

TOP MANAGEMENT BEHAVIOURS – THE DETERMINING ROLE IN CHANGING SAFETY CULTURE

Mr Roderick Prior

Managing Director, SHExcellence CC, Johannesburg, South Africa

Abstract

Behavioural safety programmes have traditionally been focussed on employees engaged in, and close to the operating environment. Two significant South African chemical companies (African Explosives and Sasol Polymers) have undergone significant successful safety culture change programmes starting in the late 1990s. In both cases the role, involvement, and behavioural change of the senior management team was highly significant in achieving the change. The lack of safety involvement of top management in both a visible sense and in more hidden activities was highlighted as an issue in the HAZARDS VI SYMPOSIUM. Although the motivation for changing culture was very different for the two companies both approaches lead to substantial safety improvement. Practical examples of senior management change are given particularly in prioritising resource allocation and demonstrating commitment in public.

Safety, Behaviour, Management involvement, Culture

INTRODUCTION

Over the past 8 years two substantial South African chemical companies have undergone significant changes to their safety cultures and have demonstrated large improvements in safety performance.

AECI Explosives Ltd (now known as AFRICAN EXPLOSIVES LIMITED) has been manufacturing and selling commercial explosives for 106 years. The products manufactured in the period discussed in the paper comprised both traditional and modern explosives. These included products based on nitro-glycerine, ammonium nitrate, and emulsions. All explosive products have considerable hazards in manufacture and use. Expertise in making and using explosives requires a blend of experience and knowledge of chemical/physical/ engineering principles. African Explosives Limited (AEL) has its major manufacturing site at Modderfontein close to Johannesburg. The total employment was about 4500 people. The author held the positions of Production and Business Director for this company over a period of some 8 years.

POLIFIN LIMITED (now known as SASOL POLYMERS) is based on chlor-alkali technology and produces a variety of monomers and polymers, chlor-alkali products and mining reagents. It has four major production sites and employs about 4400 people. At the time of the initiation of a safety culture change POLIFIN was a joint venture between AECI Ltd and Sasol Ltd and was a separate listed company with considerable independence. The author of the paper is closely familiar with the change processes in POLIFIN and the role played by top management.

A framework for analysing and highlighting the role of senior management is outlined in the next section. In the description of the case studies many examples of visible and hidden behaviours of senior managers will be described and it is hoped that these will be of use to other managers.

FRAMEWORK FOR ANALYSING SAFETY AND HEALTH BEHAVIOURS

Safety management needs to be applied in three major areas for any operation i.e. plant (hardware), safety management systems, and people. In the people category a variety of safety and health behaviours involving all employees, including the most senior managers, is essential in improving safety performance and establishing a world-class safety culture. Ronny Lardner of the Keil Centre, Edinburgh has analysed these behaviours and pointed out that conventional behavioural safety programmes have focussed on the general safety behaviours of frontline personnel. Figure 1 describes the categories of behaviours.

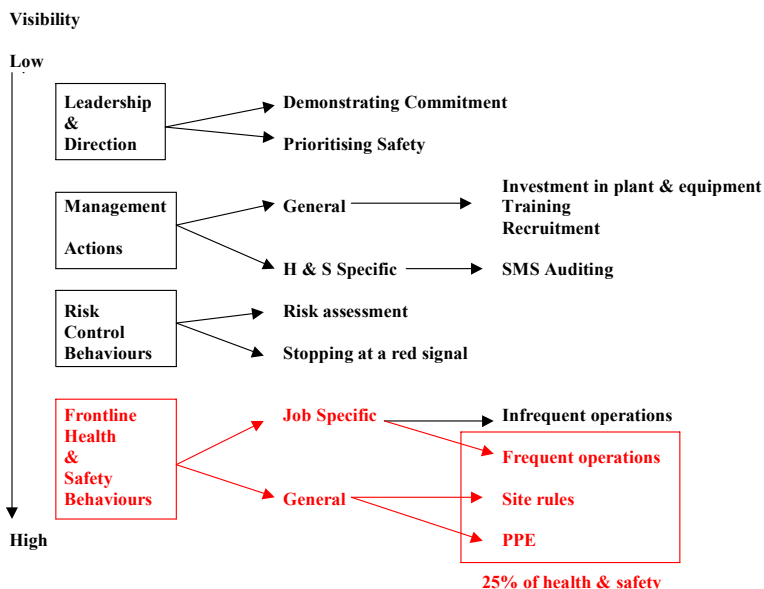


Figure 1. Categories of health and safety behaviours

In general there is no focus on top management behaviours. These can be visible and hidden. In the two South African case studies described in this paper, probably 75% of the employee population has been subjected to safety behavioural programmes. This is the reverse of the UK analysis as seen in the above figure. However the impact of top management behaviour, both positive and negative, has a multiplier effect of considerable magnitude. The above framework has been used to analyse the two companies from a top management safety behaviour perspective. Both companies feel that top management behaviour has been the determining role in changing safety culture and improving safety performance.

DRIVERS FOR CHANGE IN AEL

The parent company AECI and AEL, its explosives arm, have always been leaders in safety management in South Africa. Features of safety management in the 1980's and early 1990's were the reliance on the experience of many employees where service of 20/30 years was common. A lot of the good practice and standards stemmed from learning from accidents

and incidents. Worldwide sharing of safety experience is also common via various mechanisms. Training and retraining has also been very strong in AEL. Line management was held responsible for safety performance. Management involvement included setting targets, drawing up plans and doing occasional inspections.

Prior to 1993 the last serious accident had occurred in 1985. A steady improvement in accident rates was recorded over this period. In 1993 two serious accidents occurred involving 3 fatalities. These were investigated and plant specific improvements made but with no review of the entire safety programme.

A number of shortcomings were detected via audits in 1994 and management decided that a radical change was needed. To that end, visits to DuPont in the USA and ICI in the UK were undertaken to look at new approaches. Before changes could be implemented a major event involving the death of 8 employees in a nitro-glycerine plant changed the entire approach to safety. This watershed event had numerous serious consequences apart from the tragic deaths. These were:

- 3 Week strike
- Government inquiry
- Internal inquiry with Union representation
- Major impact on morale
- Company image and loss of business

Whilst the Government inquiry failed to establish a specific cause of the accident the impact of the event was such as to drive a massive improvement effort. It was felt that the basics of safety had to be re-established. Based on the investigation, ICI/AEL audits, and DuPont/ICI principles and practices, a comprehensive improvement plan was drawn up. This covered hardware, management systems and people aspects.

AEL SAFETY IMPROVEMENT PLAN – THE DUPONT INFLUENCE

The plan was detailed covering all aspects of safety improvement. Only those areas where top management involvement was significant will be covered in this paper. The DuPont experience was perhaps the most influential aspect of the thinking around change. Whilst much can be learnt from reading about their approach to safety, spending significant time in their operations enabled the author to have a clear vision of what '*world class*' safety looked like. The amazing consistency and apparent simplicity of the safety culture left an indelible impression. Time was spent at levels of the organisation to understand the DuPont approach.

DuPont had well designed plant and sophisticated safety management systems but the real difference in their safety performance stemmed from the people element. Safety was driven from the top and was seen as the prime business goal. A strong belief was developed that a similar culture could be developed in AEL over time.

INVOLVEMENT OF TOP MANAGEMENT IN SAFETY IMPROVEMENT IN AEL

A number of critical actions were agreed. These were:

- 1) Safety to be the dominant objective before production, costs etc. This was put in a policy document outlined in flow chart form. All employees were asked to hold

management accountable against this document. The document was put on all notice boards.

- 2) Line management, including directors, to be held fully responsible and to be involved in key activities
- 3) Safety auditing to be introduced – to be lead by senior line management
- 4) Full Union and employee involvement
- 5) Performance Management System to reflect at least 30% of the total score for safety performance
- 6) DuPont's STOP programme to be introduced

BEHAVIOURAL SAFETY CHANGES

It was made crystal clear to the entire company via briefs, discussions and illustrated in decision making that safety (SHE) was the primary objective of the company. SHE was the first item on all meeting agendas including Board meetings. Over time a change in safety orientation was seen to evolve at the highest level. At the Board level any proposal had to clear SHE hurdles before any further debate was allowed. Capital projects were closely scrutinised to ensure that SHE requirements were met and exceeded.

A system of safety auditing called active monitoring was put in place. This approach was based on quality management principles and had been successfully used in the Ardeer Factory of ICI Explosives. By auditing the inputs to the safety process like training, emergency procedures, PPE management etc safety effort can be proactive as opposed to the reactive approach of only focussing on incidents and accidents. Senior managers and specialists were trained in auditing principles and a 3-year plan put in place to audit all systems with the high priority systems tackled first.

Each senior manager, including Personnel, Finance etc lead monthly audits. By including all managers very strong team ownership of safety become apparent. Emphasis was placed on quick corrective action and close out of actions. A vast amount of work was created at the start of the audits but resources were deployed to complete the work. Often simple inexpensive measures were used. Credibility of the process was seen as of paramount importance. In leading the audits, management behaviour could be seen to emphasise that safety was a critical objective. Interaction with employees improved communication immensely. Coaching and influencing opportunities were found during the audits. A very large gap was found between what supervisors thought was happening and reality. The auditing performance of senior managers was reviewed monthly and results displayed publically. A sample is shown below in Figure 2.

Performance management at all levels and across all functions had safety as the dominant performance measure for all functions. In 1997 the Board of Directors refused a performance bonus because of a dip in safety performance.

AEL PROGRESS TO WORLD CLASS

Figure 3 illustrates performance over the past years.

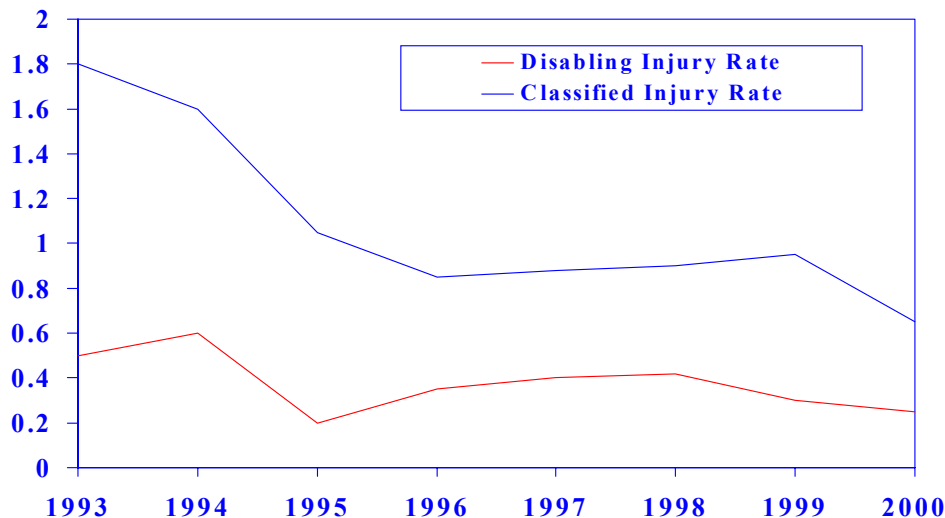


Figure 3. AEL safety performance

The integrated improved plan was implemented in late 1994 and continued over succeeding years. Old technologies were exited but the emphasis on people and particularly senior manager behaviour continued. It was evident to all that the safety culture of the company had changed significantly. An improvement in safety performance was seen almost immediately.

Some impressive achievements were noted. In the period 1997–1999 10 million man hours were recorded without a single Reportable Incident(3 day absence). This was achieved by the 3000 workers at the AEL Modderfontein Factory. This is comparable to some DuPont sites. In the period 1995–1997 Modderfontein was adjudged the best performing site in ICI Explosives(from about 20 sites worldwide).

POLIFIN: DRIVERS FOR CHANGE

In 1996 the top management team at POLIFIN decided to adopt a values driven approach to changing the company culture. This was seen as a necessary approach to meeting the needs of competing in the global markets and establishing a strong independent identity separate from that of its owners, AECI Ltd, SASOL Ltd. A vision of world class was adopted. Relevant shared values were needed to guide change and behaviours required to support the values. Following a consultative process with 500 employees 5 values were distilled. These were grouped under the headings of:

CUSTOMERS
PEOPLE (three values)
ENVIRONMENT

Sets of behaviours were developed to underpin the values and employees at all levels were required to interpret these for their own use. Under the PEOPLE banner one of the

values pertaining directly to safety stated '*we will work safely and provide safe working conditions*'. One of the supporting behaviours is to take personal responsibility for safety.

One of the major areas for improvement was POLIFIN's safety performance and the creation of a new safety culture was needed. In 1996 POLIFIN's Recordable Injury Rate was 3.5 and world class was judged to 0.6.

The values were seen as the vehicle to deliver a number of important business goals including safety and customer service. The values were seen to work together and a failure in one would impact on the others.

POLIFIN COMMUNICATIONS – TOP MANAGEMENT INVOLVEMENT

The roll out of the values involved a number of communication channels. In addition to the conventional approaches such as videos, newsletters, extensive use was made of industrial theatre. The videos and newsletters involved the Managing Director and other senior managers prominently as actors and contributors. This conveyed a strong sense of ownership by top management.

Industrial theatre is a well-known technique used extensively in South Africa by large companies to convey important concepts and messages to semi-literate and illiterate people. A play is acted out by professional actors. Humour, developed by negative role-playing, is the device used to make points and get messages across. POLIFIN's play "Tomatoes for Africa" ran to 54 performances across all the sites in 1997 and each one was hosted and facilitated by the relevant General Manager. The play highlighted, in a humorous fashion, safety issues such as training, right to refuse to work under unsafe conditions, looking out for colleagues' safety, taking short cuts and many others. The General Manager played a critical role in linking episodes in the play to the safety value.

LEOPARD PROCESS

In 1997 POLIFIN began the implementation of a behaviour based safety programme named LEOPARD using the BSTTM process. This was the first application in Africa. LEOPARD stands for '*Let Employees Observe Peers And Observe Deviations*'. Management at the highest level has driven the programme and total buy-in was obtained from the workforce. Identified behaviours are used to conduct peer-based observations on a no-name no-blame basis. This programme is still running and has made a significant impact on safety in POLIFIN.

POLIFIN: SPECIFIC SAFETY BEHAVIOURS OF SENIOR MANAGEMENT

A variety of behaviours have characterised management behaviour change in POLIFIN:

- General Manager sits in on all Lost Workday Case incident investigations
- Lead item at all business meetings
- SHE to be discussed at informal gatherings e.g. tea session at start of day
- Refusal to run plants with temporary labour if safety not guaranteed. (strikes)
- Demonstrate interest in people rather than the statistics. Focus on the person who got hurt.

- Talk about injuries rather than accidents. Want unhurt and healthy people to go home.
- Translate statistics into real life in a credible way e.g. What does a Recordable Injury Rate of 1 mean and is it acceptable?
- General Managers trained as observers in LEOPARD and do regular observations
- General Managers meets directly with safety representatives
- All plant safety meeting minutes signed off by GM
- Shut down of hazardous old units like Carbide Plant
- Senior Manager ejected from plant for not wearing PPE and voluntarily participating in a disciplinary enquiry. One rule for all.
- 3 Monthly management inspections of other areas.
- Sponsoring home safety seminars.
- Show caring for safety of employees in transit to work. R2 million bridge over road.
- R25 million spent on Sasolburg town infrastructure to improve traffic and pedestrian safety, Cows are a hazard.

The devastating impact of negative behaviour was also noted. A new manager with a different safety background put his public quote 'safety is costing us too much' into effect and the Departmental safety record deteriorated markedly with his employee's safety behaviours reverting to previous low standards.

POLIFIN: INCORPORATION OF SAFETY INTO THE BUSINESS MODEL

Some managers have incorporated safety into a business model so as to ensure it is not seen as an add-on. Figure 4 illustrates the model for a services department.

The values are linked to strategic focus areas. In turn the focus areas are developed into Key Performance Areas and Key Performance Indicators for individuals. A set of performance contracts exists from the Managing Director to first line supervision. This links the MD to the shop floor. Any significant decision in any of the strategic focus areas has to be tested against the requirements (and inherent values) of the other areas. Therefore SHE is considered in each decision.

RECOGNITION AND REWARDS

At the senior level up to 4% is available on safety performance. This comes out of a total of 15% incentive pay that is available. The award is based on Classified Injury Incidence Rate.

An innovative set of recognition awards is available via the POLIFIN '*Bateleur*' ceremony. Based on the '*Oscar*' awards the Managing Director awards the most deserving groups prizes in various categories relating to the 5 values. In addition to the team safety award other business team awards include safety as one of the criteria.

IMPROVEMENT IN POLIFIN SAFETY PERFORMANCE

The accident record for the past 8 years is shown in the figure below.

A sharp improvement is evident from 1996 to 1998 and following a deterioration in 2000 the trend is again down. The early improvement is attributed to the values programme and the later improvement due to applying the BSTTM process more rigorously as well as the developing safety culture.

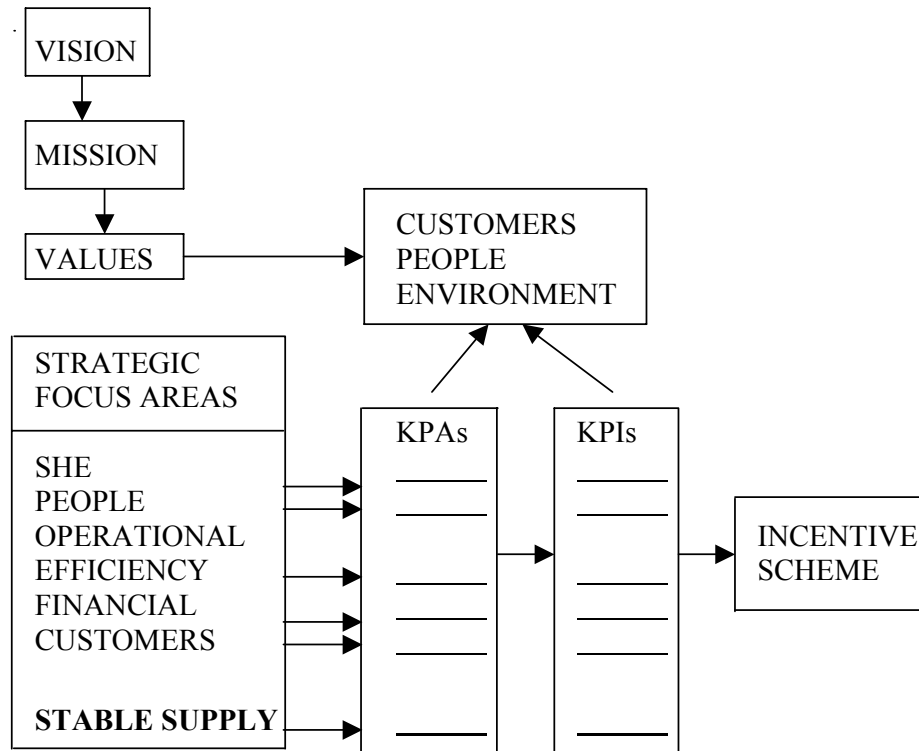


Figure 4. POLIFIN business model incorporating safety

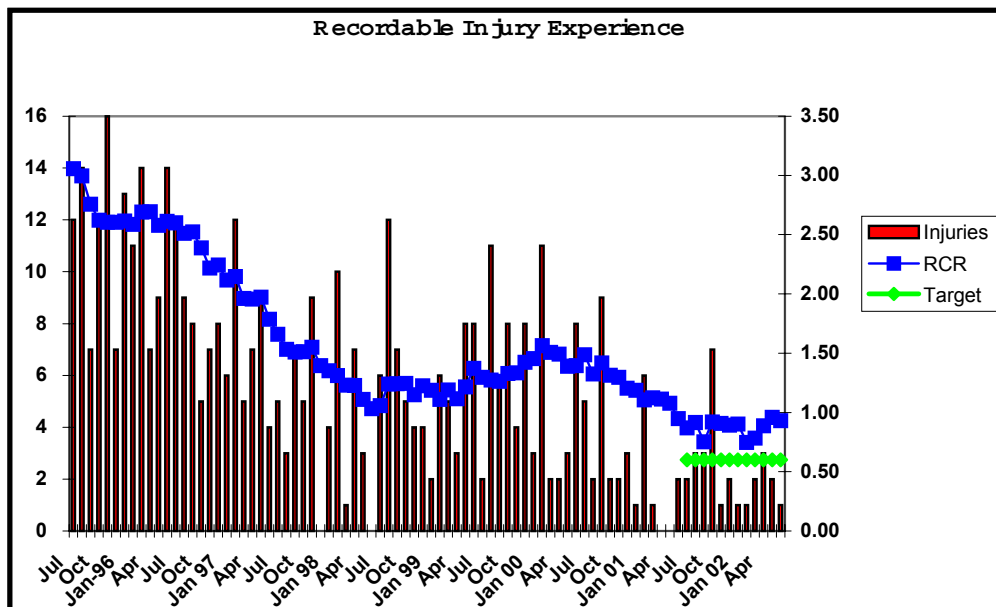


Figure 5. Poli fin recordable experience 1996–2002

CONCLUSIONS

All employee behaviours are important in developing and maintaining an effective safety culture. It is clear that the safety behaviour of senior management is critical in improving and attaining world-class safety standards. Both positive and negative behaviours have a '*multiplier*' effect because of the role model status of persons having authority and the ability to direct resources to different strategic areas. Negative behaviour can have a particularly devastating effect on safety culture and performance.

In the case study of the two South African chemical companies senior management played a determining role in initiating and sustaining safety changes. Their role was not part of a conventional safety behavioural programme. The role evolved out of best practices seen in world-class companies and the application of common sense. Many examples have been quoted in the paper both of hidden and visible behaviours. It is hoped that these will assist other senior managers to demonstrate their commitment in a concrete fashion.

In changing a safety culture in a company, attention needs to be paid to all levels of employees including those at the very highest level. With creative thought and lessons learnt from others meaningful change can involve everybody. Top management, in demonstrating that it can change behaviour, creates a powerful base for corporate behavioural change.

ACKNOWLEDGEMENTS

This paper was made possible with the support of African Explosives Limited and Sasol Polymers in the interests of sharing safety information. In particular Dr G. Edwards and Mr T. Munday were particularly helpful.

Mr R. Lardner of the Keil Centre kindly gave permission to use the diagram illustrating Categories of Critical Health and Safety Behaviours.

APPENDIX 1

AECI Explosives Limited—Excellence in SHE Behaviours for Managers and Supervision

KEY AREA 1 - SETTING THE STANDARD

Sets unambiguous high standards and follows them without compromise. Standard has been defined, relevant documents can be produced. Manager can describe supporting actions.

MANAGEMENT/SUPERVISOR BEHAVIOURS

VEHICLES

- Always wears seatbelt and checks others wear theirs
- Drives in a safe manner demonstrating defensive driving skills
- Observes speed limits and other regulations

OFFICE

- Never walks past a trip hazard
- Office materials in a safe and stable position

- Proper use of office furniture
- Holds onto handrail when going up or down stairs
- Stops others carrying out unsafe or unhealthy acts
- Talks about SHE and communicates SHE news with high priority
- Takes a positive interest in checking office safety e.g. SHE policy posted, fire wardens, safety meetings

ON SITE

- Discusses SHE issues with employees
- Wears PPE and asks for if not offered
- Asks about emergency procedures if not told
- Reviews the safety reporting systems and asks about progress
- Compliments good work
- Does not walk past deviations and checks action is being taken
- Gives immediate feedback to local management on observations

KEY AREA 2 - COMMUNICATION

The manager/supervisor will be accessible to all employees on SHE issues and will ensure that the team maintains a high level of accessibility to employees. He will check on a regular basis that there is an open and multilateral communication process in operation. Employees will be able to tell you what the GM expects.

MANAGEMENT/SUPERVISOR BEHAVIOURS

- Employees can tell you who the manager/supervisor is
- Employees can describe the current business performance is, including SHE goals
- Employees can correctly outline the priorities
- The manager/supervisor can describe the current employee concerns
- The local manager can demonstrate that there is an effective process to report to them all reportable SHE issues on the same day
- The local manager personally reports all such incidents to his superior
- Uses attitude surveys
- Is there active fostering of employee involvement at all levels and encourage full empowerment of all employees

KEY AREA 3 – RESPONSIBILITY AND ACCOUNTABILITY

The manager/supervisor will ensure that there are effective processes to enable each person to understand the scope of their responsibility and that the person is competent to fulfil the job requirements.

MANAGEMENT/SUPERVISOR BEHAVIOURS

- SHE targets are included in personal objectives and are subject to review through the performance management system
- The incumbent always follows the reward and disciplinary system
- Employees feel able to stop activities for SHE reasons irrespective of short-term business needs
- Is it apparent that SHE management competency is taken into account when selecting employees for new positions ?
- The manager/supervisor will always ensure that the SHE requirements are fully addressed in the development, evaluation and approval of all changes
- The manager/supervisor ensures that equipment is maintained fit for purpose

KEY AREA 4 – AUDITING/COMPLIANCE

The manager/supervisor ensures that audit processes are in place to give assurance that requirements are being met.

MANAGEMENT/SUPERVISOR BEHAVIOURS

- The manager/supervisor can demonstrate understanding of SHE policies/standards
- The manager/supervisor can describe the audit process for the unit
- The manager/supervisor can describe the review process for maintaining the improvement plans and taking of corrective action
- Has easy access to SHE data
- Can describe examples of where deviations found
- SHE items are the first item on business meeting agendas