SAFETY MANAGEMENT SYSTEMS, FRIENDS OR FOES?

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SUMMARY

The intent of this paper is to discuss whether Safety Management Systems are "friends or foes". The paper looks at definitions of "Safety" "Management" and "Systems" and discusses the benefits and drawbacks of a SMS. It explores normal and extraordinary management principles relating to SMSs. It defines some of the advantages (friends) and some of the dis-advantages (foes) and looks at methods of converting the "foes" into "friends".

INTRODUCTION

In 1995 I visited Pakistan as a member of an ILO mission to investigate and report on the adequacy of the mine rescue service following a mining disaster that killed 29 miners.

On arrival we had a very high level meeting with several mining officials. At this meeting we discussed the number of accidents that occur annually in the Pakistan mining industry (around 300 each year out of 30,000 mine workers).

When asked to explain the high number of fatalities a Senior Mines Inspector stated that it was "Inshala". I asked my colleague, a Russian Mining Engineer, what the word "Inshala" meant. He said, "it is the will of Allah" - if they die they die.

In Australia, thankfully, we have a somewhat different attitude towards life. Our expectations of returning home from work in the same condition as we went to work has become a standard cliche, throughout industry. However I suspect that there are still a number of managers and miners in Australia who consider that an accident is just "bad luck".

Over the past 50 years or so in Australia we have made many significant changes to the way we conduct our work in mining. Examples of these are the control of dust diseases in the coal industry, roof and rib control and explosion reduction technology.

In the 1990s mining requires even higher safety standards ie. the management of risks to a level which is acceptable to the workforce and the community and not just to governments and the courts. Any fatality or serious injury is now considered unacceptable. Even minor or chronic injuries are viewed as unnecessary. In the past they were considered part of the job.

CAN WE MAKE MINING SAFER?

Improving safety is subject to the law of diminishing returns. Major gains in the last few years mean that preventing accidents and injuries today is getting harder and more sophisticated systems need to be developed and implemented. We now have many "off the shelf" systems which some mines have adopted successfully eg: NOSA, Dupont, Halo, Tripod and the NSCA 5 Star System.

However each one of these systems relies, to a major degree, on participation by the whole workforce. Without the commitment from the top and the active contribution of the employees none of these systems will work.

Over the last 7 - 10 years many other methods have been developed that systematically address hazards and their management in mining.

Some of these include:

- Risk assessment
- Hazard identification and control
- Job safety analysis
- Accident investigation

Each of the above methods is a tool that is available to managers, supervisors, and operators throughout the work force. These are *proactive* tools designed to prevent the hazard or uncontrolled energy from causing damage to people, equipment, or the environment, and to improving productivity. They use a participative approach, devolving responsibilities for identification and assessment to those most likely to be effected by the hazards. Controls are addressed by those most likely to have responsibility for approving and implementing measures.

This type of participative exercise extracts the knowledge and experience from many people who are familiar with a particular work situation. Often the use of a hazard analysis or risk assessment provides a great opportunity for a group of people with different interests and backgrounds to meet.

It is critical that the team consists of a balance of relevant expertise, as it is precisely the interaction between different perspectives that helps to elicit possible risks. The criteria for team membership should include objectivity, realism, commitment, and the awareness of potential hazards within their field.

SAFETY MANAGEMENT SYSTEMS

The implementation of Safety Management Systems (SMSs) is a requirement that has been generated by government initiatives. These initiatives are seen as a good thing by some, and as time consuming and ineffective by others.

Management Systems can be applied to a diverse range of subjects and may not necessarily be related totally to safety. SMSs need to be thorough, useful and understandable for all stakeholders. They should have a set of common standards to act as guidelines for their development and implementation and should, in practice, provide adequate, timely information and instructions to prevent major incidents.

To better understand the intent of **"Safety Management Systems"** we should clearly understand what the title means.

Stephenson, defines *Safety* as:

" Freedom from harm. **Safety** is achieved by doing things right the first time every time"

Vincoli, states:

"Safety cannot be achieved without firm management commitment, regardless of the nature of the business or industry". He goes on to mention that the *"primary importance in the management equation is that the decision makers must be fully aware of the risk(s) they are taking in making their decisions"*

Stephenson, also defines a *System* as:

" *A composite of people, procedures, plant and hardware working within a given environment to perform a given task"*

This can be best described in the diagram below:

THE SYSTEMS MODEL

THE NERTNEY WHEEL

The *Australian Standard 4804* defines an Occupational Health and Safety Management Systems (OHSMS) as:

A part of the overall management system which includes organisational structure, planning activities, responsibilities, practices, procedures, process and resources for developing, implementing, achieving, reviewing and maintaining the OH&S policy, and so managing the

OH&S risks associated with the business of the organisation. (Page 7, para 3.7)

BENEFITS AND DRAWBACKS OF SMSs

Usually the inevitable questions are asked.
* What sort of effort and commitment is required in the development and implementation of a SMS?

- Who should be involved?
- How much time will it take?
- How much will it cost?
- What do we get out of it?

For some, such processes seem to be all too much trouble. Encouraging managers to take the first step may be the hardest part of the process. Once the step has been taken however, there are some significant advantages in developing and implementing SMSs.

A well developed SMS:
- Allows for systematic planning for *emergency situations*
- Enables accurate and rapid decision *making processes to occur*
- Encourages involvement and ownership *from the workforce*
- Disseminates critical information
- Delineates roles and responsibilities
- Allows action triggers to be set

NORMAL AND EXTRA-ORDINARY MANAGEMENT

Normal management is the traditional hierarchical management process where one or two senior managers within the organisation make the major operational decisions. These decisions are then passed down through a structured line management to the operators. This type of management structure has total control over the operation, making rules, regulations and procedures and sets detailed budgets and so on.
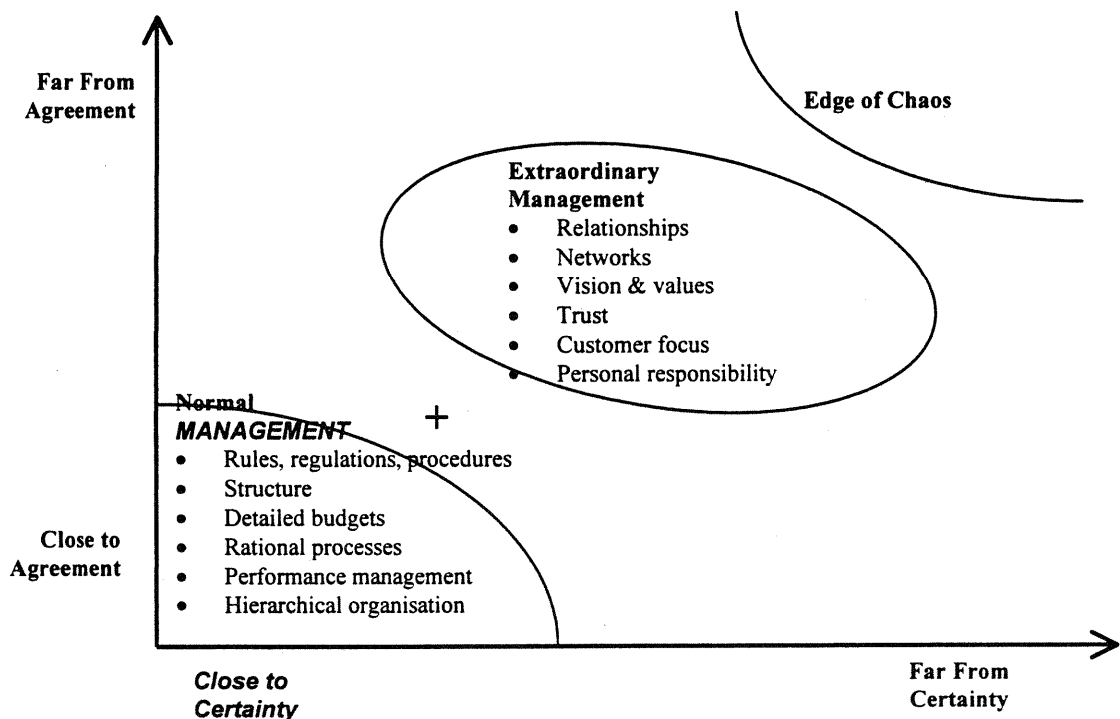
The normal management process is usually close to agreement and close to certainty with the workers and line management. The work processes are fixed and understood and any deviation from standard is easily identified.

Extraordinary management is a move away from the traditional management structure. It allows for employees to have input into the decision making process. It gives individuals personal responsibilities and accountabilities, develops relationships, trust, networking and enables visions, and values to be developed and followed.

This type of management structure is moving away from agreement and certainty and has higher risks associated with it. However if the two types of management structures can be combined (normal and Extraordinary). Then performance can be improved and in some cases measured.

There is of course a certain amount of danger in moving to far away from the normal management structure. If we move too far from agreement and certainty then we move towards the edge of chaos, where no decisions are made or the wrong people make the decisions. This could have a disastrous effect on any operation.

Normal and Extraordinary Management
Ralph D Stacey

Far From Agreement

Edge of Chaos

Extraordinary Management
- Relationships
- Networks
- Vision & values
- Trust
- Customer focus
- Personal responsibility

Normal MANAGEMENT +
- Rules, regulations, procedures
- Structure
- Detailed budgets
- Rational processes
- Performance management
- Hierarchical organisation

Close to Agreement

Close to Certainty

Far From Certainty

The development and implementation of SMSs is the opportunity for companies to move away from the *"normal management"* structure. A traditional structure where management made all the decisions and move towards *"extraordinary management"* where roles, responsibilities and accountabilities are shared between all levels of the organisation.

So back to the original question are "Safety Management Systems" **Friends or Foes?**

It seems that SMSs are the way of the future, organisations are adopting them, and legislation is pushing them and the system suppliers are well known. So why would a SMS be a foe ?

It is not that a SMS is in it's self a foe, after all, we all need friends. No one would be interested in encouraging a problem. *It's the way the SMS is done* that distinguishes whether it is friendly or not

WHAT ARE THE FRIENDLY THINGS WE WANT FROM A SMS?

- To prevent problems before they occur.
- To identify existing problems and to ensure that they don't get any bigger
- To have things in place to deal with foreseeable emergencies
- To have a process to learn from accidents
- To make sure that changes can be dealt with in timely manner and don't introduce new problems
- To be confident that the SMS is working at all times

WHAT ARE SOME OF THE FOES?

1. **Scaling problems,** trying to do too much or too little for the target organisation
2. **Resistance to change,** lack of recognition of need or a reluctance to do
3. **Wrong processes,** doing the wrong things
4. **Wrong application,** doing the things incorrectly
5. **Poor quality,** doing the right things in an ineffective or inefficient way

HOW DO WE CONVERT THESE FOES INTO FRIENDS?

1. **Scaling problems,** depends on management vision, understanding and commitment
2. **Resistance to change,** depends on culture and awareness of the implications, personal, group and organisation

3. **Wrong processes,** depends on matching available processes, tools and techniques to the needs of the organisation
4. **Wrong application,** depends on SMS complexity, education, training and experience
5. **Poor quality.** depends on measurable standards and regular auditing

CONCLUSIONS:

Safety Management Systems are becoming an integral part of safe mining operations. If they are developed for the right reasons, with input from all parties and are easily understood they should have a major impact on any operation. If they are developed merely to meet a legal requirement and then stuck on a shelf to be dragged out whenever a Mines Department Inspector arrives then one could question their value at all.

The advantages for a company or organisation to fully commit themselves to the development and implementation of a SMS seem quite obvious. The involvement of the workforce creates ownership, and improved communication between operators, line management and senior management. It is a pro-active tool used to prevent and/or identify problems as they arise.

There are arguments for and against SMS and the final decision lies with the senior management. If the decision is to develop and implement such a system, then a totally committed approach must be taken.

ACKNOWLEDGMENTS:

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