · Implement mine-wide roll out	The roll out process should be carefully monitored by the mine's adoption champion through to its completion.

Critical success factors

1. Top management buy-in and support
2. A credible adoption champion with adequate time and support
3. Proper briefing and training of key people
4. A well designed and executed adoption roll-out plan

Training and communication materials

Relatively simple training and communication materials are envisaged for the winch cover SLP.

Some of the identified behavioural communication messages may warrant being communicated to all employees. The development of more substantial material and presentation arrangements may thus be justified in those cases. This is a matter that should be seriously considered and decided by management.

End notes

2. Any queries in relation to the practice or adoption procedures outlined in this adoption brief should be raised with the MOSH Adoption Team Manager: Dust, or the team's Adoption Specialist (Phone 011 498 7574).

No	Details	Relevant Handbook Section/s	Dates		Weeks - indicative timing																Resp	Comment																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Adoption Team Datasheet

(Contact Monitoring Specialist for enhanced operational Excel version)

Adoption Team Datasheet - Rev 0 Date of report: Leading Practice: <i>Name of Leading Practice</i>										Regularly monitored data and currently agreed dates for completion of activities			
Notes	The M&E Framework serves the purpose of helping to ensure that <i>the right things are done right</i> . It serves as a framework for planning, monitoring progress and outcomes, and decision making. For adoption teams the focus is on ensuring the selection of leading practices that have the greatest potential to reduce occupational health and safety harm in their respective areas, and that their widespread eager adoption is effectively facilitated. Planned completion dates should be entered for all indicators, where relevant, with N/A being entered where not applicable									Measure 1	Measure 2	Currently agreed completion date	Originally Planned Completion Date
										M1	M2	Date	Date
										KPA No	KPA	Cat. For KPA	KPI No
Leading Practice Adoption Process													
Identification of Leading Practice													
A1	Appropriate persons in selection of leading practice	Input	T1	Credible team membership	Activity	% Industry members of adoption team approved by the relevant Task Force member, or appropriate Group Executive for non-Chamber Groups % Date when team established	Team records	Monthly until workshop completed	100%				
			T2	Ensure discipline input	Activity	Circular, to key discipline structures, with criteria, requesting endorsement of listed participants or identification of persons who should be added to the list. Estimate % complete date when completed	Team records	Monthly until workshop completed	100%				
			T3	Ensure group input	Activity	Circular, to Group structures, with criteria, requesting endorsement of listed participants or identification of persons who should be added to the list . Estimate % complete date when completed	Team records	Monthly until workshop completed	100%				
			T4	Approved participants list	Output	Head of Hub approved list of workshop participants Yes or No date completed	Team records	Monthly until workshop completed	Yes				
			T5	Hub peer group assessment	Outcome	Hub Peer Group assesment using an agreed score card, of final participants list and of process followed. Assessment score % Date completed	M&E Specialist	Monthly until workshop completed	>90%				
A2	Appropriate plans for planning workshop	Input	T6	Competent Facilitator	Input	Competent facilitator selected, appointed and briefed at least 2 weeks before planning workshop Yes or No Date of appointment	Team records	Monthly until workshop completed	Yes				
			T7	Planning agenda	Output	Final purpose designed workshop agenda (programme) taking handbook guidance into account Estimate % complete Date completed	Handbook, Team records and web-site	Monthly until workshop completed	100%				
			T8	HOH review and approval	Outcome	Workshop arrangements and preparation reviewed by HoH against checklist with goahead approval at least two weeks before workshop Yes or No Date of approval	Team and HoH records	Monthly until workshop completed	Yes				
A3	Detailed expert model of risk story	Input	T9	Stakeholder consultation	Input	List of experts and key stakeholders to be consulted prepared and posted on team web-site data base Yes or No Date posted	Team records / website	Monthly until workshop completed	Yes				
			T10	Prepared questions for input	Input	Prepared questions / protocol for obtaining input from experts and key stakeholders on risks and possible leading practices. Estimate % complete Date of first complete draft	Team records	Monthly until workshop completed	100%				
			T11	Consultation draft expert model	Input	Preliminary version of expert model to inform and guide discussions with key stakeholders Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T12	Detailed expert models	Output	Detailed expert models (influence diagram and causal chain summary risk table) ready for review and updating in planning workshop Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T13	Major risks and improvement possibilities	Output	Summary table of major risks and improvement possibilities for review and updating in the planning workshop. Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T14	Hub peer group assessment	Outcome	Hub peer group review of expert models developed for use in the planning workshop Assessment score % Date completed	M&E Specialist	Monthly until workshop completed	>90%				
A4	Leading practice with greatest potential OHS impact	Outcome	T15	Review of R&D outcomes	Input	A comprehensive critical review of the latest research findings, both locally and internationally Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T16	Industry identified practices	Input	Input / suggestions about potential leading practices obtained from key persons at mines and workshop participants prior to the planning workshop Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T17	Exploratory visits to mines	Activity	Exploratory visits to mines most likely to have a potential leading practice, based on their good performance or reputed success. Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T18	Detailed Leading Practice List	Output	A consolidated list of potential leading practices, with clear descriptions of each practice, for use in the planning workshop, and for ongoing use and updating. Estimate % complete Date completed	Team records / website	Monthly until workshop completed	100%				
			T19	Credibility of selected Leading Practice	Outcome	External peer group review of selected leading practice against key criteria for a credible leading practice and selection procedure at the planning workshop Assessment score in % Date completed	Assessment form completed at workshop	Monthly until workshop completed	>90%				
			T20	Workshop quality	Outcome	A standard workshop assessment form completed by all workshop participants Assessment score in % Date completed	Assessment form completed at workshop	Monthly until workshop completed	>90%				
			Documentation of Leading Practice										
A5	Prioritised list of adoption mines and key deciders	Input	T21	Group identified potential adopter mines	Input	Potential adopter mines and key mine persons identified by each mining group Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T22	Prioritised list of adoption mines and key persons	Output	Consolidated and prioritised list of adopter mines and key persons at mines, with contact details Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T23	Electronic adopter network	Output	Electronic communication channel established with all identified key persons at potential adopter mines Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T24	Communication with adopters	Outcome	Ongoing communication with identified key persons at top 30 priority mines Weeks since last update Number of updates to-date	Team records / website	Monthly until LP adoption guide completed	< 4 weeks				
A6	Direct enquiry protocol	Input	T25	Identification of BC recipients	Input	List of key deciders, adopters and other stakeholders relevant to adoption of the leading practice, as potential recipients of behavioural communication Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T26	Identification of key behavioural issues	Input	List of hypothesised mental models and desirable leadership behaviours of key groupings for successful adoption of the leading practice Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T27	Direct enquiry protocol	Output	Custom designed enquiry protocol signed off by Behaviour Specialist for the selected leading practice Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				

KPA No	KPA	Cat. For KPA	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 / Measure 2	Data source	Timing for Assessment	Target	M1	M2	Date	Date
A7	Effective direct enquiry process	Activity	T28	Selection of interviewees	Input	A list of interviewees representative of the identified deciders, adopters and key stakeholders across the spectrum of potential adoption mines Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T29	Competent interviewers	Input	All selected interviewers meet the standards of training and briefing set by the Behaviour Specialist Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T30	Interview process	Activity	All planned interviews conducted by trained interviewers Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T31	Interview scripts	Output	Detailed quality interview scripts for coding purposes obtained from at least 25 interviews Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A8	Detailed mental models report	Output	T32	Coding of interview scripts	Input	Interview scripts systematically coded by specialist or trained coder Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T33	Mental models report	Output	Detailed mental models report signed off by Behaviour Specialist Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T34	Identification of implications	Outcome	A document setting out the implications of the identified mental models as input for preparation of BC and LB plans Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A9	BC Plan for deciders	Output	T35	BC plan for deciders	Output	Detailed Behavioural Communication plan for deciders signed off by Behaviour Specialist Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T36	Communication materials	Outcome	Fully developed presentation and communication materials Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T37	Preliminary testing	Activity	Communication materials tested for effectiveness and refined as necessary Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A10	Generic BC plan for adoption mines	Output	T38	BC plan for adoption mines	Output	Detailed Behavioural Communication plan for use at adoption mines signed off by Behaviour Specialist Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T39	Communication materials	Outcome	Presentation and communication materials developed for key messages as example guidance materials for adoption mines Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T40	Preliminary testing	Activity	Communication materials tested for effectiveness and refined as necessary Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A11	Generic LB plan for adoption mines	Output	T41	LB plan for adoption mines	Output	Detailed Leadership Behaviour plan for use at adoption mines signed off by Behaviour Specialist Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T42	Training materials	Outcome	Fully developed presentation and communication as example materials on Leadership Behaviour for use in training on Leading Practice Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A12	Peer reviewed value case report	Output	T43	Identification of key elements	Input	Drafts of the key elements of the value case and business case arguments Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T44	Consultation draft	Input	A complete draft of the value case report for consultation purposes Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T45	Updating of consultaon draft	Input	Updated draft report based on input from informal consultation Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T46	Peer review of report	Activity	Completed report and names of suggested reviewers submitted to HoH to initiate formal peer review process Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T47	Final external peer reviewed report	Output	Final updated version of externally peer reviewed value case report Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A13	Implemented BC plan for deciders	Outcome	T48	Communication of Value Case	Input	Executive summary of Value Case report provided to all identified key adopters Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T49	Verbal contact with key deciders	Input	Direct verbal communication with key deciders at top 10 Mines, at least Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T50	Implementation of Decider BC plan	Activity	Implementation of key elements of the BC plan for deciders prior to Leading Practice Adoption Workshop Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T51	Effectiveness of BC plan	Outcome	Telephonic application of a brief standard survey to a random sample of identified deciders prior to the Leading Practice Adoption Workshop Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	> 80%				
A14	Source mine report	Output	T52	Investigation plan	Input	Plan for conducting source mine investigations Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T53	Documentation of findings	Input	Findings from source mine investigations documented and on file in website database Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T54	Consultation draft	Output	Consultation draft of source mine report to obtain input from mine and adoption team members Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T55	Final source mine report	Output	Updated draft of report based on input from consultations at mine and with adoption team Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T56	Hub peer group assessment	Outcome	Hub Peer Group assessment using an agreed score card for assessing source mine reports Assessment score % Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A15	Prepare source investigations summary report	Outcome	T57	Summary of behavioural work	Input	A summary report that consolidates and explains the work undertaken in developing the generic BC and LB plans Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T58	Source investigations summary report	Output	A summary report that outlines and puts together the work undertaken during the various source investigations, with the various separate reports provided as appendices Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T59	Hub peer group assessment	Outcome	Hub Peer Group assessment using an agreed score card for assessing source investigations summary reports Assessment score % Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
A16	Draft leading practice adoption guide	Outcome	T60	Initial draft of guide	Input	Updated version pro forma (generic) leading practice adoption guide to take account of specific requirements for the leading practice Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T61	Draft guide for use at mines	Output	Updated draft guide for use at potential adoption mines based on input from consultations at mine and with adoption team Estimate % complete Date completed	Team records / website	Monthly until LP adoption guide completed	100%				
			T62	Hub peer group assessment	Outcome	Hub Peer Group assessment using an agreed score card for assessing draft leading practice adoption guides Assessment score % Date completed	Team records / website	Monthly until LP adoption guide completed	100%				

KPA No	KPA	Cat. For KPA	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 Measure 2	Data source	Timing for Assessment	Target	M1	M2	Date	Date
Facilitation of widespread adoption													
A17	Leading practice industry workshop (Post demo workshop)	Activity	T63	Workshop invitations	Input	Invitations to all key deciders and key stakeholders at least one month before workshop Estimate % complete Date completed	Team records / website	Two months before to one after workshop	100%				
			T64	Preparation of presenters	Activity	Presenters identified, content of presentations broadly agreed, and presenters briefed for workshop Estimate % complete Date completed	Team records / website	Two months before to one after workshop	100%				
			T65	Workshop programme	Output	Programme for workshop signed off by HoH at least two weeks before workshop Yes or No Date completed	Team records / website	Two months before to one after workshop	Yes				
			T66	Effective key presentations	Output	A standard workshop assessment form completed by all workshop participants to assess effectiveness of presentations on Leading Practice, value case, adoption guide and COPA Assessment score % Date completed	Assessment form completed at workshop	Two months before to one after workshop	>80%				
			T67	Workshop quality	Outcome	A standard workshop assessment form completed by all workshop participants Assessment score in % Date completed	Assessment form completed at workshop	Two months before to one after workshop	>80%				
A18	Establishment of effective COPA	Activity	T68	Updated Leading Practice Adoption Guide	Input	Updated version of LPAG, if necessary, based on review and input at first COPA meeting Estimate % complete Date completed	Team records / website	Ongoing during COPA process	100%				
			T69	COPA modus operandi	Input	COPA modus operandi proposed, discussed and agreed at with COPA members within 4 weeks of establishing the COPA Estimate % complete Date completed	Team records / website	Ongoing during COPA process	100% within 4 weeks of workshop				
			T70	Website access	Input	All COPA members have access to website and to all COPA documents within 4 weeks of workshop Estimate % complete Date completed	Team records / website	Ongoing during COPA process	100% within 4 weeks of workshop				
			T71	Updated membership list	Input	A updated list of COPA members with position and contact details to be available on the website Yes or No Date completed	Team records / website	Ongoing during COPA process	Yes				
			T72	COPA membership	Input	COPA membership to include at least one of the originally identified key persons at potential adoption mines plus Adoption Team Manager following positive adoption decision % of mines with required membership No. of mines	Team records / website	Ongoing during COPA process	> 80%				
			T73	COPA attendance	Output	COPA attendance by identified key (required) members % attendance by key members Date of last meeting	Team records / website	Ongoing during COPA process	> 60%				
			T74	Adoption investigation process	Output	% Positive returns on standard forms distributed to all identified potential adoption mines to investigate adoption of the leading practice at their mine. % positive returns No. of positive returns	Team records / website	Ongoing during COPA process	> 90% within 3 months				
			T75	COPA effectiveness - self assessment	Outcome	A standard COPA effectiveness assessment form completed by all COPA participants every quarter Assessment score in % Date completed	Team records / website	Quarterly, during COPA process	> 80%				
A19	Agreed working relationship with first adoption mine	Activity	T76	Potential first adopters	Input	No of potential first adoption mines identified and assessed prior to leading practice adoption workshop No of mines	Team records / website	From 3 months before planned agreement	> 3				
			T77	Envisaged working relationship	Input	Outline of envisaged working relationship prepared as input for discussion with selected first adoption mine Estimate % complete Date completed	Team records / website	From 3 months before planned agreement	100%				
			T78	Agreement with Mine Manager	Output	Working relationship agreed with Mine Manager Estimate % complete Date completed	Team records / website	From 3 months before planned agreement	100% by adoption workshop				
A20	Report on adoption at first adoption mine	Output	T79	Agreed adoption plan	Input	Copy of agreed adoption plan with comments on key issues and details of lessons learnt Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T80	Harmonisation process	Input	Documented adjustments to the basic leading practice with details of lessons learnt Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T81	Direct enquiry process	Input	Direct enquiry process involving a appropriately selected interviewees and using trained and briefed interviewers Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T82	Customised BC & LB plans	Input	Customised Behavioural Communication and Leadership Behaviour plans involving proper application of customisation process Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T83	Training lesson plans	Input	Completed training lesson plans ready for use in the mine's training prior to introduction of the leading practice Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T84	Monitoring and evaluation plan	Input	Monitoring and evaluation plan to identify impact and performance of leading practice agreed with the mine Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T85	Effectiveness of BC & LB plans	Input	Assessment of effectiveness of BC and LB plans using behaviour modification survey tool developed by Behaviour Specialist Assessment score in % Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T86	Piloting of Leading Practice	Activity	Document setting out lessons learnt in piloting the leading practice at the mine Estimate of % completed date piloting initiated	Team records / website	Ongoing during mine adoption process	100%				
			T87	Roll-out plan	Input	Copy of agreed roll-out plan with comments on key issues and details of lessons learnt Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T88	Documented findings	Activity	All findings (lessons learnt) at first adoption mine documented and on file Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
A21	Final leading practice adoption guide	Output	T89	Consultation draft of report	Output	Consultation draft of report on adoption at first mine, including an outline of key lessons learnt for use in preparation of leading practice adoption guide Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T90	Signed off report on first adoption	Output	Updated report based on input from consultations at mine and with adoption team Estimate % complete Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T91	Hub peer group assessment	Outcome	Hub Peer Group assessment using an agreed score card for assessing draft reports on adoption of leading practice at first adoption mine Assessment score % Date completed	Team records / website	Ongoing during mine adoption process	100%				
A21	Final leading practice adoption guide	Output	T92	Consultation draft of final guide	Input	Consultation draft of proposed final leading practice adoption guide, incorporating findings and lessons learnt at first adoption mine Assessment score % Date completed	Team records / website	Ongoing during mine adoption process	100%				

KPA No	KPA	Cat. For KPA	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 Measure 2	Data source	Timing for Assessment	Target	M1	M2	Date	Date
A22	Leading practice adoption	Outcome	T93	Final Leading Practice Adoption Guide	Output	Updated final draft of the leading practice adoption guide based on input from first adoption mine and adoption team Assessment score % Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T94	Hub peer group assessment	Outcome	Hub Peer Group assessment using an agreed score card for assessing draft leading practice adoption guides Assessment score % Date completed	Team records / website	Ongoing during mine adoption process	100%				
			T95	Identified potential adoption mines	Input	Number of identified potential adoption mines No. of mines Date last mine identified	Team records / website	Ongoing during COPA process	As determined in T22				
			T96	Leading practice investigated for adoption	Input	No of completed adoption investigation forms returned by mines to adoption team manager Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	100%				
			T97	Positive decision to adopt	Input	Number of mines indicating a positive decision to adopt on their completed adoption investigation form Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T98	Mine adoption team appointed	Input	Number of mines that have appointed an adoption team and a manager to champion adoption of the leading practice across the mine Number of mines Date appointed	Team records / website	Ongoing during COPA process	>95%				
			T99	Investment in adoption	Input	Total of planned investment by mines in adopting the leading practice Cost in Rands Number of person days	Team records / website	Ongoing during COPA process	None				
			T100	Implementation plan (including M&E)	Input	Number of mines that have provided copies to MOSH adoption team manager of acceptable implementation plans to adopt the leading practice Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T101	Accomodation of learning	Input	Number of mines with approved provisions to accommodate learning during adoption without undue impact on production bonuses Number of mines % of actual adopter mines	Team records / website	Ongoing during COPA process	100%				
			T102	Leading practice procedures customised	Input	Number of mines that report successful customisation of the leading practice to take account of mine circumstances without compromising key elements of the Leading Practice Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T103	Mental models interviews	Input	Number of mines that report they have conducted mental model interviews using trained interviewers Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T104	Customised BC plan	Input	Number of mines that report they have customised BC plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T105	Customised LB plan	Input	Number of mines that report they have customised LB plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T106	Risk assessment	Input	Number of mines that report they have implemented a risk assessment on adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T107	Training lesson plans	Input	Number of mines that report they have developed their training lesson plans according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T108	Management sign-off	Input	Number of mines that report management sign-off according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T109	Leading practice piloted	Input	Number of mines that report that they have initiated piloting of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T110	Roll-out plan implementation	Input	Number of mines that report completion of the required mine-wide leading practice roll-out plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
			T111	Completed adoptions of leading practice	Output	Number of mines that have provided documentation confirming adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%				
Process activities for a Simple Leading Practice, SLP - see SLP Scorecard													
A23	SLP adoption	Outcome	T112	Identified potential SLP adoption mines	Input	List of identified potential SLP adoption mines No. of mines Date completed	Team records / website	Monthly	All				
			T113	Full Adoption Team assessment of SLP	Input	SLP assessment form discussed and confirmed at meeting of full industry adoption team Yes or No Date confirmed	Team records / website	Monthly	Yes				
			T114	Arrangements with source mine	Input	Arrangements for investigation set up and directly ageeed in writing with mine manager Yes or no Date agreed	Team records / website	Monthly	Yes				
			T115	Investigations at source mine	Activity	Investigations at source mine conducted in accordance with handbook Estimate of % complete Date completed	Team records / website	Monthly	100%				
			T116	Documentation of SLP	Activity	Findings from source mine documented and on file in website database Estimate of % complete Date completed	Team records / website	Monthly	100%				
			T117	Formal review by Review Panel	Activity	Formal review by duly convened independent review panel Yes or no Date completed	Secretariat / Team records / website	Monthly	Yes				
			T118	Customisation of standard SLP behavioural plans	Activity	Standard SLP behavioural plans updated to take account of SLP specifics Estimate of % completed Date completed	Team records / website	Monthly	100%				
			T119	Preparation / external review of SLP adoption brief	Output	SLP Adoption Brief finalised following external review and on file in website database Estimate of % complete Date completed	Team records / website	Monthly	100%				
			T120	Identified key contacts at potential adoption mines	Output	Consolidated and prioritised list of key contact persons with contact details Estimate of % completed Date completed	Team records / website	Monthly	100%				
			T121	Circulation of SLP Adoption Brief	Output	SLP Adoption Brief and invitation to briefing workshop sent to key persons at all potential adoption mines Estimate of % complete date completed	Team records / website	Monthly	100%				
			T122	SLP Briefing Workshop	Output	Standard SLP Briefing Workshop assessment form completed by all attendees to assess effectiveness of workshop Assessment score in % Date completed	Team records / website	Monthly	>80%				
			T123	Adoption reporting arrangements	Output	Email to key person at all potential adoption mines requesting participation in monthly tracking of SLP adoption Number of mines invited % participating	Team records / website	Monthly	100% participatn				
			T124	Reported adoptions of SLP	Outcome	Number of mines reporting adoption of the SLP, as % of potential adoption mines % adoptions Number of potential adoption mines	Team records / website	Monthly	50% Within 6 months				
			T125	Confirmed full process adoptions of SLP	Outcome	Number of adoptions of the SLP in accordance with the SLP Adoption Brief, as % of potential adoption mines % full adoptions Number of potential adoption mines	Team records / website	Monthly	>90%				

KPA No	KPA	Cat. For KPA	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 Measure 2	Data source	Timing for Assessment	Target	M1	M2	Date	Date
Industry benefits													
Team Outputs													
A24	Leading Practices Adopted	Outcome	T126	Practice 1: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T127	Practice 2: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T128	Practice 3: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T129	Practice 4: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T130	Practice 5: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T131	Practice 6: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
			T132	Practice 7: Name		Number of mines that have adopted the leading practice in accordance with the adoption guide No. of mines % of identified potential adoption mines	Team records / website	Monthly	30% within 6 months / 80% within 2 years				
Impact													
A25	Annual OHS improvement at adopter mines	Outcome	T133	Lead indicator 1: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				
			T134	Lead indicator 2: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				
			T135	Lead indicator 3: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				
			T136	Lag Indicator 1: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				
			T137	Lag Indicator 2: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				
			T138	Lag Indicator 3: Name	Outcome	Definition of measurement that needs to be made at time of assessment and prior to implementation of the leading practice (by MOSH adoption team) Ongoing measure Baseline measure	M&E Specialist / Team records / website	Quarterly	50% of projected - within 2 years				

LP Process Scorecard

(Contact Monitoring Specialist for enhanced operational Excel version)

LP Process Scorecard							31 Aug		Report for the month of:				Aug	
KPA No	KPA	KPI No.	KPI	Definition of measurement (See Team datasheet for fuller descriptions) Measure 1 Measure 2	Timing for report	Target	Data for past and present month				Originally planned completion			
							Measure 1		Measure 2			Curr planned completion		
							Prev	Curr	Prev	Curr				
Leading Practice Adoption Process														
Identification of Leading Practice														
A1	Appropriate persons to select leading practice	T4	Approved participants list	Head of Hub approved list of workshop participants Yes or No Date approved	Monthly	Yes								
A2	Appropriate plans for planning workshop	T8	HOH review and approval	Review and approval against checklist at least two weeks before workshop Yes or No Date of approval	Monthly	Yes								
A3	Detailed expert model of risk story	T12	Detailed expert models	Detailed drafts of the two expert models ready for workshop Estimate % complete Date completed	Monthly	100%								
		T14	Hub Peer Group assessment	Peer group review of expert model quality Assessment score % Date completed	Monthly	>90%								
A4	Leading practice with greatest OHS impact	T19	Credibility of selected Leading Practice	Workshop participants assessment of practice against key criteria (at workshop) Assessment score in % Date assessed	Monthly	>90%								
Documentation of Leading Practice														
A5	Adoption mines and key people	T22	Prioritised list of mines and key people	Consolidated prioritised list of adopter mines and key persons at mines, with contact details Estimate % complete Date completed	Monthly	100%		100	15-May-12					
A6	Direct enquiry protocol	T27	Direct enquiry protocol	Custom designed enquiry protocol signed off by Behaviour Specialist for the leading practice Estimate % complete Date completed	Monthly	100%								
A7	Effective direct enquiry process	T30	Interview process	All planned interviews conducted by trained interviewers Estimate % complete Date completed	Monthly	100%								
A8	Detailed mental models report	T33	Mental models report	Detailed mental models report signed off by Behaviour Specialist Estimate % complete Date completed	Monthly	100%								
		T34	Identification of implications	Documented implications of the identified mental models as input for BC and LB plans Estimate % complete Date completed	Monthly	100%			12-Jul-13					
A9	BC Plan for deciders	T35	BC plan for deciders (at mines)	Detailed BC plan for deciders signed off by Behaviour Specialist (see T50) Estimate % complete Date completed	Monthly	100%								
A10	Generic BC plan for adoption mines	T38	BC plan for adoption mines	Detailed BC plan for use at adoption mines signed off by Behaviour Specialist Estimate % complete Date completed	Monthly	100%			12-Jun-13					
A11	Generic LB plan for adoption mines	T41	LB plan for adoption mines	Detailed LB plan for use at adoption mines signed off by Behaviour Specailist Estimate % complete Date completed	Monthly	100%								
A12	Peer reviewed value case report	T47	Final externally peer reviewed report	Final updated version of peer reviewed value case report Estimate % complete Date completed	Monthly	100%								
A13	Implemented BC plan for deciders	T50	Implementation of Decider BC plan	Implementation of BC plan for deciders prior to Leading Practice Adoption Workshop Estimate % complete Date completed	Monthly	100%	100	100	10-Jul-12					
A14	Source mine report	T55	Final source mine report	Updated draft of report based on input from consultations at mine and with adoption team Estimate % complete Date completed	Monthly	100%								
		T56	Hub peer group assessment	Hub Peer Group assessment using an agreed score card for assessing source mine reports Assessment score % Date completed	Monthly	100%								
A15	Source investigations summary report	T57	Summary of behavioural work	A summary report of the work undertaken in developing the generic BC and LB plans Estimate % complete date completed	Monthly	100%			14-Mar-12					
		T58	Source investigations summary report	A report that pulls together the separate investigation reports which are appended Estimate % complete date completed	Monthly	100%								
		T59	Hub peer group assessment	Hub Peer Group assessment using score card for source investigations summary reports Assessment score % Date completed	Monthly	100%								
A16	Draft leading practice adoption guide	T61	Draft LPAG for use at mines	Draft guide for use at adoption mines based on input from source mine and team Estimate % complete Date completed	Monthly	100%		95	10-Jun-12					
		T62	Hub peer group assessment	Hub Peer Group assesment of LPAG using agreed score card Assessment score % Date completed	Monthly	100%			30-Jul-13					
Facilitation of widespread adoption														
A17	Leading practice industry workshop	T65	Workshop programme	Programme for workshop signed off by HoH at least two weeks before workshop Yes or No Date completed	Monthly	Yes								
		T66	Effective key presentations	A special workshop assessment form completed at workshop by all participants Assessment score % Date completed	Monthly	>80%								
A18	Establishment of effective COPA	T69	COPA modus operandi	Modus operandi agreed with COPA members within 4 weeks of establishing the COPA Estimate % complete Date completed	Monthly	100%								
		T72	COPA membership	To include one originally identified key persons at adopto mine and / or Adoptn Team Managr % of mines with required membership No.of mines	Monthly	> 80%								
		T73	COPA attendance	COPA attendance by identified key (required) members % attendance by key members Date of last meeting	Monthly	> 60%								
		T75	COPA effectiveness - self assessment	A COPA effectiveness assessment form completed six-monthly by COPA participants Assessment score in % Date completed	Monthly	> 80%								
A19	Working relationship with Lead Adoption Mine	T78	Agreement with Mine Manager	Working relationship agreed with Mine Manager Estimate % complete Date completed	Monthly	100% by adoption workshop								
A20	Report on adoption at Lead Adoption Mine	T79	Agreed adoption plan	Copy of agreed adoption plan for lead adopter mine with comments for use in updating LPAG Estimate % complete Date completed	Monthly	100%								
		T81	Direct enquiry process	Direct enquiry process using selected interviewees and trained interviewers Estimate % complete Date completed	Monthly	100%								
		T82	Customised BC & LB plans	Customised BC and LB plans involving proper application of customisation process Estimate % complete Date completed	Monthly	100%								
		T84	Monitoring and evaluation plan	Impact and performance monitoring and evaluation plan agreed with the mine Estimate % complete Date completed	Monthly	100%								
		T85	Effectiveness of BC & LB plans	Assessment of effectiveness using standard behaviour modification survey tool Assessment score in % Date completed	Monthly	100%								
		T88	Documented findings	All findings (lessons learnt) at first adoption mine documented and on file Estimate % complete Date completed	Monthly	100%								
		T90	Signed off report on first adoption	Updated report based on input from consultations at mine and with adoption team Estimate % complete Date completed	Monthly	100%								
		T91	Hub peer group assessment	Hub Peer Group assesment of adoption report using an agreed score card Assessment score % Date completed	Monthly	100%								
A21	Final leading practice adoption guide	T93	Final Leading Practice Adoption Guide	Updated final draft of the LPAG based on input from first adoption mine and adoption team Assessment score % Date completed	Monthly	100%								
		T94	Hub peer group assessment	Hub Peer Group assesment of LPAG using an agreed score card Assessment score % Date completed	Monthly	100%								
A21a	Adequacy of adoption process	T94a	Average of peer group assessments	Average value of peer group assessments conducted to date (T14, 15, 56, 59, 62, 75(av), 91, 94) Average assessment score Date all assessments completed	Monthly	>90%								
This date is entered in yellow font in place of the planned completion dates, which should be entered for each indicator once the relevant data is available.														

This date is entered in yellow font in place of the planned completion dates, which should be entered for each indicator once the relevant data is entered.

Note: The data cells have been conditionally formatted to highlight improvements (green), no change (amber), failure to meet the scheduled completion date (dark pink), and yellow to indicate that a planned completion date has not yet been entered.

Leading Practice Adoption Scorecard - Rev 0
Monitoring of Widespread Eager Adoption of Leading Practice
Name of Leading Practice:

Doc #56 - Reference
(Section 14.2)

LP Adoption Scorecard
(Contact Monitoring Specialist for enhanced operational Excel version)

[illegible]

Summary LP Adoption Scorecard

(Contact Monitoring Specialist for enhanced operational Excel version)

Summary leading practice adoption scorecard - Rev 0										Date of report:	
Leading practice : (Name of leading practice)											
KPA No	KPA	Cat. For KPA	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 Measure 2	Data source	Timing for Assessment	Target	M1	M2
A22	Leading practice adoption	Outcome	T95	Identified potential adoption mines	Input	Number of identified potential adoption mines No. of mines Date last mine identified	Team records / website	Ongoing during COPA process	As determined in T22		
			T96	Leading practice investigated for adoption	Input	No of completed adoption investigation forms returned by mines to adoption team manager Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	100%		
			T97	Positive decision to adopt	Input	Number of mines indicating a positive decision to adopt on their completed adoption investigation form Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T98	Mine adoption team appointed	Input	Number of mines that have appointed an adoption team and a manager to champion adoption of the leading practice across the mine Number of mines Date appointed	Team records / website	Ongoing during COPA process	>95%		
			T99	Investment in adoption	Input	Total of planned investment by mines in adopting the leading practice Cost in Rands Number of person days	Team records / website	Ongoing during COPA process	None		
			T100	Implementation plan (Including M&E)	Input	Number of mines that have provided copies to MOSH adoption team manager of acceptable implementation plans to adopt the leading practice Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T101	Accommodation of learning	Input	Number of mines with approved provisions to accommodate learning during adoption without undue impact on production bonuses Number of mines % of actual adopter mines	Team records / website	Ongoing during COPA process	100%		
			T102	Leading practice procedures customised	Input	Number of mines that report successful customisation of the leading practice to take account of mine circumstances without compromising key elements of the Leading Practice Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T103	Mental models interviews	Input	Number of mines that report they have conducted mental model interviews using trained interviewers Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T104	Customised BC plan	Input	Number of mines that report they have customised BC plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T105	Customised LB plan	Input	Number of mines that report they have customised LB plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T106	Risk assessment	Input	Number of mines that report they have implemented a risk assessment on adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T107	Training lesson plans	Input	Number of mines that report they have developed their training lesson plans according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T108	Management sign-off	Input	Number of mines that report management sign-off according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T109	Leading practice piloted	Input	Number of mines that report that they have initiated piloting of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T110	Roll-out plan implementation	Input	Number of mines that report completion of the required mine-wide leading practice roll-out plan according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		
			T111	Completed adoptions of leading practice	Output	Number of mines that have provided documentation confirming adoption of the leading practice according to guidance provided in adoption guide Number of mines % of potential adoption mines	Team records / website	Ongoing during COPA process	>95%		

SLP Process Scorecard - Monthly print-out table - Rev 0: For (SLP Name)							31 Mar	Report for the month of:			Mar	
KPA No	KPA	KPI No.	KPI	Definition of measurement (See Team datasheet for fuller descriptions) Measure 1 Measure 2	Timing for report	Target	Data for past and current month				Originally planned completion date	
							Measure 1		Measure 2			
							Prev	Curr	Prev	Curr		Currently planned completion date
SLP Adoption Process												
Identification of SLP												
A23	SLP Adoption	T112	Identified potential SLP adoption mines	List of identified potential SLP adoption mines No. of mines Date completed	Monthly	All					1-Jan-30	
		T113	Full Adoption Team assessment of SLP	SLP assessment form discussed and confirmed at meeting of full MOSH adoption team Yes or No Date confirmed	Monthly	Yes					1-Jan-30	
Documentation of SLP												
		T114	Arrangements with source mine	Arrangements for investigation set up and ageeed in writing with mine manager Yes or no Date agreed	Monthly	Yes		100	15-May-13	30-May-13	1-Jan-30	
		T115	Investigations at source mine	Investigations at source mine conducted in accordance with handbook Estimate of % complete Date completed	Monthly	100%					1-Jan-30	
		T116	Documentation of SLP	Findings from source mine documented and on file in website database Estimate of % complete Date completed	Monthly	100%					1-Jan-30	
		T117	Formal review by Review Panel	Formal review by duly convened indepenndent review panel Yes or no Date completed	Monthly	Yes					1-Jan-30	
		T118	Customisation of SLP behavioural plans	Standard SLP behavioural plans updated to take account of SLP specifics Estimate of % completed Date completed	Monthly	100%			20-Jul-13	14-Jul-13	1-Jan-30	
		T119	Preparation / external review of SLP adoption brief	SLP Adoption Brief finalised following external review and on file in website database Estimate of % complete Date completed	Monthly	100%					1-Jan-30	
Facilitation of widespread adoption												
		T120	Potential adoption mines & key contacts	Prioritised list of potential adoption mines with contact details of key persons Estimate of % completed Date completed	Monthly	100%			30-Aug-13	15-Sep-13	1-Jan-30	
		T121	Invitation to briefing workshop	SLP Adoption Brief and briefing workshop invitation sent to key persons at all potential adoption mines Estimate of % complete date completed	Monthly	100%					1-Jan-30	
		T122	Effectiveness of SLP Briefing Workshop	Standard SLP Briefing Workshop assessment form completed by all attendees to assess effectiveness of workshop Assessment score in % Date completed	Monthly	>80%					1-Jan-30	
		T123	Adoption reporting arrangements	Email to key person at all potential adoption mines requesting participation in monthly tracking of SLP adoption Number of mines invited % participating	Monthly	100% participatn		100	24-Jan-00		1-Jan-30	
This date is entered in yellow font in place of the planned completion dates, which should be entered for each indicator once the relevant data has been entered.												

Note: The data cells have been conditionally formatted to highlight improvements (green), no change (amber), failure to meet the scheduled completion date (dark pink), and yellow to indicate that a planned completion date has not yet been entered.

Section 14.2

SLP Adoption Scorecard - Rev 0										Date of report:					
Monitoring of Widespread Eager Adoption of SLP															
Name of SLP:															
Identified potential adoption mines										Total no. of employees at mine	Total no. of production personnel at mine	Date of Email request to participate adoption tracking	Date of first monthly feedback report from mine	Date reported SLP adoption	Date of confirmed adoption according to adoption brief
No.	Name of Mine	Company	Name of Manager	Commodity	Region/ Province	Chamber Member (Yes / No)	Name of Project Leader (Key contact)	E-mail Address of Project Leader (Key contact)	Telephone Number						
1															
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50															

Number of potential adoption mines										0	
Number of potential adoption mines with identified key contact persons % of potential adoption mines										0	0%
Number of mines invited to participate in adoption feedback % of potential adoption mines										0	0%
Number of mines that have reported adoption data % of mines actually invited										0	0%
Number of reported adoptions of SLP % of participating adoptn mines										0	0%
Number of reported adoptions (confirmed according to adoption brief) % of participating adoptn mines										0	0%
Number of other reported adoptions % of participating adoptn mines										0	0%

Key quarter-end data (reposition / insert month headings as necessary)										Current Value	Jun-13	Sep-13	Dec-13	Mar-14	Jun-14	Sep-14
Number of potential adoption mines										0						
Number of reported adoptions confirmed according to adoption brief										0						
Number of other reported adoptions										0						

Note: The current values are updated every time the table is updated - At the end of each quarter the table of quarterly data should be updated simply by entering the displayed current value into the cell for the appropriate quarter

Quarterly Assessment of Adoption Team Impact (See procedure text box below) - Rev 0: For (Adoption Team Name)					Report for Quarter ending (Mar, Jun, Sep, Dec)												Mar-13	
					Using data from LP and SLP Scorecards and from the DMR database - access to the later to be arranged by Monitoring Specialist													
KPA No	KPA	KPI No	KPI	Definition of measurement (See Team datasheet for fuller descriptions) Measure 1 Measure 2	All Mines		Gold		Plat		Coal		Other					
					Measure 1	Measure 2	Measure 1	Measure 2	Measure 1	Measure 2	Measure 1	Measure 2	Measure 1	Measure 2				
					Prev	Cur	Prev	Cur	Prev	Cur	Prev	Cur	Prev	Cur				
Industry benefits																		
Leading practices adopted (including SLPs)																		
P1	Name of LP / SLP 1	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potentl adoptn mines														
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptns Number of reported other adoptns														
P2	Name of LP / SLP 2	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potentl adoptn mines														
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptns Number of reported other adoptns														
P3	Name of LP / SLP 1	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potentl adoptn mines														
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptns Number of reported other adoptns														
P4	Name of LP / SLP 2	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potentl adoptn mines														
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptns Number of reported other adoptns														
P5	Etc.	B1	Initiation of adoption	No. of identified potential adoption mines (LP or SLP) and date of adoption or briefing workshop Date of adoption / briefing workshop No of potentl adoptn mines														
		B2	Number of adoptions	Number signed-off adoptions in accordance with LPAG and number of other reported adoptions No. of signed-off adoptns Number of reported other adoptns														
Impact on OHS performance																		
P3	Adopter mines: Annual OHS performance / improvement	B3	Lead indicator 1: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B4	Lead indicator 2: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B5	Lead indicator 3: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B8	Lag Indicator 6: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B9	Lag Indicator 7: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B10	Lag Indicator 8: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
P3	All mines: Annual OHS performance / improvement	B11	Lead indicator 1: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B12	Lead indicator 2: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B13	Lead indicator 3: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B14	Lag Indicator 6: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B15	Lag Indicator 7: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														
		B16	Lag Indicator 8: Name	Definition of measurement needs to be made by the particular Adoption Team Current measurement Twelve months ago														

Chart showing number of mines that have adopted each of the leading practices introduced by the adoption team since 2008 - provide curves for each of the relevant sectors and for all mines

Chart showing variation of two or three of the above indicators that best bring out the change in OHS performance observed **for all mines and for adoption mines since 2003**, appropriately marked to indicate when adoption of each of the leading practices commenced

Chart showing variation of two or three of the above indicators that best bring out the change in OHS performance observed for all mines and for adoption mines **in the sector that has benefitted most since 2008**, marked to indicate when adoption of each of the leading practices commenced - show performance data since 2003

Chart showing variation of two or three of the above indicators that best bring out the change in OHS performance observed for all mines and for adoption mines **in the sector that has benefitted the next best since 2008**, marked to indicate when adoption of each of the leading practices commenced - show performance data since 2003

High-level Scorecard - Rev 0					Date of report:									
KPI No.	KPI	Definition of measurement Measure 1 Measure 2	Timing	Target	Measure 1	Measure 2	Msure 1	Msure 2	2Msure 1	Msure 2	2Msure 1	Msure 2		
Executive leadership							Practice 1		Practice 2		Practice 3		Practice 4	
1	H40	Group policy supporting MOSH adoption	Number of Groups with explicitly stated policy and procedures to facilitate adoption activity within their Group No. of Groups Date of last policy statement	Quarterly	>10									
2	T96	Leading practices investigated for adoption	No of completed adoption investigation forms returned by mines to manager Number of mines % of potential adoption mines	Quarterly	100%									
3	H38	Group Adoption Coordinator involvement	% of Group Adoption Coordinators who attended the last Leading Workshop % attendance Date of last workshop	Quarterly	90%									
	H38a	Grp Adoptn Coordinator appointments	Number of Groups with appointed group adoption coordinators No appointed % of groups with appointments	Quarterly	100%									
4	H39	Available trained interviewers	Number of Groups with at least two trained interviewers per mine direct enquiry interviews % of Groups Date measured	Quarterly	100%									
5	T98	Mine adoption teams appointed	Number of mines that have appointed an adoption team and a champion full adoption of the leading practice Number of mines % of potential adoption mines	Quarterly	>100%									
6	T101	Accommodation of learning	Number of mines with provisions to accommodate learning during undue impact on production bonuses Number of mines % of actual adopter mines	Quarterly	100%									
7	H34	Task Force meeting attendance	% of industry members who have attended Task Force meetings in past three months % attendance Date of last meeting	Quarterly	> 90%									
8	H35	Annual Hub Review meeting attendance	% of invited industry members who attended the annual review meeting % attendance Date of meeting	Annually	> 90%									
9	H41	Unsuccessful requests for assistance	% of approaches to Groups for assistance over past three months (unsuccessful (secondees etc.) % Date of last approach	Quarterly	< 10%									
Hub activity							Adoption team / COPA names							
10	H15	Unfilled posts	Number of unfilled positions in the adoption teams and the secretariat Estimate % vacant posts Date last position filled	Monthly	0%									
11	H33	Adoption Team meeting attendance	% of industry members who have attended the adoption team meeting past three months % attendance Date of earliest meeting	Quarterly	> 90%									
12	H36	COPA meeting attendance	% of industry COPA members who attended COPA meetings held by adoption teams over the past three months (introduce additional more than one COPA) Attendance Date of earliest meeting	Quarterly	90%									
13	H53	Active MOSH trainees	Number of MOSH trainees in service Number in service Date of last appointment	Monthly	5 in yr 1 then 10									
Leading practice adoption					All (Past 2 Yrs)		Practice 1		Practice 2		Practice 3		Practice 4	
14	H57	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines No. of pot adoptn mines % with aprvrd adoptions	Monthly	> 90% within 2 years									
15	H58	Reported "implementation"	Reported adoptions of the leading practice without following MOSH best plans No. implementations % of potential adoption mines	Monthly	< 10%									
16	H77	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of potential adoption mines No. of potential adoption mines % adoptions	Monthly	> 50 % within 6 months									
17	H29	Overall Impact Assessment	Assessment score in % of MOSH adoption system in contribution towards achievement of zero harm Assessment score % Date of assessment	Annually	> 70%									
OHS performance at adoption mines					All		Gold		Plat		Coal		Other	
18	H83	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change in past 12 months	Annually	> 20 % better									
19	H84	Lead indicator 2: Noise exposure levels	No of persons exposed to noise levels > 95 dbA No of persons % change in past 12 months	Annually	> 20 % better									
20	H85	Lead indicator 3: Noise emission levels	No of items of equipment with noise emission > 110 dbA No of items % change in past 12 months	Annually	> 20 % better									
21	H86	Lag Indicator 1: Fatalities	Number of fatalities / million hours worked Fatalts / million hrs % change past 12 months	Quarterly	> 20 % better									
22	H87	Lag Indicator 2: Injuries	Number of reportable injuries / million hours worked Injuries / million hrs % change past 12 mnths	Quarterly	> 20 % better									
23	H88	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change in past 12 months	Annually	0 new cases									
24	H89	Lag Indicator 4: Noise induced hearing loss	Number of noise induced hearing loss claims per year Number / year % change in past 12 months	Annually	> 20 % better									
OHS performance at all mines					All		Gold		Plat		Coal		Other	
25	H90	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % change in past 12 months	Annually	> 20 % better									
26	H91	Lead indicator 2: Noise exposure levels	No of persons exposed to noise levels > 95 dbA No of persons % change in past 12 months	Annually	> 20 % better									
27	H92	Lead indicator 3: Noise emission levels	No of items of equipment with noise emission > 110 dbA No of items % change in past 12 months	Annually	> 20 % better									
28	H93	Lag Indicator 1: Fatalities	Number of fatalities / million hours worked Fatalts / million hrs % changepast 12 months	Quarterly	> 20 % better									
29	H94	Lag Indicator 2: Injuries	Number of reportable injuries / million hours worked Injuries / million hrs % change past 12 mnths	Quarterly	> 20 % better									
30	H95	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year Number / year % change in past 12 months	Annually	0 new cases									
31	H96	Lag Indicator 4: Noise induced hearing loss	Number of noise induced hearing loss claims per year Number / year % change in past 12 months	Annually	> 20 % better									
Graphical presentation of key indicator 1 over time eg: Industry / sector dust levels & silicosis deaths vs milestones					Graphical presentation of key indicator 2 over time eg: Industry fatalities and injuries vs time for adoption mines and all mines in relation to 2013 milestone requirements					Graphical presentation of key indicator 3 over time eg: Industry / Sector number of new cases of NIHL vs time and number of persons exposed to noise levels above 95dbA.				

Learning Hub Datasheet - Rev 0 Date of report:

Notes:

- The M&E Framework serves the purpose of helping to ensure that the right things are done right. It serves as a framework for planning, monitoring progress and outcomes, and decision making.
- For adoption teams the focus is on ensuring the selection of leading practices that have the greatest potential to reduce occupational health and safety harm in their respective areas, and that their widespread eager adoption is effectively facilitated.
- For the Learning Hub, in leading the change to zero harm on behalf of Chamber members, the focus is on ensuring achievement of identified longer term strategic objectives.
- Not all indicators are relevant all the time. Only the relevant indicators should be reported on in any particular report. The empty reporting cells dormant indicators should be coloured blue.
- Planned completion dates should be entered for all indicators, where relevant, with N/A being entered where not applicable

KPA No.	KPA	Cat. For KPA Group	KPI No	KPI	Cat. For KPA	Definition of measurement Measure 1 Measure 2	Data source	Timing for Assessment	Target	Measure 1	Measure 2	Planned completion
Adoption System Enablers												
L1	Detailed strategic communication plan	Input	H1	Stakeholder identification	Input	Key stakeholders identified and stakeholder map prepared Estimate % complete Date when list finalised	Learning Hub records / Behaviour Specialist	Monthly until plan assessed	100%			
			H2	Effective Survey Questionnaire	Input	Survey protocol and questionnaire to identify communication requirements in regard to stakeholders' acceptance and support of the adoption system	Learning Hub records / Behaviour Specialist	Monthly until plan assessed	100%			
			H3	Effective interview process	Output	Interviews conducted by trained interviewers with selected sample of identified key stakeholders Estimate % complete Date when completed	Learning Hub records / Behaviour Specialist	Monthly until plan assessed	100%			
			H4	Input from Adoption Team Managers	Input	Obtain inputs from Adoption Team managers about key information to be communicated Estimate % completed Date completed	Learning Hub Records	Monthly until plan assessed	100%			
			H5	Approved Plan	Output	Detailed communication plan signed off by Behaviour Specialist Estimate % completed Date completed	Learning Hub records / Behaviour Specialist	Monthly until plan assessed	100%			
			H6	Communication materials piloted	Activity	Communication materials tested for effectiveness and refined as necessary Assessment score % Date completed	Learning Hub records / Behaviour Specialist	Monthly until plan assessed	100%			
			H7	Peer group Assessment	Outcome	Peer group review using score card for assessing the strategic communication plan Assessment score % Date completed	Learning Hub Records / M&E Specialist	Monthly until plan assessed	>90%			
L2	Implementation of strategic communication plan	Activity	H8	Reporting Procedures	Input	Procedures developed and agreed with communicators for providing feedback from stakeholders in implementing the communication plan Yes or No Date approved	Learning Hub Records / Behaviour Specialist	Monthly during communication programme	100%			
			H9	Progress on Implementation	Output	Number of communication actions / events completed as a % of total planned Estimate % complete Date completed	Learning Hub Records / Behaviour Specialist	Monthly during communication programme	100%			
			H10	Slippage-Scheduled communications missed	Output	Number of missed communication due dates % missed Last missed date	Learning Hub Records / Behaviour Specialist	Monthly during communication programme	<90%			
			H11	Effectiveness	Outcome	Detailed report on effectiveness of the implemented strategic communication plan. As per purpose designed survey tool Estimate effectiveness % Date completed	Learning Hub Records / Behaviour Specialist	Monthly during communication programme	80% effective			
L3	Effective learning hub support person / provider in place	Input	H12	Post advertised	Input	Detailed functions and skills requirements for learning hub support person / provider discussed with teams and secretariat and post advertised Estimate % completed Date post advertised	Learning Hub Records / HoH	Monthly until post filled	100%			
			H13	Effective support service	Outcome	Competent support person / provider appointed Yes or No Date of appointment	Learning Hub Records / HoH	Monthly until post filled	Yes			
L4	Staffing of teams and secretariat	Input	H14	Credible adoption team managers identified	Input	Potential adoption team managers identified as replacements for incumbent incumbents at least six months prior to their scheduled departure. Estimate % completed Date when identified	Learning Hub Records / HoH	Monthly	100%			
			H15	Unfilled posts	Outcome	Number of unfilled positions in the adoption teams and the secretariat Estimate % vacant posts Date position filled	Learning Hub Records / HoH	Monthly	0%			
L5	Effective procedures for quality assurance	Input	H16	Peer group assessment process developed	Input	A document outlining proposed peer group assessment process agreed Estimate % complete Date completed	Learning Hub Records	Monthly until completed	100%			
			H17	Hub Peer Group Assessment process established	Output	Peer Group assessment process agreed to and successfully implemented Estimate % complete Date completed	Learning Hub Records	Monthly until established	100%			
			H18	Number of assessments made	Output	Number of assessments made in previous three months Number Date of last assessment	Learning Hub Records	Monthly	>3			
			H19	Effectiveness of QA procedure	Outcome	Assessment score in % of the effectiveness of the hub's peer group quality assurance process, using a score card developed for this annual review Assessment score % Date completed	Learning Hub Records	One month prior to annual review meeting	> 80%			
L6	Revised handbook in place	Input	H20	Proposed shorter adoption process approved	Input	Agreement on proposed shorter adoption process obtained from relevant structures Estimate % complete Date completed	Learning Hub Records	Monthly until agreement	100%			
			H21	Input from MOSH Adoption Team	Activity	Workshop held with MOSH Adoption teams to obtain input on revised handbook sections Yes or No Date when workshop held	Learning Hub Records	Monthly until complete	Yes			
			H22	Updated handbook provided	Output	Updated handbook posted on the MOSH website data base Yes or No Date posted	Specialist: M&E / website	Monthly until posted	Yes			
			H23	User satisfaction survey	Outcome	Assessment score in % of the extent that the revisions meet the needs of the MOSH Adoption teams Assessment score % Date of assessment	M&E Specialist	Six monthly after completion of revisions	>90%			
L7	Shortened adoption process implemented	Output	H24	Implementation workshop	Input	Workshop with MOSH Adoption team on implementation of shortened adoption process Yes or No Date workshop held	M&E Specialist	Monthly until done	Yes			
			H25	Completed processes	Output	Number of shortened adoption processes completed in previous 12 months No Date of latest completion	Website / Team records / M&E Specialist	Monthly from date of workshop	> 3			
			H26	Effectiveness of process	Outcome	Assessment score in % of the effectiveness of shortened adoption process, using a purpose designed questionnaire to assess effectiveness Assessment score % Date completed	M&E Specialist	Six monthly, from date of workshop	> 80%			
Additional strategic plan items												
L8	Stakeholder impact survey on progress towards zero harm (goal 1-action 4)	Outcome	H27	Approved survey instrument	Input	Survey questionnaire to assess contribution of the MOSH Adoption system towards achievement of zero harm discussed and agreed. Estimate % complete Date completed	Website database / Specialist: M&E	Monthly until complete	100%			
			H28	Assessment report	Output	Assessment report on survey results on effectiveness of the MOSH adoption system in contributing towards achievement of zero harm Estimate % completed Date completed	Website database / Specialist: M&E	Monthly from survey to completion	100%			
			H29	Overall Impact Assessment	Outcome	Assessment score in % of the effectiveness of the MOSH adoption system in contributing towards achievement of zero harm Assessment score % Date of assessment	Website database / Specialist: M&E	Annually, before annual review meeting	> 70%			
L9	MOSH related training courses at key institutions (goal 1 action 6)	Input	H30	Credible potential learning institutions and the key persons identified	Input	Key persons identified at two or more key learning institutions who are agreeable to introducing MOSH related courses Estimate % completed Date when completed	Website database / Specialist: M&E	Monthly until complete	100%			
			H31	Signed agreements	Activity	Working relationship with at least two key learning institutions agreed to in writing Estimate % complete Date completed	Website database / Specialist: M&E	Monthly until complete	100%			
			H32	Approved course material	Outcome	Agreed MOSH related course material for use in existing or new courses Estimate % complete Date completed	Website database / Specialist: M&E	Monthly from agreement until complete	100%			

KPA No.	KPA	Cat. For KPA Group	KPI No.	KPI	Cat. For KPA	Definition of measurement Measure 1 / Measure 2	Data source	Timing for Assessment	Target	Measure 1	Measure 2	Planned completion
L10	Industry involvement and participation in MOSH process (Goal 1 action 7)	Input	H33	Adoption Team meeting attendance	Input	% of industry members who have attended the adoption team meetings over the past three months % attendance Date of earliest meeting	Team Records / Meeting Registers / website database	Quarterly	> 90%			
			H34	Task Force meeting attendance	Input	% of industry members who have attended Task Force meetings over the past three months % attendance Date of last meeting	M&E Specialist / Meeting Register / Website database	Quarterly	> 90%			
			H35	Annual Hub Review meeting attendance	Input	% of invited industry members who attended the annual review meeting % attendance Date of meeting	M&E Specialist / Meeting Register / Website database	Annually after review meeting	> 90%			
			H36	COPA meeting attendance	Input	% of industry COPA members who attended COPA meetings held by the four adoption teams over the past three months % attendance Date of earliest meeting	M&E Specialist / Meeting Register / Website database	Quarterly	90%			
			H37	Special workshop attendance	Input	% of invited industry members who have attended MOSH related workshops over the past three months % attendance Date of last meeting	M&E Specialist / Meeting Register / Website database	Quarterly	90%			
			H38	Group Adoption Coordinator involvement	Input	% of Group Adoption Coordinators who attended the last Leading Practice Adoption Workshop % attendance Date of last workshop	M&E Specialist / Meeting Register / Website database	Quarterly	90%			
			H38a	Grp Adoptn Coordinator appointments	Input	Number of Groups with appointed group adoption coordinators % of Groups Date of last appointment	M&E Specialist / Meeting Register / Website database	Quarterly	100%			
			H39	Available trained interviewers	Input	Number of Groups with at least two trained interviewers per mine for conducting direct enquiry interviews % of Groups Date measured	M&E Specialist / Meeting Register / Website database	Quarterly	100%			
			H40	Group policy supporting MOSH adoption	Input	Number of Groups with explicitly stated policy and procedures to support and facilitate adoption activity within their Group No. of Groups Date of last policy statement	M&E Specialist / Meeting Register / Website database	Quarterly	>10			
			H41	Unsuccessful requests for assistance	Input	% of approaches to Groups for assistance over past three months that were unsuccessful (secondes etc.) % Date of last approach	M&E Specialist / HoH records	Quarterly	< 10%			
L11	Effective data base web-site (Goal 2 action 6)	Input	H42	Final web-site specifications	Input	Functionality and design of the MOSH website discussed and agreed and the request for proposal issued Estimate % complete date when completed	M&E Specialist / Hub records	Monthly until complete	100%			
			H43	Functional web-site	Output	Website design and development completed and site continuously available for use Estimate % complete date when completed	M&E Specialist / Hub records	Monthly until complete	100%			
			H44	Website updates	Activity	Number of new documents uploaded onto the website / month Number uploaded date of last update	M&E Specialist / Website reports	Monthly	> 20			
			H45	Utilisation by registered users	Outcome	Number of visits / month by registered users Number of logins date of last login	M&E Specialist / Website reports	Monthly	> 500			
			H46	Public utilisation	Outcome	Number of visits / month by unregistered / public users Number of visits date of last visit	M&E Specialist / Website reports	Monthly	>100			
			H47	Unscheduled downtime	Outcome	Number of hours / month of unscheduled downtime Hours / month Date of last downtime	M&E Specialist / Website reports	Monthly	< 5 hrs / month			
			H48	Site effectiveness	Outcome	Annual assessment score in % of the effectiveness of the web-site using a purpose designed survey questionnaire Assessment score % Date of assessment	M&E Specialist / Website database	Annually before review meeting	> 80%			
			H49	Complaints and suggestions	Outcome	Number of complaints and or suggested improvements received over the past three months Number received Date of last complaint or suggestion	M&E Specialist / Website database	Quarterly	< 10			
L12	Implementation plan for MOSH trainees (Goal 2 action 8)	Input	H50	Function and required skills	Input	Function and required skills of MOSH Trainees discussed and agreed within the hub Estimate % complete Date when agreed	Behaviour Specialist / website database	Monthly until completed	100%			
			H51	Industry input	Input	Input, training and agreement on functions, required skills and sourcing of MOSH trainees at a workshop involving key mining industry HR persons Estimate % complete Date of workshop	Behaviour Specialist / website database	Monthly until after workshop	100%			
			H52	Implementation plan	Output	Final implementation plan developed and budget approved Estimate % complete Date completed	Behaviour Specialist / website database	Monthly until completed	100%			
			H53	Active MOSH Trainees	Outcome	Number of MOSH trainees in service Number in service Date of last appointment	Behaviour Specialist / website database	Monthly after approval	5 in 1 yr / 10 in 2 yrs			
L13	Identify and use suitable mentors (Goal 2 action 9)	Input	H54	Potential mentors identified	Input	Number of potential mentors who have agreed in principle to serve as mentors to hub specialists and team managers Number of mentors Date of agreement made	Behaviour Specialist / website database	Monthly	>10			
			H55	Active mentors	Output	Number of currently appointed mentors Number active Date of latest appointment	Behaviour Specialist / website database	Monthly	>5			
			H56	Mentor effectiveness	Outcome	Assessment score in % of the effectiveness of the mentorship programme using a purpose designed questionnaire Assessment score % Date of assessment	Behaviour Specialist / website database	Annually before review meeting	> 80%			
Hub Outputs												
L19	Leading practice 1: Name	Output	H57	MOSH process adoptions	Output	MOSH process adoptions as a percent of potential adoption mines No. of pot adoptn mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H58	Reported "implementations"	Output	Reported adoptions of the leading practice without following MOSH behavioural plans No. implementations % of pot adoptn mines	Team Records / Field Survey / website database	Monthly	< 10%			
L20	Leading practice 2: Name	Output	H59	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H60	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L21	Leading practice 3: Name	Output	H61	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H62	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L22	Leading practice 4: Name	Output	H63	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H64	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L23	Leading practice 5: Name	Output	H65	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H66	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L24	Leading practice 6: Name	Output	H67	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H68	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L25	Leading practice 7: Name	Output	H69	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
			H70	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
L26	Leading practice 8: Name	Output	H71	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			

Note:
High-lighted rows are those rows that appear in the Learning Hub scorecard for formal reporting and evaluation

KPA No.	KPA	Cat. For KPA Group	KPI No.	KPI	Cat. For KPA	Definition of measurement Measure 1 / Measure 2	Data source	Timing for Assessment	Target	Measure 1	Measure 2	Planned completion
L27	Leading practice 9: Name	Output	H72	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
			H73	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
L28	Leading practice 10: Name	Output	H74	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
			H75	Process approved adoptions	Output	MOSH quality approved adoptions as a percent of potential adoption mines No. of potential adoption mines % with approved adoptions	Team Records / Field Survey / website database	Monthly	> 90% within 2 years			
L29	SLP 1: Name	Output	H76	Unapproved adoptions	Output	Adoptions of the leading practice without MOSH quality approved behavioural plans No. unapproved adoptions % of potential adoption mines	Team Records / Field Survey / website database	Monthly	< 10%			
			H77	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
L30	SLP 2: Name	Output	H78	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
L31	SLP 3: Name	Output	H79	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
L32	SLP 4: Name	Output	H80	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
L33	SLP 5: Name	Output	H81	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
L34	SLP 6: Name	Output	H82	SLP adoptions	Output	No. of adoptions of the MOSH approved SLP, as a % of identified potential adoption mines % adoptions No. of potential adoption mines	Team Records / Field Survey / website database	Monthly	> 50 % within 6 months			
Impacts												
L35	Annual OHS improvements at adopter mines	Outcome	H83	Lead indicator 1: Dust levels	Outcome	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H84	Lead indicator 2: Noise exposure levels	Outcome	No of persons exposed to noise levels > 95 dbA No of persons % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H85	Lead indicator 3: Noise emission levels	Outcome	No of items of equipment with noise emission > 110 dbA No of items % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H86	Lag Indicator 1: Fatalities	Outcome	Number of fatalities / million hours worked Fatals / million hrs % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Quarterly	> 20 %			
			H87	Lag Indicator 2: Injuries	Outcome	Number of reportable injuries / million hours worked Injuries / million hrs % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Quarterly	> 20 %			
			H88	Lag Indicator 3: Silicosis incidence	Outcome	Number of new cases identified per year Number / year % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	No new cases			
			H89	Lag Indicator 4: Noise induced hearing loss	Outcome	Number of noise induced hearing loss claims per year Number / year % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
L36	Annual industry OHS improvement	Outcome	H90	Lead indicator 1: Dust levels	Outcome	No of persons exposed to dust levels > 0.1 mg/m3 No of persons % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H91	Lead indicator 2: Noise exposure levels	Outcome	No of persons exposed to noise levels > 95 dbA No of persons % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H92	Lead indicator 3: Noise emission levels	Outcome	No of items of equipment with noise emission > 110 dbA No of items % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			
			H93	Lag Indicator 1: Fatalities	Outcome	Number of fatalities / million hours worked Fatals / million hrs % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Quarterly	> 20 %			
			H94	Lag Indicator 2: Injuries	Outcome	Number of reportable injuries / million hours worked Injuries / million hrs % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Quarterly	> 20 %			
			H95	Lag Indicator 3: Silicosis incidence	Outcome	Number of new cases identified per year Number / year % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	No new cases			
			H96	Lag Indicator 4: Noise induced hearing loss	Outcome	Number of noise induced hearing loss claims per year Number / year % improvement in past 12 months	M&E Specialist / DMR / Team Records / website database	Annually (ideally this should be quarterly)	> 20 %			

Note: While dust and silicosis data are only available on an annual basis, the serious health impact of dust warrants that efforts be made by industry to monitor

Learning Hub Scorecard
(Contact Monitoring Specialist for enhanced operational Excel version)

Learning Hub Scorecard - Rev 0										12 May	Report for the month of				Aug		
KPA No	KPA	KPI No.	KPI	Definition of measurement (see Hub datasheet for fuller descriptions)			Timing for Report	Target	Measure 1		Measure 2		Planned completion				
Measure 1 Measure 2														Prev	Curr	Prev	Curr
Adoption System Enablers																	
L1	Detailed strategic communication plan	H5	Approved Plan	Detailed communication plan signed off by HoH			Monthly	100%	18	25					Planned completion dates should be entered for all activities to be completed in the calendar year		
		H7	Peer group Assessment	Peer group review using purpose specific score card			Monthly	>90%									
L2	Implementation of strategic communication plan	H9	Progress on Implementation	Number of communication actions / events completed as a % of total planned			Monthly	100%									
		H11	Effectiveness	Effectiveness of the implemented plan per purpose designed survey tool			Monthly	80% effective									
L3	Effective learning hub supp in place	H13	Effective support service	Competent support person / provider appointed			Monthly	Yes									
L4	Staffing of teams and secretariat	H14	Credible adoption team managers identified	Potential adoption team managers identified six months before incumbent departs			Monthly	100%									
		H15	Unfilled posts	Number of unfilled positions in the adoption teams and the secretariat			Monthly	0%									
L5	Effective procedures for qui assurance	H17	Peer Assessmnt process establishd	Peer Group assessment process agreed to and successfully implemented			Monthly	100%									
		H18	Number of assessments made	Number of assessments made in previous three months			Monthly	>3									
		H19	Effectiveness of QA procedure	Effectiveness of peer group quality assurance process using custom survey tool			Annual	> 80%	80	100	22-Aug-12	24-Aug-12					
L6	Revised handbook in place	H21	Input from MOSH Adoption Team	Workshop held with Adoption teams to obtain input on revised handbook sections			Monthly	Yes									
		H22	Updated handbook provided	Updated handbook posted on the MOSH website data base			Monthly	Yes	60	70							
		H23	User satisfaction survey	Assessment of the extent that the revisions meet Secretariat and MOSH team needs			Six monthly	>90%									
L7	Shortened adoption proces implemented	H24	Implementation workshop	Workshop with Hub staff on implementation of shortened adoption process			Monthly	Yes	100	25-Apr-12	31-Mar-12						
		H26	Effectiveness of process	Effectiveness of shortened adoption process per special score card			Six monthly	> 80%									
Additional strategic plan items																	
L8	Stakeholder impact survey / progress towards zero harm	H27	Approved survey tool	Tool to assess MOSH contribution to achieving zero harm discussed and agreed.			Monthly	100%									
		H28	Assessment report	Detailed report on survey to assess MOSH contribution to achieving zero harm			Monthly	100%									
		H29	Overall Impact Assessment	Assessment of MOSH contribution to achievement of zero harm			Annually	> 70%									
L9	MOSH related training cour at key institutions	H31	Signed agreements	Working relationship with at least two key learning institutions agreed to in writing			Monthly	100%									
L10	Industry involvement and participation in MOSH proci	H33	Adoption Team meeting attendance	Industry member attendance of adoption team meetings over past three months			Quarterly	> 90%									
		H34	Task Force meeting attendance	Industry member attendance of Task Force meetings over past three meetings			Quarterly	> 90%									
		H35	Annual Hub Review meeting attendance	% of invited industry members who attended the annual review meeting			Annually	> 90%	100	12-Jun-12							
L11	Effective data base web-site	H43	Functional web-site	Website design and development completed and site continuously available for use			Monthly	100%									
		H44	Website updates	Number of new documents uploaded onto the website / month			Monthly	> 20									
		H45	Utilisation by registered users	Number of visits / month by registered users			Monthly	> 500									
L12	Implementation plan for MC trainees (Goal 2 action 8)	H48	Site effectiveness	Effectiveness of the web-site using a purpose designed questionnaire			Annually	> 80%									
		H52	Implementation plan	Final implementation plan developed and budget approved			Monthly	100%									
		H53	Active MOSH trainees	Number of MOSH trainees in service			Monthly	5 in yr 1 then 10									
L13	Identify and use suitable mentors (Goal 2 action 3)	H54	Potential mentors identified	Number of persons who have agreed in principle to serve as mentors to Hub staff			Monthly	>10									
		H55	Active mentors	Number of currently appointed mentors			Monthly	>5									
Hub Outputs																	
L19	Leading practice 1: Name	H57	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines			Monthly	> 90% within 2 years	Prev	Curr	Prev	Curr	Two-year finis date				
		H58	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans			Monthly	< 10%									
L20	Leading practice 2: Name	H59	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines			Monthly	> 90% within 2 years					Two-year finis date				
		H60	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans			Monthly	< 10%									
L21	Leading practice 3: Name	H61	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines			Monthly	> 90% within 2 years					Two-year finis date				
		H62	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans			Monthly	< 10%									
L22	Leading practice 4: Name	H63	MOSH process adoptions	MOSH process adoptions as a percent of potential adoption mines			Monthly	> 90% within 2 years					Two-year finis date				
		H64	Reported "implementations"	Reported adoptions of the leading practice without following MOSH behavioural plans			Monthly	< 10%									
L29	SLP 1: Name	H77	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of potential total			Monthly	> 50 % within 6 months					Two-year finis date				
L30	SLP 2: Name	H78	SLP adoptions	Completed adoptions according to the SLP adoption guide, as a % of potential total			Monthly	> 50 % within 6 months									
Impacts																	
L35	Annual OHS improvements adopter mines	H83	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3			Annually	> 20 % better	All								
		H84	Lead indicator 2: Noise exposure	No of persons exposed to noise levels > 95 dbA			Annually	> 20 % better	M1	M2	M1	M2	M1	M2			
		H85	Lead indicator 3: Noise emission	No of items of equipment with noise emission > 110 dbA			Annually	> 20 % better									
		H86	Lag Indicator 1: Fatalities	Number of fatalities to date in current and previous year			Monthly	> 20 % better	20	23	22	25	5	10	15		
		H87	Lag Indicator 2: Injuries	Number of LTIs in current and prev. year (reportables)			Monthly	> 20 % better	5	1	4	2	3	2	4		
L36	Annual industry OHS improvement	H88	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year			Annually	0 new cases									
		H89	Lag Indicator 4: NIHL	Number of noise induced hearing loss claims per year			Annually	> 20 % better									
		H90	Lead indicator 1: Dust levels	No of persons exposed to dust levels > 0.1 mg/m3			Annually	> 20 % better									
		H91	Lead indicator 2: Noise exposure	No of persons exposed to noise levels > 95 dbA			Annually	> 20 % better									
		H92	Lead indicator 3: Noise emission	No of items of equipment with noise emission > 110 dbA			Annually	> 20 % better									
		H93	Lag Indicator 1: Fatalities	Number of fatalities to date in current and previous year			Monthly	> 20 % better	10	9	11	8	12	7	13		
		H94	Lag Indicator 2: Injuries	Number of LTIs in current and prev. year (reportables)			Monthly	> 20 % better	20	1	21	2	22	3	23		
		H95	Lag Indicator 3: Silicosis incidence	Number of new cases identified per year			Annually	0 new cases									
		H96	Lag Indicator 4: NIHL	Number of noise induced hearing loss claims per year			Annually	> 20 % better									
		Indicators H86, 87, 93 & 94 Data for these indicators are pulled through from the 12-month data entry sheet. Data for the other indicators in this section should be entered directly onto this monthly hub scorecard table															
This date is entered in white font in place of the planned completion dates, which should be entered for each indicator once the relevant																	
															1-Jan-30		



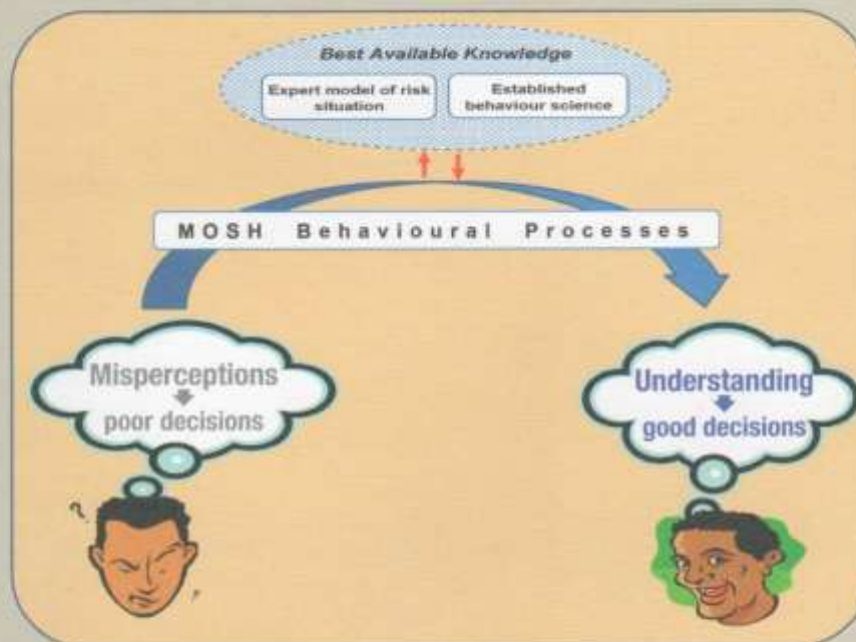
The Chamber of Mines

The MOSH Leading Practice Adoption System

A leading practice in its own right

S Malatji and JM Stewart

(Chamber of Mines of South Africa and JM Stewart Consulting)



Industry Ownership • Involvement • Buy-in
Working together towards Zero Harm



CHAMBER OF MINES OF SOUTH AFRICA
Putting South Africa First



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There has been a remarkable improvement in the safety performance of the South African mining industry since 2003. Many factors and initiatives have been responsible for this, but ultimately, they all find expression in action taken by operational management on mines. Ideally, this action should be voluntary and originate from on-mine considerations of how best to provide and maintain a working environment that is safe and without risk to the health of employees. Although legislative or other top down dictates may sometimes result in short-term improvements, if the action taken involves reluctant compliance, it is unlikely to stand the test of time.

It is in this context that the MOSH Leading Practice Adoption System has an important role to play, in that it is focused on achieving conditions that lead to voluntary and

eager adoption of identified leading practice. Cutting edge techniques derived from behaviour science have been embedded in the detailed systematic approach of the adoption system to achieve this intrinsically sustainable outcome. In this sense, the MOSH Adoption System is a leading practice in its own right. Its potential contribution in addressing the lesser improvements achieved to date in the area of occupational health, as well as the substantial safety challenge that still remains, should be clear to those committed to achieving zero harm work places in the South African mining industry.

The primary purpose of this paper is to present the MOSH Leading Practice Adoption System in a readily understood format. A graphical style presentation with brief supporting notes is used for this purpose.

Motivating context for development of the System

2013 Tripartite Industry Milestones

MINING INDUSTRY TRIPARTITE OCCUPATIONAL HEALTH AND SAFETY TARGETS AND MILESTONES SET IN 2003

OCCUPATIONAL SAFETY

Industry Target: Zero rate of fatalities and injuries

Milestones:

- **In the Gold Sector:** By 2013 achieve safety performance levels equivalent to current international benchmarks for underground metalliferous mines, at the least;
- **In the Platinum, Coal and Other Sectors:** By 2013 achieve constant and continuous improvement equivalent to current international benchmarks, at the least.

OCCUPATIONAL HEALTH

Industry Target: Elimination of Silicosis

Milestones:

- By December 2008, 95% of all exposure measurement results will be below the occupational exposure limit for respirable crystalline silica of 0.1 mg/m^3 (these results are individual readings and not average results)
- After December 2013, using present diagnostic techniques, no new cases of silicosis will occur amongst previously unexposed individuals (Previously unexposed individual = individuals unexposed prior to 2008, i.e. equivalent to a new person entering the industry at 2008).

*Industry Target: Elimination of Noise Induced Hearing Loss (NIHL)
(The present noise exposure limit specified in regulation is 85dB(A))*

Milestones:

- After December 2008, the hearing conservation programme implemented by industry must ensure that there is no deterioration in hearing greater than 10% amongst occupationally exposed individuals
- By December 2013, the total noise emitted by all equipment installed in any workplace must not exceed a sound pressure level of 110dB (A) at any location in that workplace (includes individual pieces of equipment).

Notes

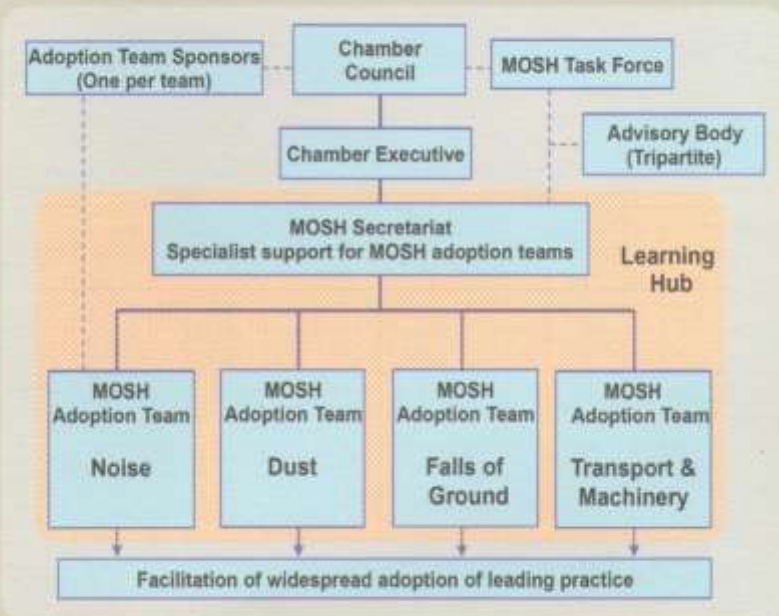
1. The MOSH Leading Practice adoption system was developed to assist industry in its efforts to meet the Tripartite agreed Occupational Health and Safety Milestones.
2. The milestones were agreed to in 2003 and in 2005 the CEOs of the major mining companies committed their companies to achieve the 2013 milestones.
3. The MOSH Adoption system was developed in 2007 and piloted in 2008.



4. Industry has made considerable progress since 2003, but attainment of the milestones will require further sustained effort for the foreseeable future.

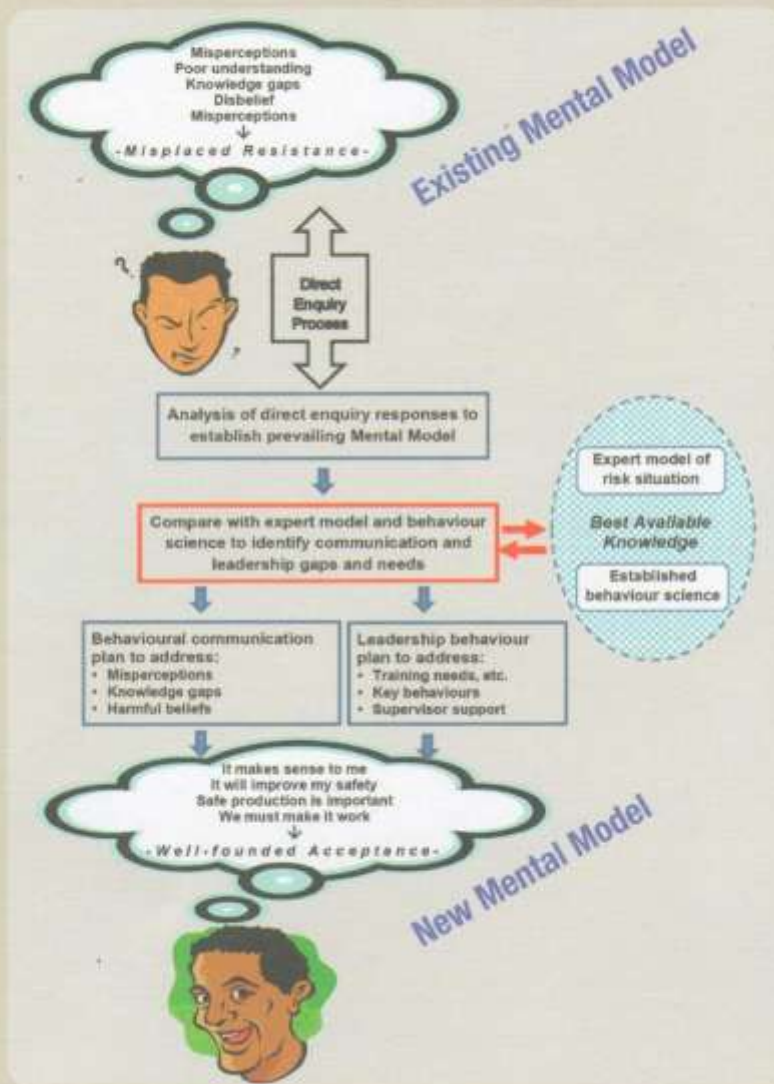
Key features of the adoption system – industry ownership and behaviour modification

Industry ownership – schematic of the MOSH structures



5. The Task Force is comprised of senior executives from mining companies. It decides on the major areas of risk to be addressed by the adoption system.
6. The MOSH Adoption Teams are led by experienced persons seconded to the Learning Hub by mining companies. The teams, comprised of representatives from the mining companies, are supported by a specialist secretariat.
7. Leading Practices having the greatest OHS improvement potential are selected at a workshop involving technical experts drawn from the mining companies and other organisations as appropriate.

Schematic of the behaviour change process



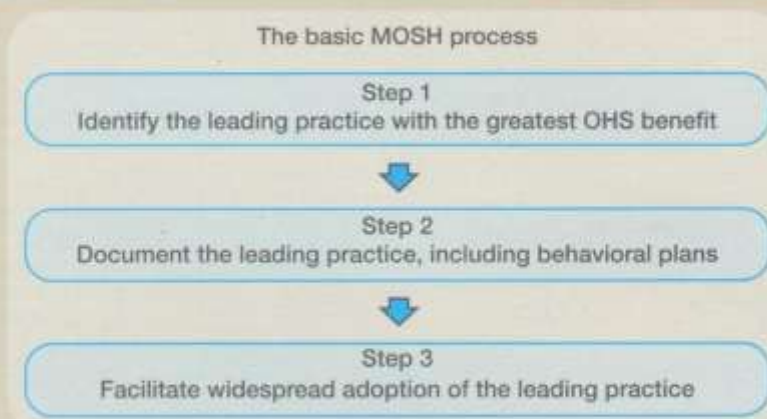
8. The adoption system recognises that a change in people's behaviour is fundamental to the adoption of any new practice or technology. Without this, adoption will not occur.

9. It also recognises that sustainable adoption requires prevailing mental models, which can act as barriers to adoption, to be identified and addressed through appropriate behavioural communication and leadership behaviour programmes.

10. Importantly, the required behavioural programmes are derived from a comparison of the prevailing mental model with scientifically established best available knowledge.

11. Industry ownership and behaviour modification are two key features of the MOSH Leading Practice Adoption System. Together they distinguish it from previous approaches at facilitating the transfer and adoption of new technology or practice.

Simple logic of the MOSH Adoption process

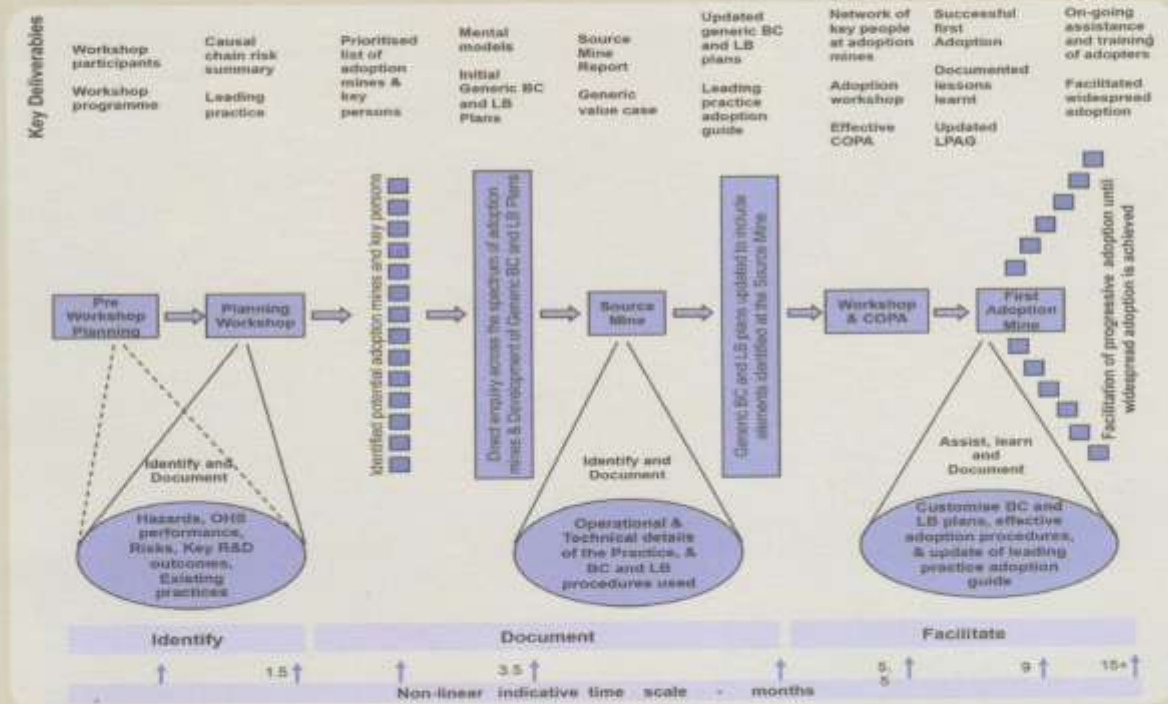


12. The essence of the MOSH Adoption Process is extremely simple. It is not new. What makes it special is the detail – full implementation of the detail is thus most important.

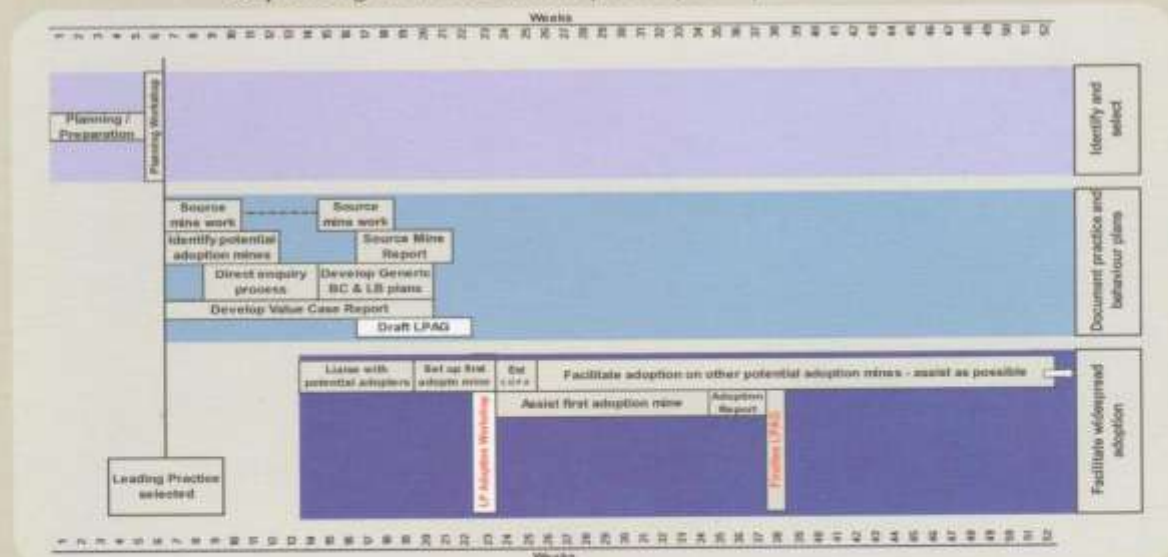


13. The two schematic representations of the process shown here illustrate the systematic step by step approach, as well as the time scale and detailed nature and scope of the process, which is presented here in broad terms.

Schematic summary of the key elements of the MOSH adoption process



Sequencing of the MOSH Adoption System process elements



Legend for both figures: BC – Behavioural Communication; LB – Leadership Behaviour; COPA – Community of Practice for Adoption
LPAG – Leading Practice Adoption Guide

Mosh Leading Practice Adoption System – a leading practice in its own right © Malatji and JM Stewart



Ongoing provision of specialist support

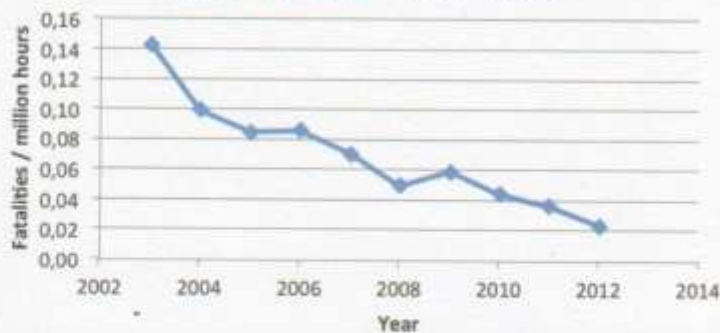
Permanent full-time specialist secretariat to support Adoption Teams and Process

- Adoption Specialist for each Adoption Team
- Behaviour Specialist
- Monitoring Specialist
- Administrative support

14. In order to ensure that the industry led MOSH Adoption Teams are fully effective in executing the MOSH adoption process they are supported by a dedicated full-time secretariat with the necessary specialist and administrative skills. *This is a very important enabling aspect of the adoption system.*

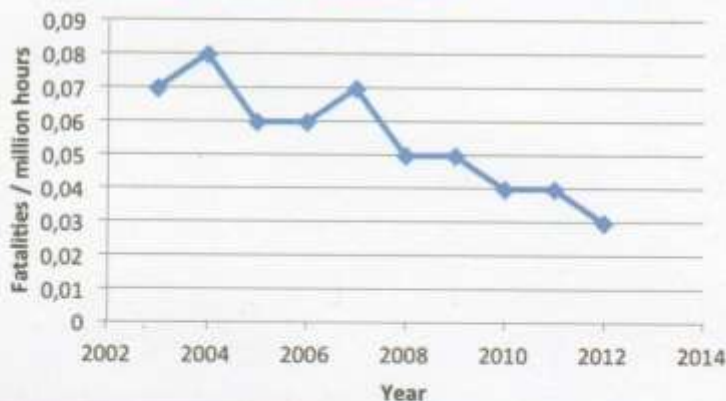
Establishment of MOSH Adoption Teams in key risk areas

Fall of Ground – Fatality rates



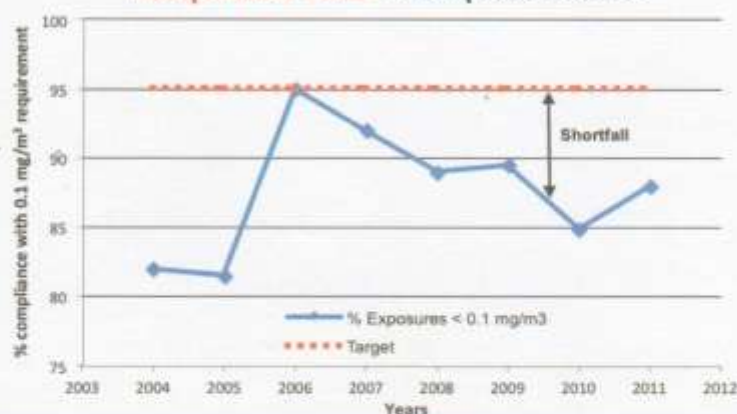
15. There has been a remarkable improvement in FOG fatality rates since 2002. It is no longer the stand-out leading cause of fatalities in SA mines.

Transport and Machinery – Fatality rates

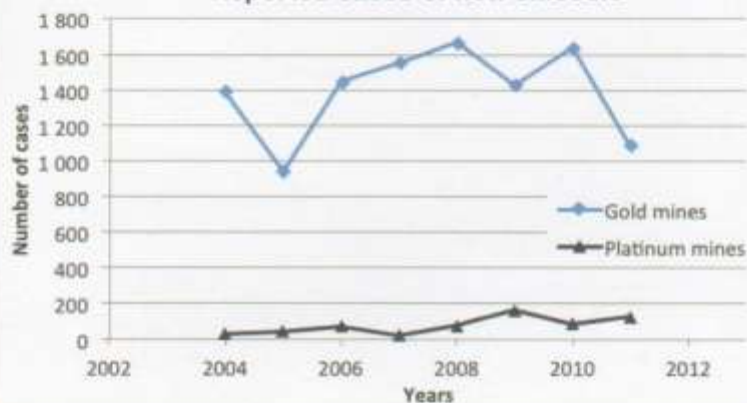


16. Transport and Machinery accidents as a cause of fatalities in SA mines is now comparable with those caused by falls of ground. With increasing mechanisation the importance of this risk area is likely to grow, and efforts in this area will need to be intensified.

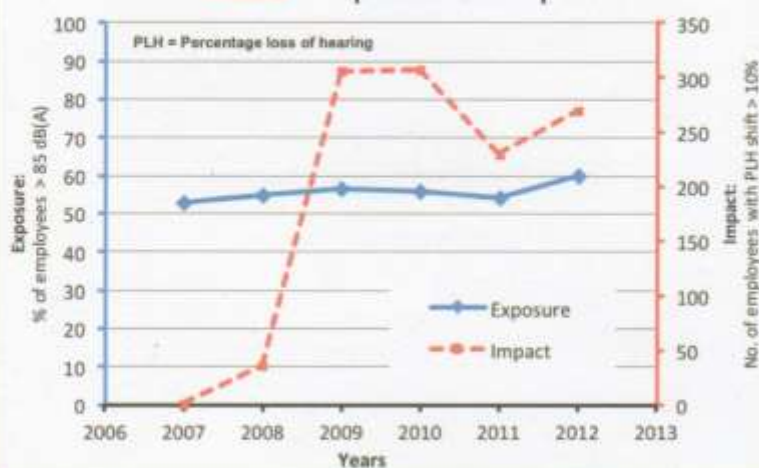
Respirable Dust – Compliance levels



Reported cases of new silicosis



Noise – Exposure and Impact



17. Control of respirable dust to eliminate silicosis one of the major challenges facing the mining industry. Silicosis is responsible for disability and death on a scale that is clearly unacceptable.

18. Elimination of Noise Induced Hearing Loss (NIHL) due to conditions at work is another major risk area. It is responsible for significant harm being experienced by the workforce. Ideally, the problem should be addressed at source by buying quiet equipment and maintaining it so.

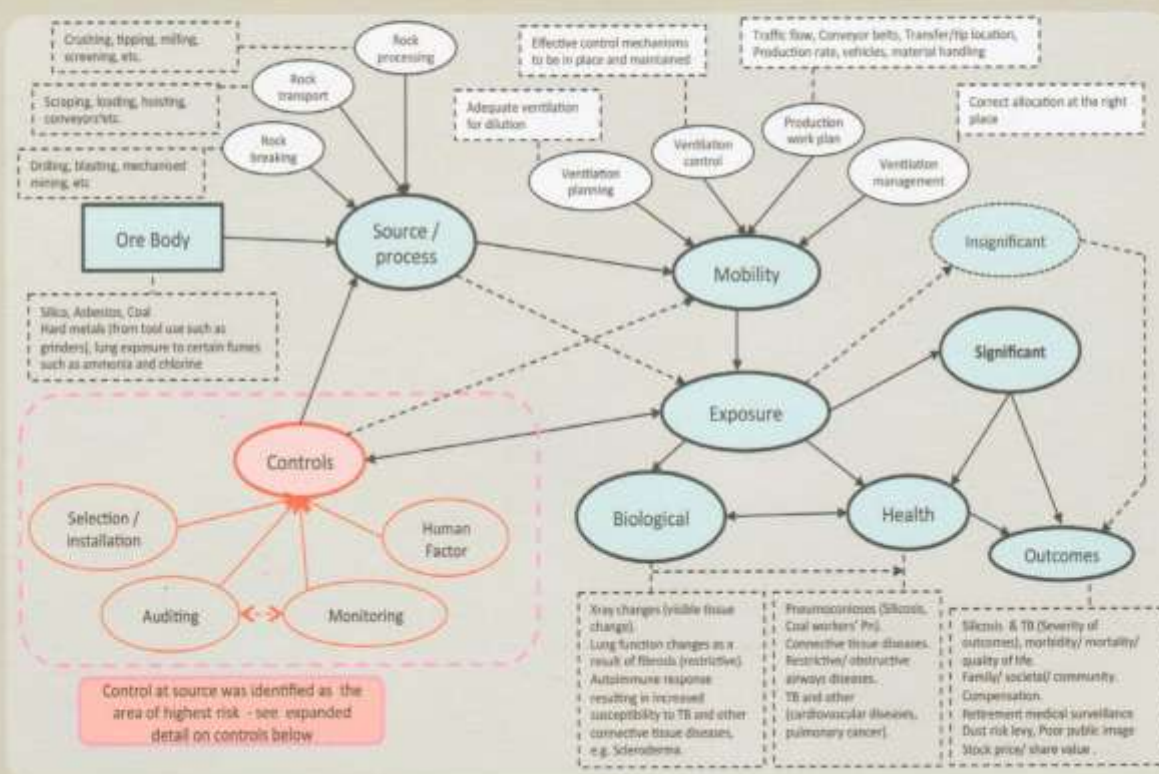
Developing an expert understanding of the risk situation

Basic Framework of a Generic Causal Chain Risk Summary Table

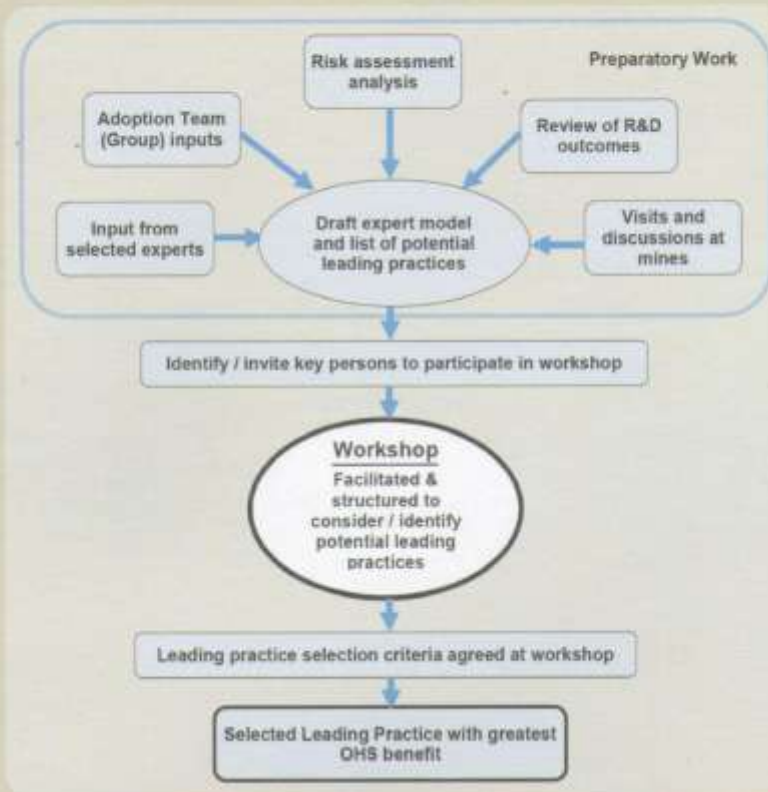
Part A – Description of the causal chain					
No	Nature of the hazard	No	Exposure to the hazard	No	Outcomes of exposure
	Description of the identified hazard/s (substances / equipment / events / etc.)		Description of the different categories of exposed persons, the nature and duration of exposure, and any other details that characterise the exposure		Description of all the ways in which workers might be affected and harmed by exposure to the risk, including biological or physiological effects.
Data Gaps					
	Identify any gaps that need to be investigated		Identify any gaps that need to be investigated		Identify any gaps that need to be investigated
Part B – Current risk mitigation controls and strategies					
	Identify and describe		Identify and describe		Identify and describe
Weaknesses					
	Identify and describe		Identify and describe		Identify and describe
Part C – Possible improvements in risk mitigation controls and strategies					
	Identify and describe		Identify and describe		Identify and describe
Possible new practices					
	Identify and describe		Identify and describe		Identify and describe

19. The need for an expert understanding of the risk area being addressed is obvious. Without such an understanding the risk of addressing symptoms and not causes is real.
20. In the adoption system there is another equally important reason. Unless one has such an expert understanding, it is not possible to identify the knowledge gaps, misperceptions and mistaken beliefs of adopters and key stakeholders. It is these mental models that can act as barriers to adoption of a selected leading practice.
21. In the adoption system this expert understanding is captured in an expert model. The model may take the form of a causal chain risk summary table and / or an influence diagram.

Example expert model influence diagram - for the dust risk

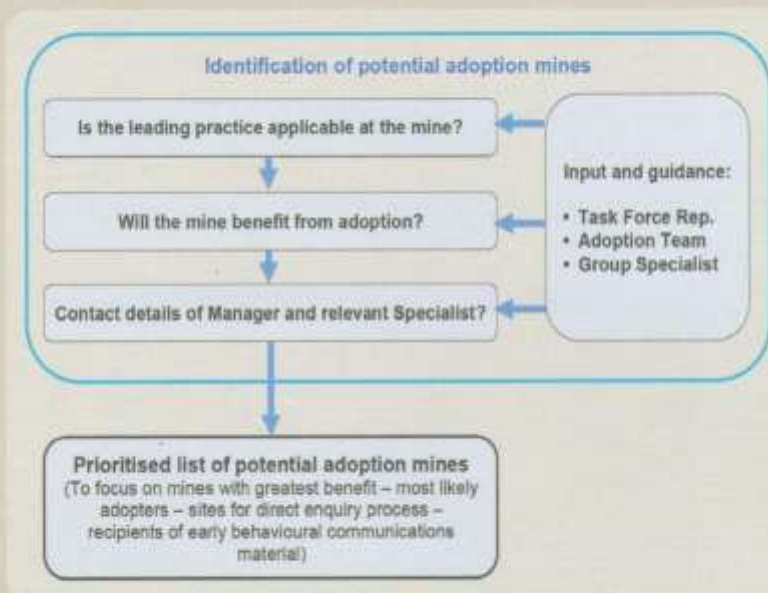


Selection of the leading practice with greatest potential



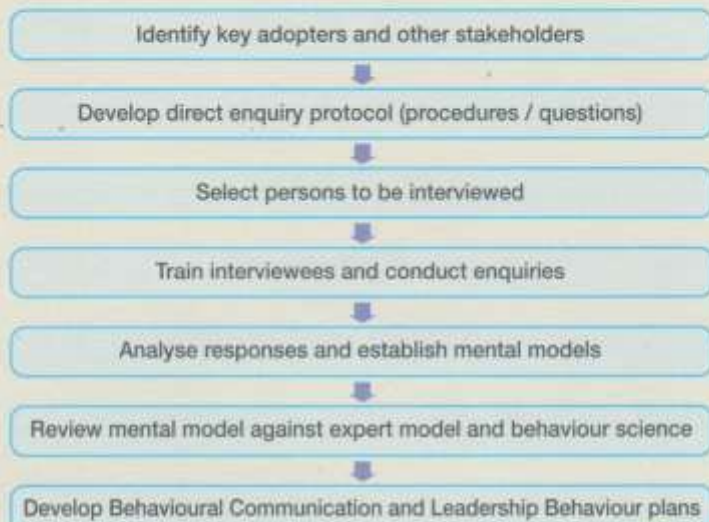
22. A special workshop involving the most experienced and knowledgeable people in industry is held to select the leading practice that has the greatest potential to improve OHS in the risk area in question.
23. The practice is selected using a rigorous procedure and relevant selection criteria agreed upon at the workshop.

Identification of potential adoption mines and their key persons



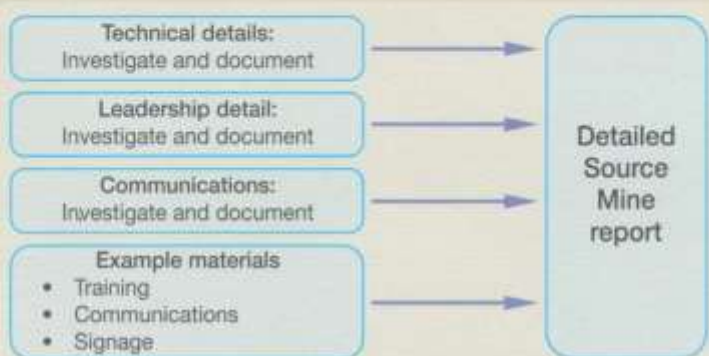
24. With input from the Task Force and mining company representatives of the MOSH Adoption Team, all potential adoption mines, and the key people at these mines are identified.
25. This enables:
 - The identification of key adopters, decision makers and other key stakeholders.
 - The selection of an appropriate group of persons to be interviewed in the direct enquiry process to establish the prevailing mental models.
26. A communication process to inform key persons of relevant findings and developments is then also possible.

Identification of prevailing mental models and behavioural plans



27. The direct enquiry process recognises that all interviewees are experts about what they experience. It is thus a respectful process. It is used to identify the mental models of the key adopters, deciders and other stakeholders.
28. The carefully developed open ended questions of the direct enquiry process provide the interviewees with an opportunity to confidentially say exactly what they think.
29. The empirically determined mental models provide the basis for developing behavioural communication and leadership behaviour plans that are generically applicable to the complete spectrum of identified potential adoption mines.

Documenting the leading practice at its Source mine



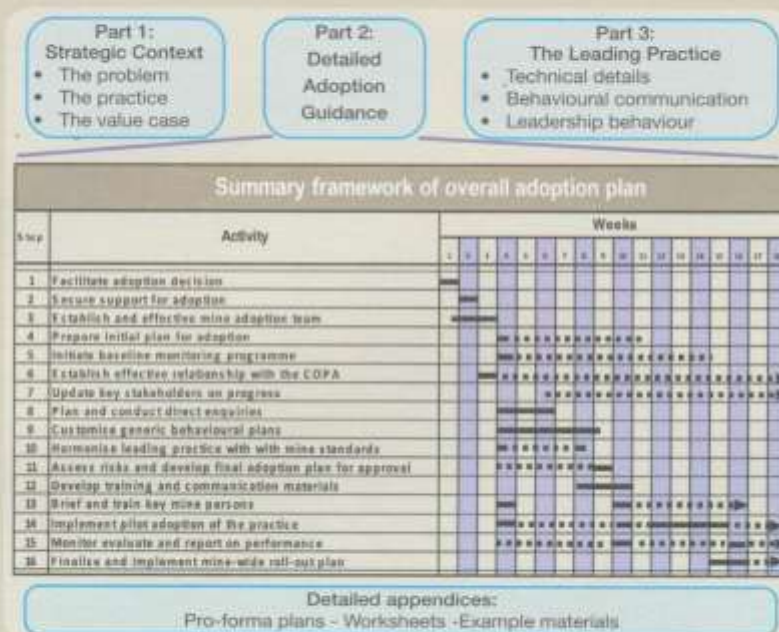
30. A detailed plan is developed for conducting the investigations at the source mine.
31. Investigation of the behavioural aspects is based on the insights gained in developing the generic behavioural plans.
32. The behavioural aspects observed at the source mine are used to update the generic behavioural plans.
33. The investigations seek to capture all the information needed to enable the practice to be replicated at another mine.

Identifying and documenting the full value case



34. The value case is determined for each leading practice through a process of careful investigation.
35. The value case includes business case considerations but it also identifies the often more important strategic benefits associated with adoption of the leading practice.
36. Setting the goal of achieving zero harm at work is aspirational and admirable; adopting and appropriately acting on it requires high-level strategic decision making.

Provision of a Leading Practice Adoption Guide to facilitate widespread adoption



37. The Leading Practice Adoption Guide (LPAG) is a user-friendly document that contains all the information that a potential adoption mine needs to voluntarily decide whether or not to adopt the practice, and to then successfully adopt the practice should it decide to do so.

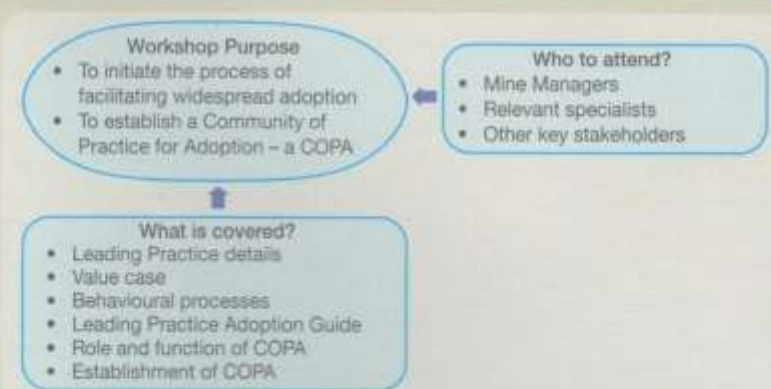
38. The Guide, particularly Part 3, makes it clear that the leading practice comprises of three equally important legs. All three need to be implemented for adoption to be complete and sustainable.

Customisation of the leading practice at adoption mines



39. The adoption procedures outlined in the Leading Practice Adoption Guide include guidance on customising the leading practice to fit in with mine-specific circumstances.

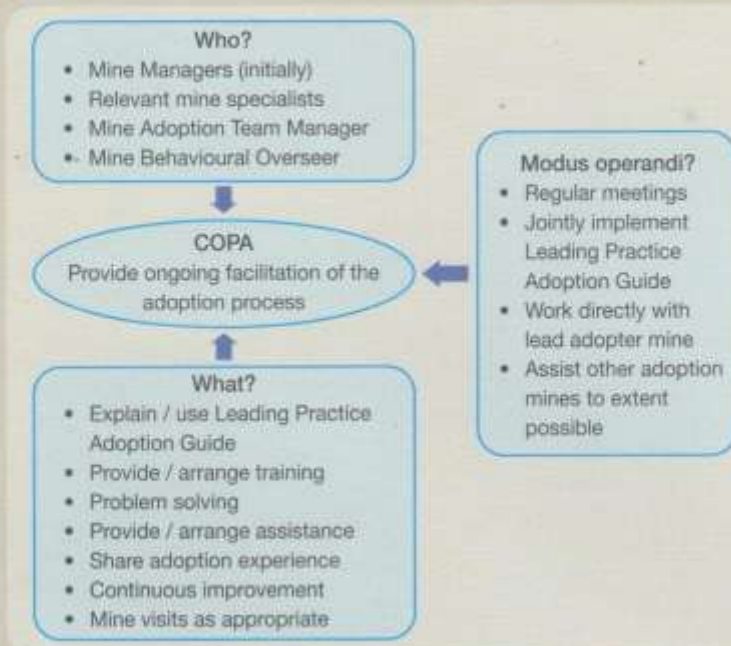
Initiation of widespread adoption process – the Leading Practice Adoption Workshop



40. Key persons from all identified potential adoption mines are invited to attend the Leading Practice Adoption Workshop.

41. The workshop, which leads to the establishment of a Community of Practice for Adoption (a COPA) actively starts the process of facilitating industry wide adoption of the selected leading practice.

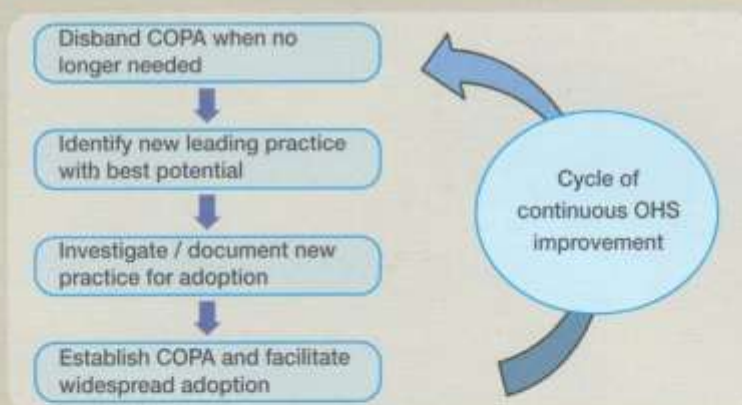
Establishment of a Community of Practice for Adoption – for on-going facilitation



42. The COPA serves as a mechanism for mines to acquire guidance, assistance and specialist training to achieve successful adoption of the Leading Practice.

43. The COPA terminates its existence when its members feel that it is no longer needed.

Conclusion – the process is continuous



44. The process of continuous improvement never stops.

Acknowledgement

The role and contribution of the MOSH Adoption Teams, the Learning Hub Secretariat and Chamber member mining companies to the development of the MOSH Leading Practice Adoption System is gratefully acknowledged. So too is the contribution of Decision Partners LLC, Pittsburgh, USA, particularly in regard to development of the behaviour-based techniques that form a key element of the system. Much of the material presented in this paper is drawn from the Guidance Handbook on the MOSH Leading Practice Adoption System prepared by JM Stewart on behalf of the Chamber of Mines of South Africa.

For further information and contact details, please see
www.mosh.co.za



Given below is a summary of the Terms of Reference developed and approved for the MOSH Task Force using the guidance provided in Section 13.2. The agreed roles and functions of the MOSH Task Force have been separated into those applicable to the Task Force as a group, and those applicable to members individually. This is an important and appropriate distinction.

1. **Purpose:** The purpose of the MOSH Task Force is to provide the strategic leadership and oversight needed to ensure the focus and quality of the work of the Learning Hub Secretariat, the MOSH Adoption Teams and the implementation and operationalization of the MOSH Adoption System.

Roles and functions of the Task Force as a group

2. Provide strategic direction:

1. Set annual MOSH Task Force goals and evaluate own performance against the set goals in consultation with the Adoption Teams' Sponsors.
2. Annually review and confirm the MOSH Learning Hub mandate and strategy.
3. Mandate the MOSH Learning Hub's focus areas on the basis of proper data and option analysis provided by the Learning Hub.
4. Review and approve proposals for Chamber Council consideration.
5. Mandate employer representatives on the Learning Hub Advisory Committee and consider recommendations made by the Learning Hub Advisory Committee.

3. Facilitate industry ownership of the MOSH Adoption System:

1. Provide guidance in the development of the agenda of the annual MOSH Review and define action plans following the review.
2. Where necessary, through a small group of representatives chosen from among its members, hold strategic discussions and interactions with each Adoption Team Sponsor, Chairpersons of Chamber Principal Committees and other key stakeholders considered critical for the effectiveness of the MOSH initiative.

4. Oversee and assure quality of Learning Hub work:

1. Ratify selected leading practices within the context of the MOSH process including active participation in the industry planning workshops, ensuring that the right and credible people from own company participates in MOSH Learning Hub structures and events.
2. Critically review key documents, progress reports and other outputs of the Learning Hub.

Roles and functions of individual TASK Force members

5. Serve as a MOSH Champion / Group Adoption Coordinator:

3. Take ownership for the articulation, integration and embedding of the MOSH principles, MOSH leading practices, and Pillar 4 of the Culture Transformation Framework into own

Administrative detail

- Members are appointed for a period of three years, which may be extended by their companies if necessary.
- Members serve as company representatives and not in their personal capacity
- Members shall uphold the spirit that safety and health is not a competitive issue and will be transparent and share information in this area.
- Action shall be taken against members who miss more than three consecutive meetings.
- Members must uphold the provisions of the Competitions Act.
- Members unable to attend a meeting may nominate a senior level alternate, who must be appropriately briefed and mandated
- The Chairperson shall be appointed by the members subject to ratification by the Adoption Team Sponsors and approval by the Chamber Council
- Meetings shall be held every two months unless

company OHS strategies, policies and procedures (including but not limited to performance contracts, training programmes, mine standards, etc.)

4. Take ownership for the coordination and nomination of credible company representatives from own company on MOSH structures, namely: Adoption teams; industry planning workshops; adoption workshops; Community of Practice for Adoption (COPAs) etc., and remain engaged with these representatives.
5. Maintain an adequate awareness of the activities, key issues, successes and challenges being addressed by the Learning Hub.
6. Communicate and provide feedback within own company on MOSH related matters.
7. Create an environment in own company for a multi-disciplinary and systems approach to adoption.
8. Champion the involvement of employees at ALL levels.
9. Build sufficient capacity of trained interviewers within the Group (at mines or available to mines) to conduct direct enquiry interviews.
10. Maintain personal familiarity with, and understanding of the MOSH adoption process.

Additional guidance

A more detailed presentation of the personal roles and functions of Task Force members in their capacity as their Group's Adoption Coordinator is provided in section [2.5](#)

6. Monitor company participation in MOSH structures and leading practice adoption:

1. Monitor the participation of company representatives on MOSH structures and obtain feedback on the basis of a matrix of MOSH events calendar.
2. Hold regular meetings with all the nominated company representatives participating on MOSH structures and events.
3. Coordinate group progress reports on leading practice adoption (including milestones) and be prepared to deliver a presentation at the designated MOSH Task Force meetings to show adoption progress made by own company from time to time.

7. Facilitate and support adoption team activities:

1. Assist in identifying mines and key people on those mines within own company that are potential adopters of the leading practices that have been selected by the adoption teams.
2. Take ownership for the identification of appropriate persons for consideration as secondees to the Learning Hub.

8. Participate actively in MOSH Task Force meetings:

1. Personally, attend MOSH Task Force meetings regularly.
2. Contribute constructively during meetings.

Given below is a summary of the Terms of Reference, developed and approved for the Learning Hub Tripartite Advisory Body using the guidance provided in Section 13.2.

1. **Purpose:** The purpose of the Learning Hub Advisory Committee is to advise the Secretariat on how the mining industry could best work together to accelerate the adoption of the leading practices being promoted by engaging in sound stakeholder dialogue that seeks to find solutions based on facts.

The roles and functions of the Tripartite Advisory Body are set out below:

Roles and functions of the Advisory Body as a group

2. Provide high-level advice on adoption activities:

1. Raise concerns where the direction, rate of progress and quality of work of adoption teams is below par.
2. Provide inputs into the preparation and review of the Learning Hub's annual programme of work.
3. Monitoring, evaluating and interpreting progress reports and inputs submitted by the adoption teams and the secretariat.
4. Conducting site visits to source mines, demonstration mines, adopting mines, suppliers and other benchmark sites.
5. Proposing any new and key areas that should be focused upon.
6. Recommending mechanisms for interaction including but not limited to studies, dialogue, and evaluation tools.

3. Uphold the credibility and effectiveness of the advisory committee:

1. Ensure that stakeholders are represented on the committee by high-level persons with credibility and influence within their stakeholder communities in areas of occupational health and safety. Stakeholders are discouraged to question the credibility of fellow stakeholders.
2. Ensure that the issues being dealt with are personally interesting and rewarding to individual members, as well as their stakeholder communities.
3. Review and update the terms of reference of the advisory committee.

4. Provide useful input and support to leading practice adoption:

1. Provide advice on the leading practices being promoted.
2. Play a facilitating role by identifying the types of mines that have good potential to adopt the leading practices being promoted.
3. Focus their discussion around the adoption of leading practices that have a potential to reduce accidents (fatalities), occupational, hygiene and medical incidents.

Administrative detail

- Members are appointed for a period of three years, which may be extended by their stakeholder group if necessary.
- Members serve as stakeholder representatives and not in their personal capacity
- Members shall uphold the spirit of tripartism, non-competition, inclusiveness and open stakeholder dialogue
- Members who miss more than three consecutive meetings shall have the matter taken up with their principals.
- Membership shall be made up as follows:
 - Employers: 6 representatives covering all commodities and non-Chamber member mines
 - Organised labour: 6 representatives covering the major groupings (NUM, Solidarity, UASA)
 - State: 2 representatives, one from the Mine OHS Inspectorate and one from the Mine Health and Safety Council
 - Independent OHS experts: 2 OHS experts, co-opted as and when necessary
- The Chairperson shall be appointed on a rotating basis by the represented stakeholder groupings.
- Issue-driven working groups may be established to

4. Provide knowledge and thought leadership on health and safety and related matters.

5. *Liaise constructively with the adoption stakeholders:*

1. Encourage input and feedback from the different stakeholder representatives on the Committee to achieve high levels of adoption.
2. Promote the work of the Learning Hub within their stakeholder communities.
3. Recommend ways through which management and employees can be encouraged to support the implementation of leading practices in their workplaces.

6. *Facilitate complementary regulatory activity:*

Given the regulatory function of the DMR, the role of its representatives shall be to encourage its regional inspectorate personnel to determine and assess, without being prescriptive, the following pertinent issues in the course of their routine work:

1. The level of awareness within the mining companies about the leading practices being promoted.
2. Whether mining companies have mechanisms in place to investigate the leading practices being promoted.
3. Potential hindrances to the adoption of leading practices being promoted.

Roles and functions of individual Advisory Body members

7. *Participate constructively and with commitment:*

1. Ensure full participation in committee activities
2. Engage in debates that seek common solutions
3. Uphold the spirit of tripartism, non-competition, inclusiveness and open stakeholder dialogue
4. Commit to a positive outcome
5. Serve as an effective link between the Committee and their stakeholder community
6. Provide their stakeholder community with feedback on progress and other interesting information.

This document is provided to workshop participants to assist in their preparation for the Annual Adoption System Performance Review Workshop. It should be completed prior to the workshop as a basis for facilitating considered input into the breakaway sessions during the workshop. The completed form should be submitted during the breakaway session for further consideration following the workshop.

Assessment of Adoption System Performance						
No	Key success factors	Very Poor	Poor	Satisfactory	Good	Very Good
	Participants should indicate their rating for each of the key success factors indicated below, and then suggest how performance of the Adoption System might be improved in any area considered to be in need of improvement. Suggestions for improvement could be in <i>any area</i> and not only those listed here. The suggested improvements in the table below should then be numbered in priority order.					
1	The key elements of the system should be simple and clear					
2	The Adoption System and the adoption process must engender industry ownership					
3	The adoption mechanism must be effective					
4	The System must facilitate attention being focused on top-level priorities					
5	The time required of industry persons must be minimized and free of undue complexity.					
6	The System must significantly contribute to OHS improvement in industry					
7	The System must significantly contribute to the creation of an OHS culture across industry					

Suggestions and priority order for possible improvements to Adoption System	Priority order

SECTION 17

Glossary

17.1 Glossary of key terms

Section 17.1

Glossary of key terms

ABC framework: A tabular presentation of the Antecedents, Behaviours and Consequences needed for a person to consistently perform the task that is described by the tabulated set of Behaviours. See section 15.4.

Abundance mentality: A mentality that allows persons or organisations to share what they know with other in the belief that the sharing of their knowledge will be of benefit to all parties, including themselves. See section 7.3, point 17.

Adopters: Those who have a direct role in operationally implementing a new activity, such as a leading practice. See section 5.3.

Adoption: Includes the process of deciding positively to acquire the knowledge and skills to successfully implement and sustainably operate a leading practice.

Adoption Mine: A mine that has the potential to beneficially adopt a leading practice that has been selected by a MOSH Adoption Team as having the potential to make a major contribution to improving occupational health and safety in the mining industry.

Adoption planning process: The systematic science-based approach that the MOSH Adoption Team follows in identifying the risks that are in most urgent need of attention and the various existing practices (technologies and procedures) that have the greatest potential to address the identified risks, culminating in the selection of the leading practice that has the potential to bring about the greatest improvement in occupational health and safety in the mining industry through its widespread adoption. See section 3.1

Adoption Specialist: A person employed and based in the MOSH Learning Hub who has acquired a deep understanding of the procedures and process covered in this handbook, but who works as a member of a MOSH Adoption Team with the special responsibility of assisting and facilitating the work of the team, with a view to achieving high quality work and a successful and widespread adoption outcome.

Adoption System Trainees: Persons with development potential seconded by mining head office groups and operational mines to work for a defined period within the MOSH Learning Hub, with a view to becoming knowledgeable and skillful in the procedures and processes of the MOSH Leading Practice Adoption System.

Adoption System: Used as a short-form title for the MOSH Leading Practice Adoption System.

Adoption Teams: Used as a short-form title for either the MOSH Adoption Team or the Mine Adoption Team, as the context requires.

Behaviour Specialist: A person employed and based in the MOSH Learning Hub who has a deep understanding of and special skills in the area of behavioural science broadly, but who guides and assists the Adoption Teams in their understanding and execution of the behaviour-based elements of the MOSH Leading Practice Adoption System.

Behavioural communication: Behavioural communication is a process of interactions (dialogue) supported by relevant information purposefully designed to enable decision-makers, adopters and stakeholders to make well-informed decisions and take appropriate actions to successfully adopt a leading practice to reduce risks. More broadly, its focus is responsible risk management. (Measures in behavioural communication typically focus on behavioural

outcomes as a result of the planned communications, that is, what people can be seen to do, heard to say, and shown to think as a result of communications.)

Behaviour-based plans: This is a short-hand means of referring to the behavioural communication and leadership behaviour plans that have been developed to facilitate the adoption of the selected leading practice. Their primary purpose is to enable behaviour that changes the operating system as opposed to changing the way unsafe behaviour of persons within an existing system.

Behaviour-based safety: This refers to an approach that seeks to identify unsafe behaviours of individuals within an existing system and to then take action to eliminate the unsafe behaviour of individuals without necessarily changing the system. Through its focus on individuals, as opposed to the system, it tends to foster a blame-culture that has counter-productive consequences. See section 15.4.

Best Practice: A term that is sometimes used in much the same way as leading practice is used in the Adoption System. It is not used in the Adoption System as it implies superiority over other practices. This carries an unintended obligation to adopt the practice, with failure to do so inferring negligence. This is contrary to the aim of the MOSH Leading Practice Adoption System, which seeks to facilitate eager and voluntary adoption of the identified leading practices.

Business case: An argument for proceeding with a proposed course of action on soundly based consideration the costs and benefits quantified in financial terms. In the Adoption System the business case forms an integral part of a Value Case, which includes consideration of qualitative issues that cannot reasonably be financially quantified, or which may not have any financial implications.

Causal chain risk summary: A summary of the way in which the risk arises, from the basic hazard, through exposure to likelihood of damage, with the linkages being clearly evident. It seeks to capture an expert understanding of the risks that exist with a view to providing a sound basis for identifying knowledge gaps or misunderstanding in those exposed to, or responsible for managing the risk. It is a particular type of risk assessment, see section 3.5.

Champion: A term used to describe a person who takes on the task overcoming difficulties in adopting a leading practice, of leading the process of promoting the benefits of the practice and of then facilitating adoption of the practice by others.

Coding guide: A document that sets out the basis for identifying particular aspects of the interview results obtained from the process of direct enquiry that forms part of the analysis process in determining the mental models of adopters and key stakeholders. See section 5.5.

Communication facilitator: A senior mining industry person with knowledge and experience of the mining industry, who has peer group credibility and is a good communicator. The person is seconded to the MOSH Learning Hub to form part of the communication team responsible for devising and implementing a communication plan to support the work of the MOSH Adoption Teams, and to meet the strategic communication needs of the Learning Hub.

Community of Practice for Adoption: A group of persons who have the ability to significantly influence adoption process at potential adoption mines who voluntarily agree to work together in a relatively informal way to assist each other in adopting, and subsequently improving, one or more selected leading practices in their particular area of influence or expertise. It is in effect the

primary mechanism for facilitating widespread adoption of the selected leading practice. See sections 7.2 and 7.3.

COPA: The abbreviated title for a Community of Practice for Adoption.

Deciders: Deciders are those people who are directly involved in making the initial decision at a mine to adopt the leading practice, or who have a significant influence on the decision making process.

Demonstration Mine: A mine that has been carefully selected by the MOSH Adoption Team and that has agreed to implement a project in collaboration with the MOSH Adoption Team to demonstrate the process of adopting a particular leading practice.

Demonstration mine report: A report that documents the procedures and processes used in implementing the leading practice at the Demonstration Mine as well as the lessons learned and the impact of the leading practice on both operational and occupational health and safety performance at the mine.

Demonstration project: A project undertaken at a Demonstration Mine to demonstrate the process of adopting the selected leading practice at an operational mine, to identify and implement improvements to the adoption process, and to provide a basis for meaningful and credible communication with key persons at future adoption mines about the leading practice and the adoption process.

Direct enquiry process: A structured interview process involving one-on-one meetings with persons drawn from the group of persons whose mental models need to be determined through a process of respectful dialogue. The direct enquiry process recognises that in the context of the mental models research being conducted, irrespective of their status on the mine the persons being interviewed are experts and must be regarded and treated as such.

End users: These are the people who are responsible for implementing and operating the leading practice

Expert model: An expert model is a summary of accepted knowledge about a topic. It is the best and most accurate description of the topic that is possible. Expert models may be put forward in many forms. As a formal integration of knowledge, the expert model summarizes the knowledge needed to make judgments about the topic and issues related to it. In the Adoption System an expert model of the risk situation is presented either as a causal chain risk summary table, or as an influence diagram.

Fallback Host Mine: The other mines that were evaluated and found to be potentially suitable to host the Demonstration Project should be considered as fallback host mines should the preferred host mine not be able to host the Demonstration Project.

Fallback leading practices: The practices that made up the group of three or four short-listed potential leading practices for in-depth evaluation prior to making the final selection should be considered as fall back leading practices should the selected leading practice need to be abandoned for one reason or another.

Generic behaviour-based plans: These are the behavioural communication and leadership behaviour plans that are developed at the time of the investigations at the source mine. They are based on the mental models determined from interviews of persons drawn from the spectrum of identified potential adoption mines, updated to include the behavioural elements identified as part of the leading practice at the source mine. They are the plans that are

customised at the demonstration and adoption mines to take account of the circumstances identified through direct enquiries conducted at those mines.

Hazard: A hazard is a source of danger, from an occupational health and safety point of view. In the absence of one or more persons being exposed to the hazard, the hazard will not give rise to a health and safety risk.

Host mine: This refers to a mine that has agreed to conduct a demonstration project in collaboration with the MOSH Adoption Team at their cost.

Hypotheses: Hypotheses are written statements of belief (positive or negative) followed by statements of underlying rationale for the beliefs ("because" statements) that make clear why a belief is considered to be true. Hypotheses are thus well reasoned statements of what are believed to be true – they are not simple intuitive guesses.

Industry member (of MOSH Adoption Teams): The MOSH Adoption Teams include members who work at operating mines or head office groups who have special knowledge or influence in the area of the Adoption Team, and who have the potential to facilitate or lead the process of adopting the leading practice at their mine, or within their mining group.

Influence diagram: An influence diagram graphically depicts the influence that one factor has on one or more other factors. It therefore provides a graphical means of describing the best understanding of the situation that a group of experts are able to synthesise, and it is thus also an expert model.

Innovation: Innovation is the process that involves the creation, evolution, exchange, and application of knowledge in whatever form that is useful to others. It may or may not include invention, but invention in the absence of useful application by others does not qualify as innovation. The successful adoption of leading practice at adoption mines constitutes innovation.

Interview protocol: A document that sets out the process to be followed in conducting the interviews that form part of the direct enquiry process, including the questions and prompts that are to form the basis of the dialogue that is to be conducted.

Invention: An invention is a device, technology, or method that has not existed previously, which has emerged from research or other processes of original thought and which is often patented.

Leadership behaviour: A set of behaviours by leaders that are systematically derived and implemented to facilitate subordinates sustainably delivering the particular behaviours needed to successfully adopt the leading practice in question. It involves leaders putting in place the antecedents needed to enable the desired behaviour of subordinates, and the taking the necessary action to reinforce desired behaviour and correct or eliminate undesirable behaviour. What they do and what they say is the single most important tool leaders have for achieving performance goals through the efforts of others. Their own behaviour is thus the most powerful instrument within their control for influencing the behaviour of others. See section 15.4.

Leading practice: This is a practice that is particularly effective at eliminating or reducing a particular risk situation, and delivering good occupational health and safety performance as a consequence of its application. Such practices have the potential to be selected by the MOSH Adoption Team as the leading practice to put forward for widespread adoption. Such selection is

however subject to the rigorous selection procedure that forms part of the adoption planning process.

Leading practice adoption guide: A document that is prepared by the MOSH Adoption Team at the successful conclusion of the demonstration project, and then made available to all potential adoption mines to guide them in their adoption of the leading practice in question. It contains a detailed description of the leading practice, and of the process that needs to be followed to successfully implement the leading practice at an adoption mine.

Learning Hub: This is the structure created by the Chamber of Mines of South Africa to implement and operate the MOSH Leading Practice Adoption System. It includes a full time specialist secretariat and the various teams comprised of selected persons drawn from industry. It is collectively funded by the members of the Chamber of Mines of South Africa.

Management orientation: This is the set of values and principles that are responsible for the approach that senior management and thus also lower levels of management adopt toward particular issues. In the context of occupational health and safety the orientation may either facilitate or inhibit the adoption of leading practice, and it is thus a fundamentally important upfront consideration that Adoption Teams need to take into account. Some aspects of management orientation can only be addressed by management itself.

Mine Adoption Team: A team established by an adoption mine to lead the process of adopting a leading practice at the mine. It is comprised of selected employees at the mine and is led by a person with the necessary expertise, credibility and authority. Assistance in facilitating adoption of the practice is sourced either through the COPA, or in some cases directly from the MOSH Adoption Team.

Mental Models: Decades of research have shown that tacit webs of beliefs – beliefs that are sometimes below the surface of consciousness – guide people's decision-making. These are called mental models, which may be incomplete or incorrect in many important ways. Such models are largely responsible for the way in which people behave and act in response to a particular set of circumstances. Incomplete or incorrect beliefs and information can thus lead to compromised judgements and inappropriate behaviour.

MOSH Adoption Team: A team established by the Learning Hub to identify and facilitate widespread adoption of leading practices in an area of occupational health and safety identified by the MOSH Task Force as being in need of priority attention. Apart from the Adoption Specialist of the Learning Hub who works closely with the team, the members of the team are all drawn from mining companies. See section 2.1.

MOSH Leading Practice Adoption System: This is the system described in this handbook. It is focused on the identification and adoption of leading practices that have the potential to bring about a significant improvement in the occupational health and safety performance of the South African mining industry. It has the potential to be applied in various other situations, as indicated in section 1.1.

MOSH Task Force: This is a body that has oversight responsibility for ensuring that the activities of the MOSH Leading Practice Adoption System are closely aligned with needs of the mining industry. It is comprised of senior persons from the major mining companies who have responsibility for occupational health and safety matters in their companies. See section 13.2.

MOSH: This is an abbreviation for "Mining Industry Occupational Safety and Health".

NORMS framework: This framework comprises of a set of criteria that should be met when defining behaviours that should be achieved so that they can be unambiguously observed and or measured. Such behaviours are things that people can be seen to do or say, with the abbreviation NORMS standing for **N** - Not and interpretation, **O** - Observable, **R** - Reliable, **M** - Measurable and **S** - Specific. See side-box in section 15.4.

Opportunity Statement: In the process of developing the communication strategy to support the work of the MOSH Adoption Teams, an Opportunity Statement is developed to clearly define the communication opportunity that exists and the measurable deliverables that the strategy seeks to accomplish. An Opportunity Statement is similar to a conventional mission statement.

Peer group review: This is a review conducted by a team of individuals who are at least as knowledgeable and experienced as the persons responsible for the operation, process or document that is being subjected to review, and who command credibility in the area in question.

Protocol: A document that sets out the details of a process that is to be followed, including an indication of who is to do what and when this should be done. Examples are the direct enquiry protocol and the protocol for the measurements that need to be made to assess the impact and performance of the leading practice at the demonstration mine.

Risk: Risk is the likelihood that occupational injury or harm to persons will occur as a consequence of their exposure to a hazard.

Risk Assessment: This refers to the overall process of risk identification, analysis and evaluation.

Risk Management: The systematic application of management policies, procedures and practices to the task of identifying, analysing, evaluating, eliminating or minimising, communicating and controlling those risks that could not be eliminated.

Secretariat: This refers to the group of persons permanently employed by the MOSH Learning Hub to provide specialist assistance in facilitating the work of the various teams established by the Secretariat to implement the MOSH Leading Practice Adoption System. See sections 2.2 and 13.3.

Section 54 intervention: This refers to section 54 of the Mine Health and Safety Act, which empowers an Inspector who has reason to believe that the health or safety of any person at a mine is endangered to deal with the dangerous conditions in various ways, including the issuing of an instruction to halt operations at the mine or a part of a mine. An instruction to halt operations at a mine for even a relatively short period can have very significant cost implications.

SIMRAC: This is an abbreviation for the Safety in Mines Research Advisory Committee. The Committee is established under the Mine Health and Safety Act and it reports to the Mine Health and Safety Council. It has responsibility for establishing and overseeing the execution of a programme of research to improve the occupational health and safety performance of the South African mining industry.

Source Mine: This is the mine that operates the practice that has been selected by the MOSH Adoption Team as the practice to be documented and put forward for widespread adoption in the mining industry. It is the mine that is the source of the information about the practice that is

to be demonstrated at the Demonstration Mine, and then spread to the identified adoption mines.

Source mine report: This is the report that documents the investigations conducted at the source mine to establish the details of the selected leading practice. Its primary purpose is to accurately document the essential elements of the leading practice, in sufficient detail to allow the practice to be replicated at other operating mines.

Sponsor: This refers to the CEO-level person who has agreed to provide high-level input and support to a MOSH Adoption Team, but who does not become operationally involved in the business of the adoption team. A primary role of the sponsor is to help overcome any difficulties that seriously threaten the continued existence or successful functioning of the adoption team, particularly those that might be sensitive.

Stakeholder map: A stakeholder map is a graphical plotting of the identified stakeholders according to various groupings and relationships in a way that assists in prioritizing the order of engagement in the communications strategy undertaken to support adoption team activity.

Stakeholders: Any individual, group or organisation that may affect, be affected by, or perceive itself to be affected by the risks being addressed by the adoption team or by the selected leading practice, as the context requires. Stakeholders are individuals or groups, including decision makers, who are likely to have an interest in seeing the risks reduced or managed in a particular way.

Technology transfer: This refers to the process of transferring technological information from one individual or organisation to another with a view to it being applied by the recipient, but unlike the concept of adoption, it does not require that the transferred information or technology is actually applied or implemented in any way.

Value Case: A Value Case sets out a business analysis that fully identifies the full range of impacts that the adoption of a leading practice is expected to have. It therefore includes the impacts that have financial consequences, with those impacts being evaluated in financial terms to the greatest extent possible, as would be usual in a conventional business case. However, it also includes the identification and qualitative evaluation of contributions that adoption of the leading practice may make towards the achievement of values, principles, ethics or objectives that the company or industry considers strategically or morally important, sometimes with no clear financial or business linkage.

Zero Harm: The achievement of conditions of Zero Harm is the ultimate objective all efforts by member companies of the Chamber of Mines of South Africa to improve occupational health and safety performance in the mining industry. Zero Harm is likened to a statement of the ultimate destination of a challenging journey, and that without the belief that it can be achieved, progress in that direction will be compromised.