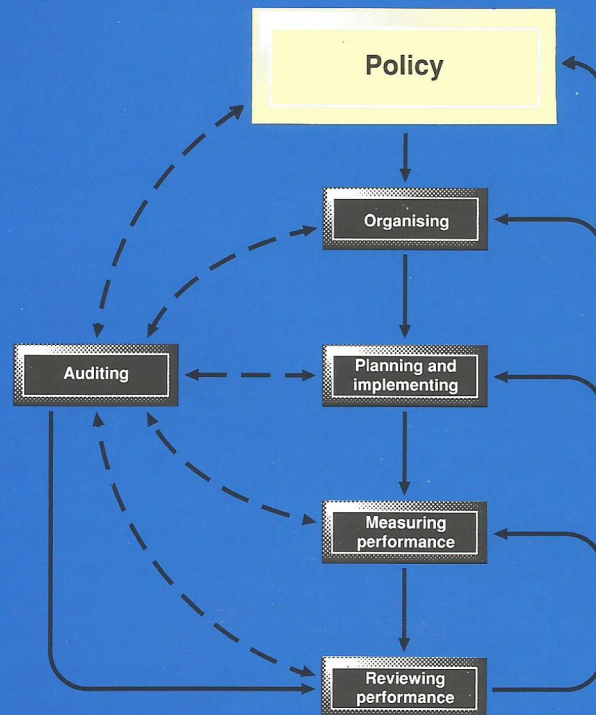


2

EFFECTIVE HEALTH AND SAFETY POLICIES



Synopsis

This chapter outlines the characteristics of effective health and safety policies and demonstrates how they can contribute to business performance by:

- supporting human resource development;
- minimising the financial losses which arise from avoidable unplanned events;
- recognising that accidents, ill health and incidents result from failings in management control and are not just the fault of individual employees;
- recognising that the development of a culture supportive of health and safety is necessary to achieve adequate control over risks;
- ensuring a systematic approach to the identification of risks and the allocation of resources to control them; and
- supporting quality initiatives aimed at continuous improvement.

EFFECTIVE HEALTH AND SAFETY POLICIES

The health and safety policies adopted by organisations achieving high standards of health and safety display a number of common characteristics which reflect the values and beliefs of those who devise and implement them. This chapter identifies the main characteristics of successful policies. Each section includes statements which aim to sum up the beliefs which underlie each characteristic. These statements are typical of the views expressed by these successful organisations.

The importance of people to the organisation

Work can make a positive or a negative contribution to a person's health. When people are exposed to danger (for example, in the form of exposure to chemicals, certain repetitive tasks or a risk of falling) physical and mental health may suffer. In the absence of danger, when people are interested and involved in their work, satisfaction and enjoyment are increased and improvements in health and wellbeing can result. This spectrum is illustrated in Diagram 2.

Underlying belief
*people
are our most
important
asset*

The activities of organisations successful in health and safety management recognise this relationship between controlling risks and general health. Their health and safety policies are aligned with other human resource management policies designed to secure the commitment, involvement and wellbeing of employees. This includes things such as the restructuring of jobs to reduce monotony and increase flexibility, and health promotion campaigns which encourage healthy eating and exercise. In some cases organisations educate their employees about dangers in the home as part as an off-the-job accident prevention policy.

The best health and safety policies are concerned not only with preventing injury and ill health* (as required by health and safety legislation), but also with positive health promotion which gives practical expression to the belief that people

ACCIDENT RATIO STUDIES

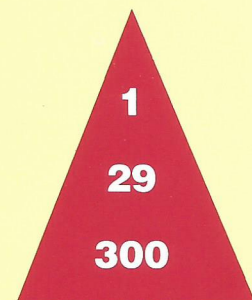
Several studies have been undertaken to establish the relationship between serious and minor accidents and other dangerous events. The results of three such studies are summarised here. The most significant conclusions which can be drawn from this research are that:

- although the detailed findings of the studies were different because of the definitions and accident data used, each study demonstrates a consistent relationship between the different kinds of event. There are consistently greater numbers of less serious events taking place than the more serious events;
- as it was often a matter of chance whether dangerous events caused ill health, injury or damage, the 'no injury' incidents or 'near misses' in each case had the potential to become events with more serious consequences. However, not all near misses involve risks which might have caused fatal or serious injury;
- all the events (not just those causing injuries) represent failures in control and were therefore potential learning experiences through which improved control could have been established;
- effective health and safety policies will therefore have to examine **all** unsafe events and the behaviours which give rise to them, both as a means of establishing control and as a means of measuring performance.

Heinrich (1950)

From data available to him on the frequency of potential injury accidents Heinrich estimated that in a unit group of 330 accidents of the same kind and involving the same person there would be:

- 1 major or lost time injury
 - 29 minor injuries
 - 300 no injury accidents
- (*Industrial accident prevention*
3rd edition - Heinrich 1950.)



* For definition see Appendix 1

are a key resource. They recognise that progressive human resource management policies can be undermined by weak health and safety policies. The provision of more rewarding and satisfying jobs will not convince people that management are concerned for their wellbeing if injuries and ill health continue to be a by-product of those jobs.

The ultimate goal is an organisation in which accidents and ill health are eliminated, and in which work forms part of a satisfying life, contributing to physical and mental wellbeing, to the benefit of both the individual and the organisation. This reflects not only a desire to behave ethically and responsibly, but also a recognition of the positive benefits which can accrue from a fit, enthusiastic, competent and committed workforce.

This integrated approach, in which the needs of people and the prosperity of the organisation go hand in hand, extends to people outside the organisation, in policies for the control of off-site risks, environmental pollution and product safety.

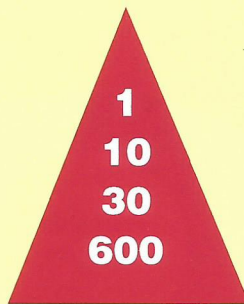
Avoiding loss - The total loss approach

Underlying belief
*the preservation
of human and
physical resources is
an important means
of minimising costs*

The costs of injuries and ill health are only one component of unwanted happenings which result in unnecessary financial losses. Accidental damage to property, plant or products also imposes costs. The lower half of Diagram 2 (page 8) outlines the range of losses and the potential benefits of good loss control.

Under the total loss approach, accidents are taken to include not only those circumstances which actually cause ill health or injury, but also every event involving damage to property, plant, products or the environment, production losses, or increased liabilities. The total loss approach is based on research into accident causation which is summarised in Inset 1. This indicates that there are many more

OUTLINE OF THREE ACCIDENT RATIO STUDIES



Bird (1969)

From an analysis of 1 753 498 accidents reported by 297 co-operating organisations in the USA, representing 21 different types of occupational establishment and employing 1 750 000 people who worked more than 3 billion man hours during the exposure period analysed, F E Bird Jnr drew up the following ratio:

- 1 serious or disabling injury
- 10 minor injuries (any reported injury less than serious)
- 30 property damage accidents (all types)
- 600 incidents with no visible injury or damage.

(*Practical loss control leadership* - F E Bird Jnr and G L Germain 1985.)

Tye/Pearson (1974/75)

Based on a study of almost 1 000 000 accidents in British industry Tye and Pearson drew up the following ratio:

- 1 fatal or serious injury
- 3 minor injuries - when the victim would be absent for up to 3 days
- 50 injuries requiring first-aid treatment
- 80 property damage accidents
- 400 non-injury/damage incidents or 'near misses'

(*Management safety manual* - British Safety Council 5-Star Health and Safety Management System.)

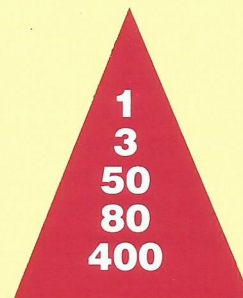


Diagram 2 Spectrum of occupational health



Losses expressed by:
 Ill health and injuries,
 Damage to property, plant, products and the environment,
 Loss to process and increased liabilities.

Positive benefits expressed by:
 Reduced absenteeism,
 Improved job satisfaction,
 General health and efficiency arising from increased commitment co-operation and competence.

'incidents' or near-miss events than those which cause injury or property damage. The examination of the causes of all such loss events can provide valuable insights into inadequacies in risk control and action which could prevent future injuries or losses. For example, if a man slips on a patch of spilled oil, he may be unhurt, he may damage clothing or equipment, he may break his arm or he may fracture his skull and die. Effective prevention and loss control must focus on the **cause** of the accident not its results. The consequences of accidents are often matters of chance over which there can be little control.

INSET 2

HUMAN FACTORS IN INDUSTRIAL SAFETY

The diagram illustrates the relationship between the three factors which influence behaviour in organisations.

Organisational factors have the major influence on individual and group behaviour, yet it is not uncommon for aspects of the organisation's influence to be overlooked during the design of work and in the investigation of accidents and incidents. Organisations need to establish their own positive safety culture and a climate which promotes employee involvement and commitment at all levels, emphasising that deviation from established safety standards is unacceptable.

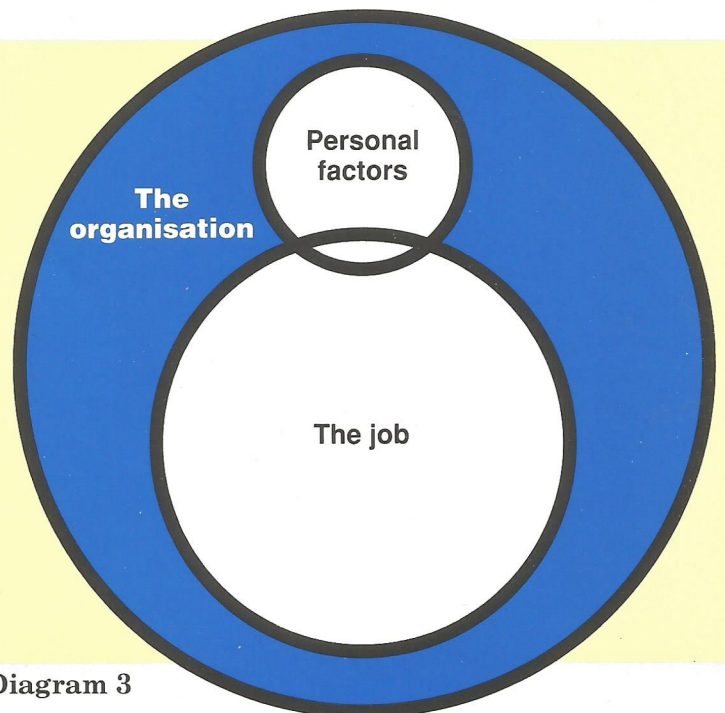


Diagram 3

The total loss approach therefore emphasises learning from both accidents **and** incidents to achieve effective control. It involves drawing lessons both from within the organisation (including all sites) and from other organisations. The emphasis is on preventing accidents by identifying risks and the sources of potential ill health, injury or loss. Investment in the reduction of losses contributes directly to profits and is cost effective, particularly at times of high competition when it may yield a better return than a similar investment to improve sales and market share. A number of organisations have publicly stated their belief in the cost effectiveness of their accident prevention and health promotion strategies (see references 8, 9 and 10, page 14). Preliminary results from studies of the costs of accidental loss currently being undertaken by HSE confirm their commercial significance.

Accidents are caused by the absence of adequate management control

Accidents, ill health and incidents are seldom inevitable random events. They generally arise from failures in control and often have multiple causes. Although the immediate cause of an event may be a human or technical failure, such events

Underlying belief

the majority of accidents and incidents are not caused by 'careless workers', but by failures in control (either within the organisation or within the particular job), which are the responsibility of management

usually arise from organisational failings which are the responsibility of management. Successful policies place heavy emphasis on achieving effective control over both people and technology. They aim to exploit the strengths of employees while minimising the influence of human limitations and fallibilities through the way the organisation is structured and the way jobs and systems are designed.

Critical to this approach is an understanding of how 'human factors' affect health and safety performance. This is explained in the Health and Safety Executive publication, *Human factors in industrial safety*, which also contains guidance on the development of suitable control strategies based on a systematic approach (see reference 3, page 14). There are three key areas of influence on behaviour - the organisation, the job and the person - see Inset 2.

Job factors directly influence individual performance and the control of risks. Tasks should be designed according to ergonomic principles to take account of the limitations of human performance. Mismatches between job requirements and individuals' capabilities increase the potential for human error. Matching the job to the individual ensures that people are not overloaded and this contributes to consistent performance. Physical matching includes how the whole workplace and the working environment are designed. Mental matching involves taking into account the individuals information and decision-making requirements as well as their perception of the task. Mismatches between job requirements and individuals capabilities increase the potential for human error.

Personal factors - the attributes which employees bring to their jobs - may be strengths or weaknesses in relation to the demands of a particular task. They include both physical attributes (such as strength and limitations arising from disability or illness) and mental attributes such as habits, attitudes, skills and personality which influence behaviour in complex ways. Negative effects on task performance cannot always be mitigated by job design solutions. Some characteristics such as skills and attitudes, are amenable to modification or enhancement through training and experience; others, such as personality, are relatively permanent and incapable of modification within the work context. People may therefore need to be matched to their jobs through appropriate selection techniques.

* From *Human factors in industrial safety* (see reference 3, page 14).

The importance of organisational factors

The creation of an effective organisation for health and safety is central to the successful management of risks and the reduction of injuries, ill health and losses.

Underlying beliefs

health and safety is a management responsibility of equal importance to production and quality

effective control of health and safety is achieved through co-operative effort at all levels in the organisation

It should be designed to maximise the contribution of individuals and groups through participation at all levels. A positive health and safety culture needs to be

effective health and safety management is not 'common sense' but is based on a common understanding of risks and how to control them brought about through good management competence in managing health and safety is an essential part of professional management

developed in which health and safety objectives are regarded by all as aligned to other business goals. This can only happen through the active and continued commitment of senior managers and directors who, in their individual behaviour and management practice, effectively communicate the beliefs which underlie the health and safety policy. Health and safety is regarded as a boardroom issue, with a board member taking direct responsibility for the co-ordination of effort. The whole organisation comes to share management's perception and beliefs about the importance of health and safety and the need to achieve the policy objectives which have been established and communicated.

A systematic approach

Planning is critical to effective policy implementation. The aim is to apply the logic and rigour of business planning to the identification and control of risks. Analysis and appropriate procedures ensure the systematic identification of risks and the establishment of objectives and performance standards. Risk assessment techniques enable resources to be properly allocated and priorities for action to be set. Structured monitoring arrangements allow performance against plans to be measured objectively.

Underlying belief
all accidents, ill health and incidents are preventable

Organisations achieving high standards of health and safety spend more resources on the control of health and safety risks than the average, but consider that this expenditure is cost effective in terms of improved performance. The extent to which health and safety thinking is reflected in business activity and decision making is an important determinant of effectiveness. The practical implications of health and safety policies are thought through so as to avoid conflict between the demands of policy and other operational requirements. The consequences of failing to do so are illustrated in the extreme case by disasters such as the sinking of the Herald of Free Enterprise, the train crash at Clapham Junction and the fire and explosion on Piper Alpha. In these cases management decisions where insufficient attention or weight was given to health and safety led to:

- unrealistic timescales for the implementation of plans which put pressure on people to cut corners and reduce supervision;
- work scheduling and rosters which failed to take account of the problems of

- fatigue;
- inadequate resources being allocated to training;
- organisational restructuring which placed people in positions for which they had insufficient experience;
- jobs and control systems which failed to recognise or allow for the fact that people were likely to make mistakes and might have difficulties communicating with each other.

An outline of how effective health and safety policies should impact on various aspects of business thinking is given in Inset 3.

THE IMPACT OF EFFECTIVE HEALTH AND SAFETY POLICIES ON BUSINESS THINKING

The following areas of business thinking are amongst those which are influenced by effective health and safety policies:

Corporate strategy and social responsibility

- business mission, philosophy and codes of ethics;
- company image in the community;
- policy on environmental impact;
- management professionalism (for example, the application of the Management Charter Initiative (MCI) competences).

Finance

- loss control and cost reduction strategies;
- aspects of non-speculative risk management, such as product liability, security, property damage, and the consequential potential for financial loss and legal liability;
- decisions on loss reduction, risk retention or transfer, risk funding and insurance;
- investment decisions concerning business acquisitions and new premises, plant and processes;
- general financial planning and budgetary control.

Human resources

- recruitment, selection, placement, transfer, training, development and learning;
- structuring of the organisation to promote a positive health and safety culture;
- work and job structuring to achieve participation and involvement;
- health promotion activities;
- communications.

Marketing, product design and product liability

- specification of product and service health and safety standards;
- national legal requirements, for example, Section 6 of the Health and Safety at Work etc Act 1974;
- international requirements such as EC directives;
- national and international consensus standards, for example, British Standards, ANSI and ISO Standards;
- the Consumer Protection Act in the case of products for domestic use.

Manufacturing and operating policy

- design/selection/construction/maintenance of premises, plant, equipment and substances;
- design of jobs and the application of ergonomic principles and appropriate strategies for risk elimination, reduction and control;
- quality management;
- environmental management and waste disposal.

Information management and systems

- the identification of data critical to the management of health and safety;
- the selection of appropriate performance indicators;
- the use of information technology in the collection and analysis of essential data.

Another essential element of the systematic approach is commitment to continuous improvement. Striving to improve the health and safety management system is an important element in the improvement and maintenance of high standards. Learning from experience is essential. Failure to do so can lead to tragedy, as illustrated in the Clapham and Herald of Free Enterprise disasters mentioned earlier. In each case previous incidents had given warning of the potential for serious injury. Experience should influence the development of both policies and more effective techniques of implementation. This requires regular detailed reviews of performance against plans, and regular audits of the whole health and safety management system.

Safety and quality

There are considerable similarities between the approaches to health and safety described in this chapter and those advocated for effective quality management. The adoption of quality management systems will not automatically lead to high standards of health and safety in all areas (for example, compliance with British Standard 5750 should lead to the manufacture of products which are free from health and safety risks, but will not necessarily lead to good standards of health and safety in the production process). The principles of good health and safety management and good quality management are, however, the same.

Underlying belief
*health and safety,
and quality,
are two sides
of the
same coin*

There is increasing recognition that a developed approach to quality is an essential feature of a successful organisation, not an optional extra. The emphasis is on 'managing quality in' rather than 'inspecting defects out'. Those organisations which have adopted this approach and applied it to their health and safety management systems, often as part of a total quality management (TQM) philosophy, achieve particularly high standards of health and safety performance.

The TQM approach seeks to promote continuous improvement in all aspects of an organisation's activities. As the term 'total quality' would imply, the ultimate goal for health and safety is an injury-free working environment, and this is the target which a number of organisations have set themselves. Such organisations are not acting out of purely philanthropic motives. They have clearly recognised that accidents and ill health cost money and that an effective system for managing health and safety will help reduce what in quality terms is known as the 'cost of non-conformance'.

Success in quality management requires the development of supportive organisational cultures. The TQM philosophy stresses the importance of the active involvement of all employees in the quality process. Organisations which are successful in the management of health and safety go to great lengths to develop a positive safety culture on the same basis.

In the chapters which follow, the similarities and strong links between total quality management and effective health and safety management will become increasingly apparent. Readers whose organisations are already committed to TQM will find that the recommended approaches are not unfamiliar and should be able to see how they could readily be adopted within their organisation.

SUMMARY

Effective health and safety management demands comprehensive health and safety policies which fulfil the spirit and the letter of the law, which are effectively implemented and which are considered in all business practice and decision making.

Organisations achieving high standards of health and safety develop policies which recognise:

- that health and safety can contribute to business performance by preserving and developing human and physical resources, by reducing costs and liabilities and as means of expressing corporate responsibility;
- that leaders must develop appropriate organisational structures and a culture which supports risk control and secures the full participation of all members of the organisation;
- the need to resource and plan policy implementation adequately;
- that the only effective approach to injury, ill health and loss prevention is one based on the systematic identification and control of risk;
- the need for the organisation to develop an understanding of risk control and to be responsive to internal and external change;
- the need to scrutinise and review performance so as to learn from experience;
- the connection between quality and health and safety.

FURTHER READING

- 1 *Developing a safety culture: Business for safety* CBI 1990 ISBN 0 85201 361 2
- 2 *Practical loss control leadership* Bird FE and Germain GL International Loss Control Institute 1986 Loganville, Georgia, Institute Publishing ISBN 0 88061 054 9
- 3 *Human factors in industrial safety* HSE HS(G) 48 HMSO 1989 ISBN 0 11 885486 0
- 4 *A manager's guide to reducing human errors: improving human performance in the chemical industry* 1990 Chemical Manufacturers Association Inc, 2501 M Street NW, Washington DC 20037
- 5 *Managing occupational health and safety (OHS) Management Checklist No H3.* British Institute of Management 1990
- 6 *The management of health and safety* HSE Accident Prevention Advisory Unit, Industrial Society Notes for managers series 1988 ISBN 0 85 290409 6
- 7 *Risk management - practical techniques to minimise exposure to accidental losses* Jardine Insurance Brokers Ltd 2nd edition Kogan Page 1988 ISBN 1 85091 351 X
- 8 *Health care management: a tool for the future* Dees JP and Taylor R *AAOHN Journal* Feb 1990 Vol 38 No 2 52-58
- 9 *Safety at DuPont, a cost benefit study* Crunk J via: DuPont De Nemours (Deutschland) GmbH, Safety Management Services, Europe Postfach 1393, 4700 Hamm 1
- 10 *Safety program payoff* Witter RE *Plant Operations Progress* July 1982 Vol 1 No 3 139-141