Kissing Safety Management Plans towards Zero Harm.

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Introduction

KISSing Safety Management Plans towards Zero Harm is about using the principle of Keeping it Simple Stupid to give effectiveness of a Safety Health Management System or Plan.

The Coal Mining Health and Safety Act Section 62 prescribes the requirements for a Safety Health Management System (SHMS) for a coal mine. The presentation looks at Section 62 and whether there is ways of developing and presenting the SHMS so it meets compliance but is also simple to understand, use and audit.

The paper focuses on Safety Management Plans, but it is emphasized that a SMP is ultimately ineffective if there isn't a relentless focus on:

- Leadership
- Workplace Conditions
- Workforce Behaviour
- Desired Culture

The paper is based on open cut coal experience, but the same learning's may be applied to an underground or metalliferous mine

The examples and learning's in this presentation come from the authors experience over the last 6 years as an SSE of the very smallest contract based mines, South Walker Creek to one of the largest operations in Blackwater Mine .The author has also recently worked on developing two new mines SHMS in the last 8 months as well as reviewing, assisting and developing Safety Management systems for Contractors.

Different Safety Health Management Systems
Section 62 of the Coal Mining Act is very much the Core of the Coal Mining Act as it defines the requirements of a SHMS. When examining this section, there are a number of key words and concepts:

- Policy
- Risk
- Organisation Structure
- Planning Activities
- Practices , Procedures, Processes and Resources
- Reviewing
- Continuous Improvement
- Prevent and Corrective Actions
- Principal Hazard Management Plan
- Change Management
- Making Plan accessible to Coal Mine Workers

However a SHMS takes many different shapes and forms for a number of reasons.

In mature and large companies which work throughout the world in many different type of operations , such as BHP Billiton and Thiess, have corporate standards that then are used as the framework for developing business unit SHMS.

Some SHMS documents are extremely extensively paper based systems in the field. Others are now taking the form an overview document with the embedded electronic references, thus achieving a secondary objective of audit ability and user friendliness

To make useful, accessible and in the 21st Century, the SHMS can take the guise of web site. This can have its advantages and disadvantages. Information Kiosks are now appearing in all manner of remote operational areas so people can in theory access the latest and approved documents and information. Not everyone wants to interface with a Kiosk, due to computer literacy issues.

As a generalization, the Health Plan is a bit of an appendage to the Safety system.

Some larger mines have a legacy SHMS and although they may not be absolutely auditable and user friendly, they generally take in consideration of risks and have at their core, sound practices and the sufficient resources to try and support the system.

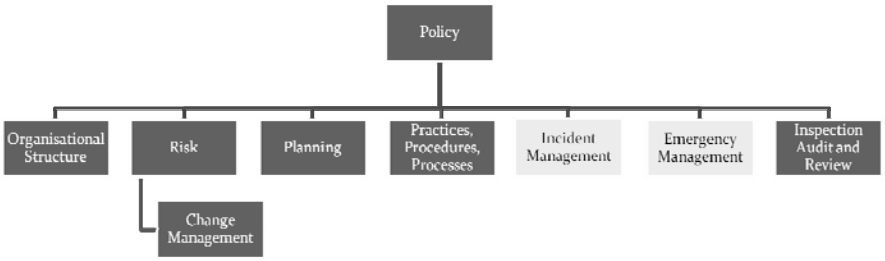
Some large contractors have their own SHMS. The systems are checked for compliance to the mine site requirements. It however may be very difficult for the contractor to understand the mine site requirements, which is a source of frustration for all parties. Mine sites with multiple SHMS and documents has been highlighted as recent issue by the inspectorate.

New Mines are developing simple management systems. They have the opportunity to learn from the past, have recent consultation, adopt and perfect other companies systems and utilize new technology.

<u>But are the various SHMS helping the Zero Harm objectives</u>?

If we develop a SHMS from the Act requirements and with the Reference to Regulations what would it look like?

SHMS based on the Act and Regulations



So taking the key words out of Section 62 of the Act, it might look like this.

Incident and Emergency Management sit at the top tier of the Framework (this incidentally aligns with a lot of corporate systems).

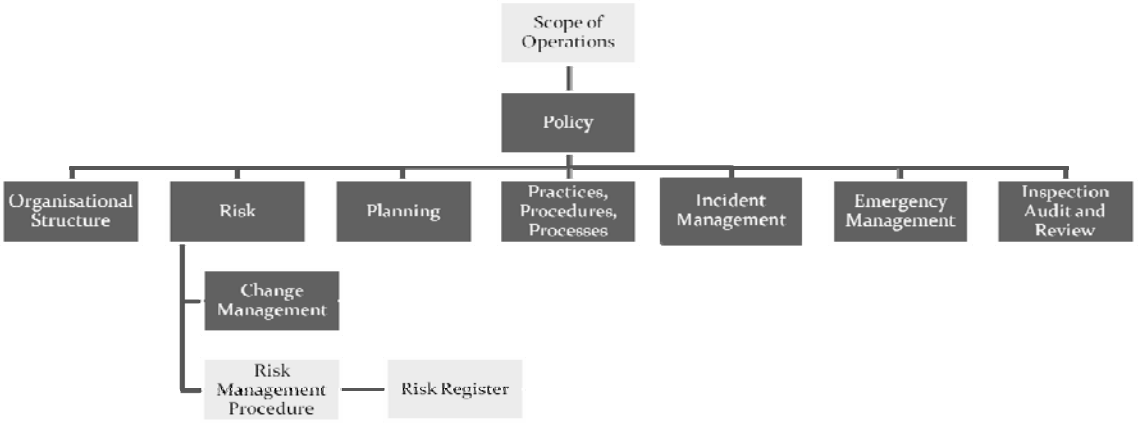
The Framework can then be populated utilizing a few important tools.

- Operational Scope
- Coal Mining Regulations Tool
- Coal Mining Act Tool

The Operational Scope should be understood and defined so that the Risks can be identified (workforce consultation being critical), such that the SHMP addresses all key aspects.

The Coal Mining Regulation and Act Tool identify the elements of the Scope that need to be managed in the plan. It may be that their hazards that need to be managed and processes developed that aren't prescribed in the legislation.

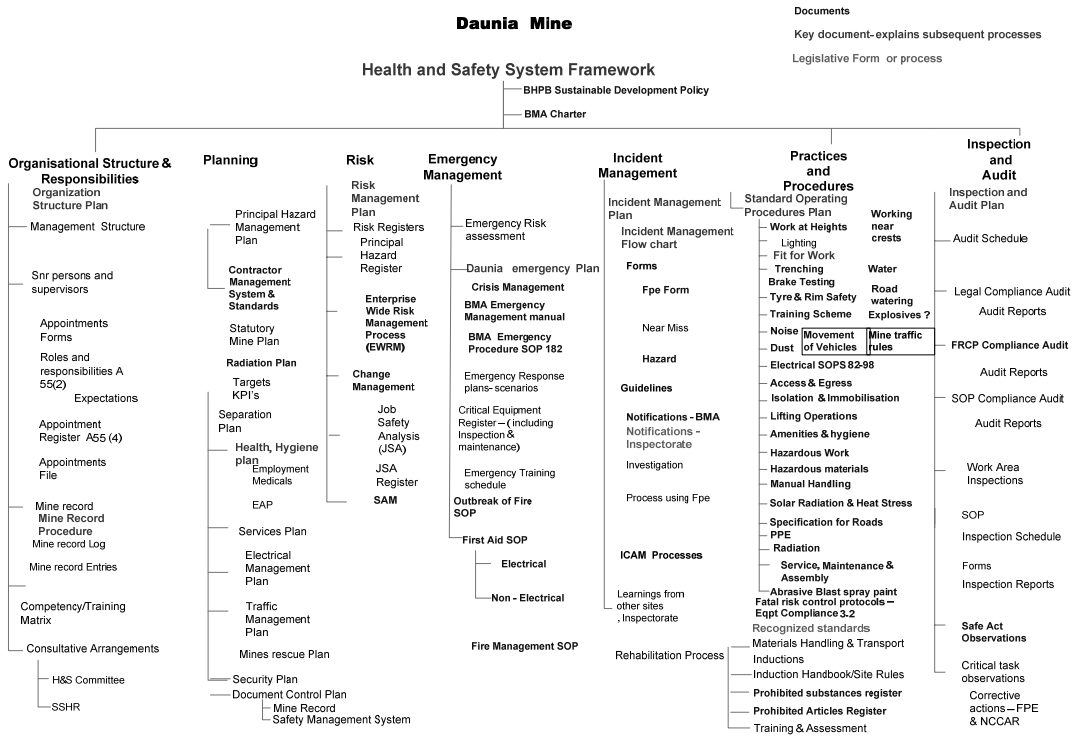
Eg For an open cut coal mine, a geotechnical management plan is probably essential .as we have seen from a number of incidents. The Regulations probably don't emphasize the need for Standard Operating Procedures and standards as strong as something like outbreak of fire.



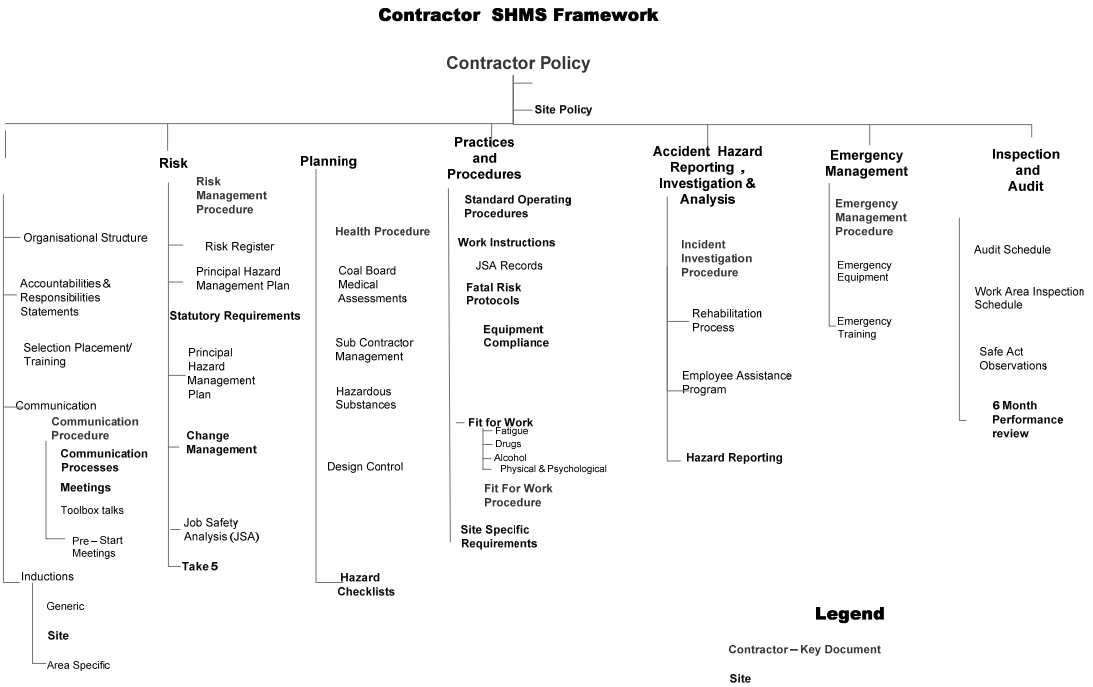
There may be some key documents that need to developed or resourced at the next level of the framework. The diagram is the framework of a SHMP for a mine.

Key documents should be developed to support the framework.

Populating the framework may involve utilizing existing procedures, recognized standards, forms and protocols (eg equipment protocols). New procedures require a consultation process that may need to be facilitated. Drafted procedures need to be reviewed to be KISSED.



The mine site framework can then be more readily used by contractors to understand the aspects to include in its system.



A good example of a non KISSED Standard Operating Procedure was the BMA Movement of Vehicle that was approximately 60 pages long. Inside the procedure were very good instructions for recovery of vehicles developed by experienced people. In application at operations, a lot of operators weren't aware of the recovery instructions because the instructions were hidden in the size, and style of the document. There were numerous incidents of equipment damage in recovery which could have been prevented by utilizing the SOP. The SOP is now be broken up into smaller usable sections.

Consultation
Consultation, if done well, is a significant success factor for the development and the ongoing effectiveness of the SHMS. Consultation is defined in the Act as:-
"*Consultation with coal mine workers is discussion between the site senior executive or supervisors and affected coal mine workers about a matter with the aim of reaching agreement about the matter*"

Consultation must occur around the following, but should be limited to these:-

- Risk Registers
- Sop's and related risk assessment
- Emergency Risk assessment
- Fitness for work assessment criteria
- Principal Hazards

Implementation of SHMS
There are several steps that are suggested once the framework is populated and some of these steps are rarely undertaken.

Developing a System Implementation Plan involves comprehensively reviewing each part of the system and identifying what is required for implementation.

The BMA Movement of Vehicles SOP required a log book for floats moving high equipment as well as clearly defining a Mine Site Standard Travel Route(s). System Implementation Planning would identify and someway resource and ensure implementation of the SOP. In retrospect should we spend more time planning system implementation as incident investigation? System Implementation Planning can also identify "non –value" adding aspects as well as form the basis for audit tools.

A means of reviewing the SHMS
The other step not utilized in the DuPont style "Critical tasks". A lot of organizations have adopted DuPont style safety observations or audits. A lesser adopted DuPont promoted process is "Critical Tasks". This process involves identifying tasks and procedures that should be audited in the field on a set frequency. This process can be incorporated into the Safety Observation program by scheduling /targeting certain activities and procedures and referencing the system document. Leadership teams need to involve workforce observers in the process.

The process may identify that the procedure is being effective or there could be aspects in its application that may need addressing or requiring additional resources. This is also a simple way to review Standard Operating Procedures, something that isn't done regularly enough.

Leading indicators from job observations and hazard analysis may also be used to identify areas for critical task observations.

An Effective SHMS
The SHMS framework when populated and implemented should:-

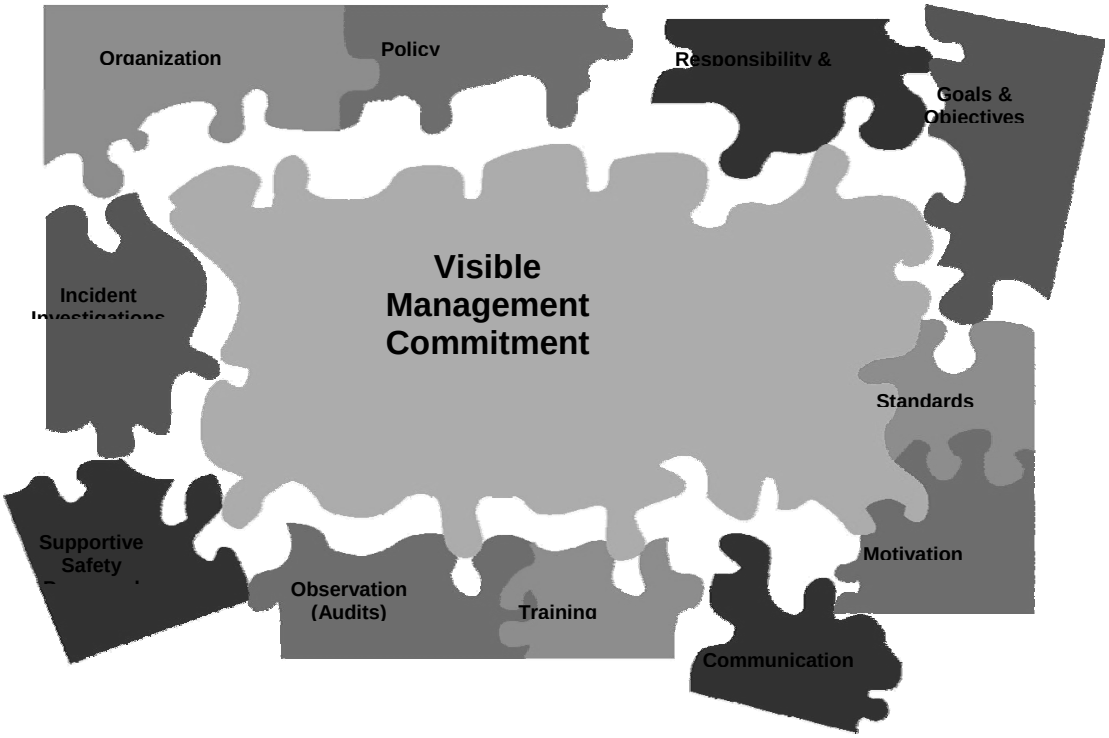
- Meet statutory requirements
- Simple to explain
- Be auditable (could be auditable in paper, electronic and web)
- Most importantly it should Support Zero Harm Outcomes

A SHMS is only effective with some relentless focus around:-

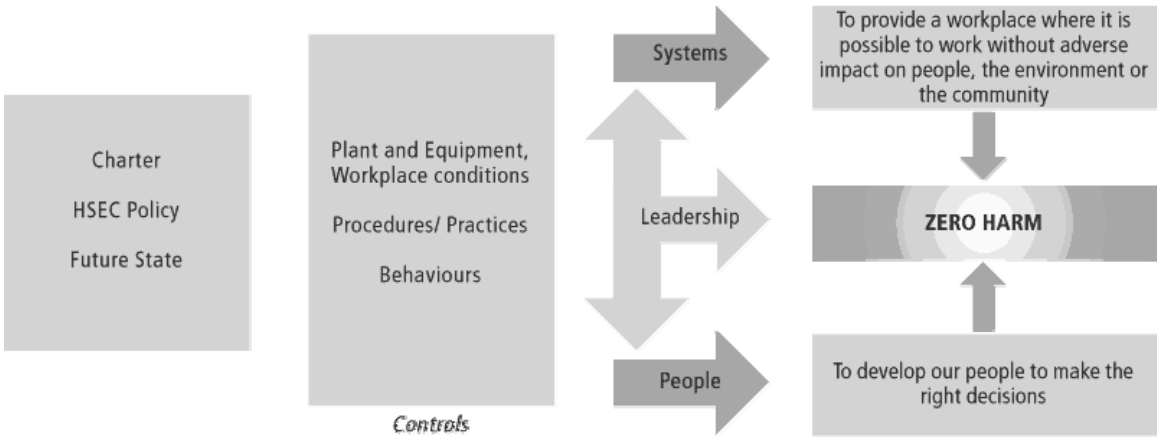
- Effective Leadership at all levels of the organisation
- People Behaviour and Decision Making
- Resources (Right Equipment , Trained People)
- Operational Planning and Control
- Workplace Conditions
- Zero Harm Culture
- Targeted Inspection, Audit and Review

A considerable flaw occurs when people become complacent around a trend of lowering statistics and improving audit scores. These are important measures, but they don't tell the whole story.

Leadership
DuPont represent the key aspects of a SHMS like a jigsaw with Leadership right in the middle.

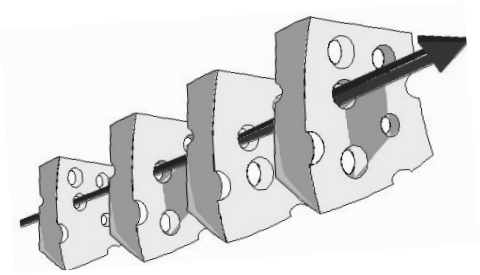


BHP Billiton reinforces the importance of leadership in the Road to Zero Harm.



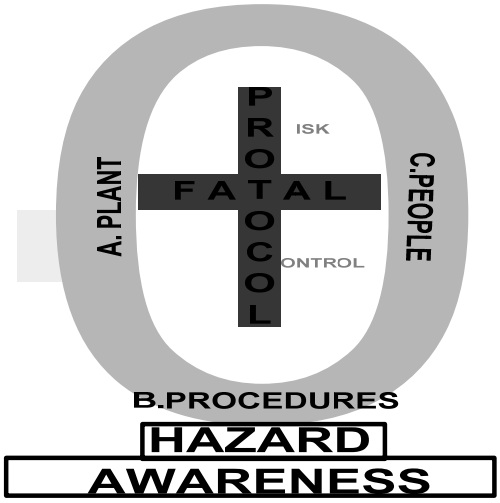
One BMA has had startling improvement in their recordable injury frequency rate after implementing a program called “Felt Leadership”. Felt Leadership is similar to the core value espoused by Dupont and the BHP Billiton road to Zero harm.

Simple Pictures, Concepts and Stories
Another Key to Kissed systems is simple concepts and the use of common language around these concepts. A good example of a concept and language that has embedded itself in the culture of people is the “Swiss cheese”.



The author visited a South African Coal Mine about 5 years ago and he saw stickers on equipment and noticeboards with snakes on them. The author asked one of the supervisors and he explained that the mine had people who spoke different languages and also had very little reading capability, so they taught people by stories and pictures. The snake represented a hazard and risk management and there was a story about risk and the snake. A picture paints a thousand words and although Australian Mines don’t have the same issues as South Africa, the concepts can still be applied.

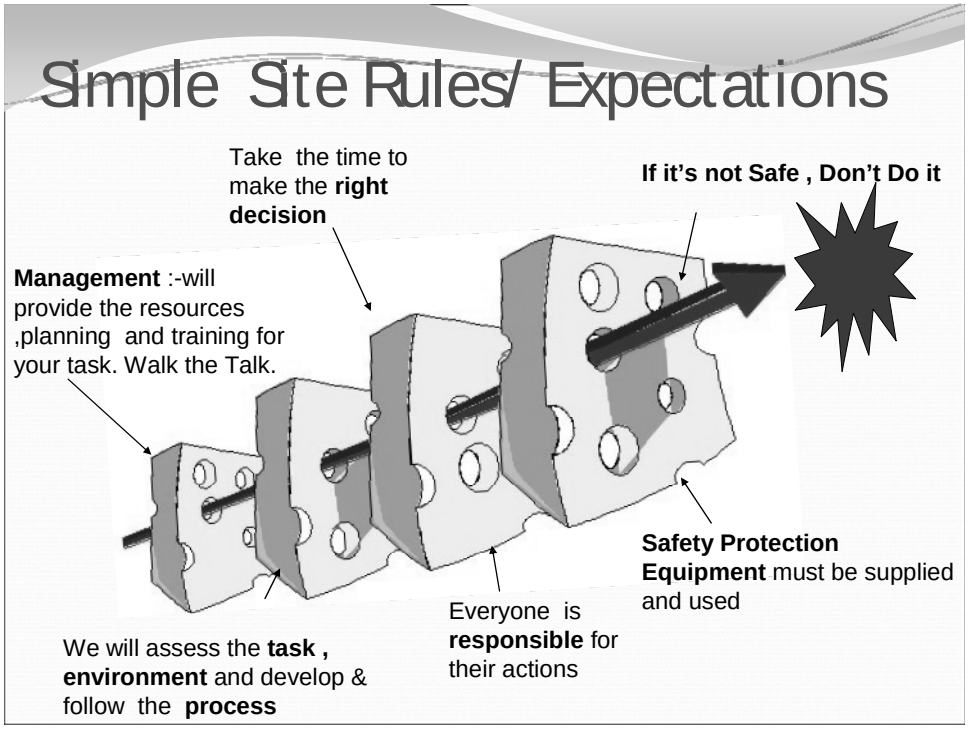
The author developed the following picture for explaining the BHP Billiton Fatal Risk Control Protocols to the South Walker Creek Mine workforce after visiting South Africa.



The story around the picture is the green zero = zero harm, the Red Cross = fatalities. The protocols are about risks that have fatal outcomes and consist of plant, procedural and people requirements, supported by hazard awareness.

It is interesting that a few years ago a CEO visited DuPont factories in the US and came back very excited about developing some simple safety rules for the organization.

The rules at the DuPont factory were titled “Peter’s Rules” and were something like below. The author has taken the liberty of lining the rules up against the James Reason Swiss cheese model.



Unfortunately, it was complex for the organization to embrace, develop and agree on a set of rules across a number of sites. If accidents could be explained by the Swiss cheese gaps, could the expectations of how to use the SHMS be communicated along similar lines?

Kissing SHMS Summary

- Make it easy to do the right thing and make it hard to do the wrong thing.
- Use Standard Concepts to explain many things eg Swiss Cheese Model
- Use a Simple framework
- Consultation works
- Develop a SHMS Implementation Plan (what, who, when)
- Never be complacent and "fall in love" with the SHMS.
- Learn from leading indicators whenever possible
- Without Effective Leadership, resources etc. a SHMS will never be effective

Never forget the Objective is Zero Harm.

Acknowledgements

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