

Mechanical Engineering Group.
Health and Safety Audit.
Revision of Safety Regulations and
Actions Pending.

Kevin Dee June 20 1998

Foreword

The ING's safety policy correctly states that health and safety is a line management function. It is my responsibility to ensure that the required health and safety standards are achieved within our group.

This document contains information, which is most relevant to our business, about acts, regulations, guidelines and codes of practices with regard to health and safety. Use it in the first instance as a revision document. Once you have read through the pages I will call a meeting to discuss the production of the mechanical engineering group safety policy document. This document is supplementary and additional to the ING safety policy.

The document will contain specific information e.g.

- Mechanical Group Health & Safety Responsibilities.
- H & S documentation location and filing system.
- ING Mechanical Handling Policy.
- ING Mechanical Workshop Policy.
- ING Welding Policy
- ING Working at Heights Policy
- ING Working on large rotating machinery Policy

Any items that require clarification should be brought to the attention of the safety advisor and myself e.g. finding the equivalent act or regulation in Spain. Although this problem is diminishing as EU directives are providing a common health and safety framework.

Health and Safety Policy Action Pending

The following list identifies the areas we will address please add to the list any areas that are relevant to health and safety which are not listed.

- **Mechanical Group Safety Policy**
 - General Statement of group Philosophy
 - Details of Responsibilities within group.
 - Risk Assessments.
 - Arrangements to control risks.
- **Mechanical Operations.**
 - Safe Use of Ladders.
 - Manual Handling.
 - Working at heights.
- **Mechanical Handling.**
 - Level 1 and level 2 users.
 - Cranes, hoists and lifting equipment
 - Maintenance and Inspection
- **Mechanical Workshop**
 - Controlled Access
 - PPE Enforcement
 - Abrasive Wheels Act
 - Machine Tool Guarding
 - Displaying of all Relevant safety notices
- **Permits to Work**
 - Hot Work Permit
 - Dome and Shutter Permit
 - Hydrostatic Bearings (INT)
- **Transport Maintenance**

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1. Health and Safety

1.1 Law

1.1.1 Statute Law

Made by Acts of parliament e.g. Health and Safety at Work Act 1974. Factories Act 1961.

Regulations, orders and Rules are made under the act, .(Made by the Secretary of State acting on proposals made by the Health and Safety Commission) supported by **Approved codes of practice** and **Guidance notes** which are issued by the HSC & HSE as opinions on good working practices.

1.1.1.1 Types of Statutory Law

Absolute Duty (Strict Liability)

There are circumstances when the risk of injury is so high that an absolute duty is placed on an employer to take specific steps to control the hazard. The words *shall* or *must* are contained in specific acts and regulations and failure to comply can lead to prosecution.

e.g. Risk assessments, competent persons.

Practicable Duty

Some regulations specify steps must be taken “**so far as is practicable**”. Practicable means something less than is physical possible e.g. keep an area around a machine clear and unobstructed “so far as is practicable” to enable work to be carried out without risk to the employee.

Reasonably Practicable

“**So far as is reasonably practicable**” It allows the employer to balance the cost of taking action against the risk being considered. If the risk is insignificant against the cost, then steps need not be taken. Reasonably practicable steps are those which are best under the circumstances.

1.1.2 Common law

As a result of cases which have been decided over the years, there is now a body of precedents which defines the duties of both employers and employees at common law. The employer must take reasonable care to protect his employees from risk of foreseeable injury, disease or death at work by the provision and maintenance of a safe place of work, a safe system of work and reasonably competent fellow employees.

- Based on judicial precedent
- Involves a duty of care
- Breach of statutory duty can usually establish a breach of general duty.
- Defences can be based on:
 - Lack of duty
 - Lack of negligence
 - Sole fault of injured person
 - Contributory negligence
 - Voluntary acceptance of risk

1.2 The Health and Safety at Work Act 1974

Applies to people rather than premises and therefore covers all employees in all employment situations. At a stroke, the Act removed all problems of interpretation as to whether or not certain premises were or were not a factory, a shop, an office, etc. The nature location of work was irrelevant. Approximately 8,000,000 people immediately became subject to protective legislation.

1.2.1 Basic Aim

To increase awareness of health and safety issues and promote a greater emphasis on personal involvement and responsibility for health and safety in the workplace.

1.2.2 General Requirements

- 1.To ensure the health, safety and welfare of all employees. To be more specific, health includes mental as well as physical health and safety refers to the absence of any foreseeable injury. Welfare includes, in particular, such things as an adequate water supply, sanitary conveniences, first aid arrangements and refreshment facilities.
- 2.To protect persons other than employees from risks at work (ie: persons living or working near the business or those entering the premises in the course of business).
- 3.To control dangerous substances (explosive, toxic or highly flammable, etc) in terms of their acquisition and use.
- 4.To control emissions into the atmosphere from the workplace.

1.2.3 Specific Requirements

- 1.To provide and maintain plant and systems of work that are safe and without risks to health e.g.: the provision of machinery, equipment or appliances with a maintenance system to ensure they are fit for use.
- 2.To ensure that safety and absence of risks to health in connection with the use, handling and storage of articles and substances. Eg: The provision of protective clothing, equipment and tools. The organisation of safe handling techniques taking account of excessive loads and dangerous parts, etc. Storage facilities must be safe, eg: proper racks provided etc. Items must be safely packaged.
- 3.To provide information, instruction, training and supervision as is necessary to ensure the health and safety at work of all employees.

4.This information must be given to employees about the hazards involved in working situations and the precautions taken to avoid them.

N.B. There are a number of statutory provisions which require that employees provided detailed information for specific hazards,

These include:

- **Management of Health & Safety at Work Regulations 1992.**
- **Personal Protective Equipment at Work Regulations 1992.**
- **Health & Safety (Display Screen Equipment) Regulations 1992.**
- **Provision and Use of Work Equipment Regulations 1992.**
- **Noise at Work Regulations 1989.**
- **Control of Substances Hazardous to Health Regulations 1994.**
- **Control of Asbestos at Work Regulations 1987.**
- **Control of Lead at Work Regulations 1980.**
- **Safety Representatives and Safety Committee Regulations 1997.**

5.The maintenance of any place of work in a safe condition and the provision and maintenance of means of access and exit. ie. stairways, pavements and doors, etc., must be kept safe and clear of obstacles.

6.The provision and maintenance of a safe working environment, including the provision of adequate facilities and welfare arrangements. Eg: The working environment refers to the control of noise, fumes, dust, seating and lighting, etc. Welfare and facilities refer to toilets, washing facilities and cloakroom arrangements, etc.

7.Every employer shall prepare and keep updated a written statement of his safety policy.

8.Every person having control of any premises shall prevent emissions of noxious or offensive substances.

Enforcement Of The Act

A breach of the Act can be dealt with in two ways. First there are powers given to inspectors to issue enforcement notices (either an improvement or prohibition notice) or to seize and destroy. Second, a prosecution may take place in respect of the commission of a criminal offence.

N.B. It is not only the employers, but also the employees who are liable. For example, if an employee refuses to wear personal protective equipment or causes injury through negligence, they are also liable to conviction.

1.3 Management of Health and Safety at Work Regulations 1992

The major piece of EC legislation relating to health and safety is the "Framework" Directive which introduces measures to encourage improvements in the health and safety of workers at work (ie the prevention of occupational risks, protection of safety and health and the elimination of risks).

The major Regulations giving effect to the Framework Directive are the Management of Health and Safety at Work Regulations 1992 (SI 1992 No. 2051). These Regulations are supported by an Approved Code of Practice (ISBN 0 11 886330 4) and require that every employer shall:

1.3.1 Regulation 3 - Risk Assessment

Every employer shall make a suitable risk assessment of the risks to health and safety of his employees which they are exposed to whilst at work.

A risk assessment should involve the hazards arising from work activities or other factors such as layout of the premises and hazardous substances and processes and then evaluate the risks involved, taking into account whatever precautions already exist.

Every employer with five or more employees must record the significant findings of their risk assessment. This record should represent an effective statement of hazards and risks which then leads management to take the relevant actions to protect health and safety. It needs therefore to be a part of an employer's overall approach to health and safety and where appropriate should be linked to other health and safety records. The record should regularly be reviewed and modified so that it does not become out of date.

The preventative and protective measures to be taken following a risk assessment largely depend upon the relevant legislation. For example if protective clothing is needed it will be as under the terms laid out by the Personal Protective Equipment at Work Act 1992.

1.3.2 Regulation 4 - Health and Safety Arrangements

Employers are required to introduce appropriate and effective arrangements for the planning, organisation, control, monitoring and review of the preventative and protective measures. Where more than five people are employed, the arrangements should be recorded.

1.3.2.1 Regulation 5 - Health Surveillance

Every employer shall ensure that employees are provided with health surveillance as is appropriate. For example, certain diseases or conditions may be closely linked to particular working procedures or environments. In such case, sufficient health surveillance may include regular examinations by a qualified medical professional and regular biological monitoring of the environment.

1.3.2.2 Regulation 6 - Health & Safety Assistance

Every employer shall appoint one or more competent persons to assist in undertaking the measures necessary to comply with the requirements and prohibitions imposed by relevant regulations. Any person appointed must have sufficient training and experience to be considered competent.

N.B. The employer may appoint employees or enlist help from outside agencies.

1.3.2.3 Regulation 7 - Procedures for Imminent Danger

Every employer shall establish procedures to be followed in the event of serious or imminent danger. It is also necessary to appoint competent persons (i.e. those with sufficient training and experience) in order to implement evacuation procedures. It is also required that employees do not have access to any areas which have restricted access on grounds of health and safety unless the employee has received sufficient training.

N.B. For most employers, fire (and possibly bomb) risks will be the only ones that need to be covered. However, any additional risks identified by the risk assessment will need to be considered and procedure geared to meet them.

1.3.2.4 Regulation 8 - Information for Employees

Every employer shall provide employees with comprehensive information on all risks identified by the assessment, the preventative and protective measures, the emergency procedures and competent personnel.

1.3.2.5 Regulation 9 - Co-operation and Co-ordination

Where two or more employers share a workplace, they shall each co-operate and co-ordinate with each other so far as is necessary to comply with the requirements and prohibitions imposed by relevant statutory provisions. This should include informing other employers of the risks to their employees posed by their connection. Where there is no controlling employer, those concerned should agree on joint arrangements such as appointing a health and safety co-ordinator.

1.3.2.6 Regulation 10 - Persons Working in host employers undertakings.

Employers shall ensure that all employees of any staff from and outside undertaking who are working on his premises (even short term such as maintenance or cleaning) are provided with information on:

- a) The risks to health and safety as identified by the risk assessment.
- b) The measures taken to comply to the necessary requirements and prohibitions imposed by the relevant statutory provisions.

N.B. The first employer must take reasonable steps to ensure that the second employer has received the information.

1.3.2.7 Regulation 11 - Capabilities and Training

Employers must ensure that all employees are provided with adequate training in health and safety.

When allocating work, employers must also take account of the employees capabilities and level of training. If additional training is required it should be provided.

1.3.2.8 Regulation 12 - Employees Duties

Every employee shall use machinery, equipment and means of production etc. in accordance with any training received.

Employees must also inform employers of any dangerous situations or shortcomings in the employers health and safety arrangements.

1.4 The Personal Protective Equipment at Work Regulations 1992

On January 1st 1993 the Personal Protective Equipment at Work Regulations came into force. These Regulations are made under the Health and Safety at Work Act 1974 and apply to all workers in Great Britain except for crews of sea-going ships. They are based on a European Community (EC) Directive requiring similar basic laws throughout the community on the use of personal protective equipment (PPE) in the workplace.

PPE As A 'Last Resort'

The Management of Health and Safety at Work Regulations 1992 requires employers to make risk assessments within their workplace. On establishing a risk, the employer must determine the most appropriate means of reducing the risk to an acceptable level. PPE should be regarded as a 'last resort', engineering controls and safe systems of work should always be considered first. These could constitute changing the way the work is done or adopting more effective safeguards such as enclosed guards and screens on machinery. There will always, however be some working activity where PPE will still be needed to control a risk adequately. This is where the Personal Protective Equipment at Work Regulations takes effect.

Providing PPE

When providing PPE, employers must do more than simply have the equipment on the premises. They must ensure:-

- That the PPE is always readily available.
- That it is made clear to the workforce where PPE can be obtained.
- That there is no charge to the workforce for PPE provision.
- That all the PPE is 'CE' Marked, which certifies that the equipment has met basic safety requirements.
- That suitable PPE is selected.
- That PPE is stored safely when not in use.
- That suitable information, instruction and training on the equipment is provided.
- That reasonable steps are taken to ensure that the PPE provided is being used properly by the workforce.

Use of PPE

PPE should be used in accordance with the manufacturers instructions. It should only be supplied to a user after adequate training and after supervision has been provided to ensure that the training and instructions are being followed. Most PPE should be returned after use and stored in its designated place. There are, however, instances where the user may take the PPE home with them, such as footwear and overalls.

Reporting Loss or Defect

Arrangements are required to ensure that employees can report to their supervisor/employer supervisor the loss or defects in their PPE. This should ensure that defective PPE is repaired or replaced before the user concerned restarts work. Every employee supplied with PPE must use it and take reasonable care of it, they have a duty to report any loss or defect or any doubts that they may have concerning its serviceability to their supervisor/employer.

Further Information

For further information see the Personal Protective Equipment at Work Regulations 1992, available from the Stationery Office, PO Box 276, London, SW8 5DT, or The Personal Protective Equipment at Work - Guidance on Regulations available from the HSE or available from Signs & Labels code: BVE60.

Signs & Labels safetyshop on-line features a comprehensive range of PPE including:-

- Footwear
- Garments
- Eye/Face Protection
- Hard Hats
- Ear Defenders
- Fall Arrest Equipment
- High Visibility Products
- First Aid
- VDU Products
- Many More Products

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1.5 The Fire Precautions (Workplace) Regulations 1997

On December 1st 1997 the Fire Precautions (Workplace) Regulations came into force and are designed to implement requirements of the European Framework and Workplace Directives bringing the UK into line with European law.

1.5.1 Main Features

The main purpose of the legislation is to reinforce the responsibility that all employers have for their staff. In essence, the new legislation is very similar to the Existing Fire Precautions Act 1971. However, three main extensions exist:

Emphasis has been placed on risk assessment. It is now a requirement that organisations assess the risks from fire as they would assess health and safety generally. The new Regulation applies to all workplaces or any non-domestic premises used as a place of work. This includes where the occupier is a tenant having responsibility for the premises maintenance. This is a much wider scope than the 1971 Act and will mean many more premises need to comply. Similarly, the lower limits of numbers employees do not exist in this legislation. So even premises where there is only one employee will now have to comply, greatly increasing the number of affected premises.

1.5.2 Exempt Workplaces

Workplaces exempt from the Regulations are those which:

- Are used solely by the self employed.
- Have a current fire certificate, or for which an application is pending, under the Fire Precautions Act 1971 (other than certificates issued under the transitional provisions of Schedule 8 of the HSW Act).
- Have a current fire certificate under the Safety of Sports Grounds Act 1975 or the Safety of Places of Sport Act 1987.
- Are construction sites, within the meaning of reg.2(1) of the Construction (Health, Safety and Welfare) Regulations 1996.
- Are ships, within the meaning of reg.2(1) of the Docks Regulations 1976.
- Are covered by the Fire Certificates (Special Premises) Regulations 1976.
- Are offshore installations within the meaning of Reg.3 of the Offshore Installations and Pipelines Works (Management and Administration) Regulations 1995.
- Are aircraft, locomotives and rolling stock, or trailers used as a means of transport, or are vehicles having a license issued under the Vehicle Excise and Regulations Act or are exempted from duty under this Act.
- Are in fields, woods or other land forming part of an agricultural or forestry undertaking, but which is not inside a building and is situated away from the undertakings main building.
- Are covered by The Fire Precautions (Sub-surface Railway Stations) Regulations 1989.
- Are covered by the Mines and Quarries Act 1954.

1.5.3 Requirements of the Act

Again very similar to those stated by the 1971 Act.

The employer:

Must undertake an adequate risk assessment of all fire hazards.

Ensure the workplace is equipped with appropriate fire-fighting equipment, fire detectors and alarms and that any non-automatic fire fighting equipment is easily accessible and simple to use.

Take measures for fire-fighting. Nominate and train employees to implement those measures and arrange contacts with external emergency services.

Keep emergency routes clear and comply with specific criteria relating to routes and doors.

Ensure that fire-fighting equipment and emergency escape routes and exits are indicated with signs which comply to the Health and Safety (Safety Signs and Signals) Regulations 1996.

Have a suitable system of maintenance for fire precautions in relation to the workplace, equipment and devices and ensure these are working and in good repair.

N.B. Under the Disability Discrimination Act 1995 it may also be relevant to consider the evacuation of people in wheel chairs and visually impaired people.

1.5.4 Compliance and Enforcement

The Regulations came into force on the 1st December 1997. There is no provision for a transitional period so compliance must be by the above date. Local Fire Authorities, either through local Fire Brigades or appointed inspectors, have the responsibility of enforcement. They are given the right of access to premises and the power to issue either prohibition notices or an enforcement notice, depending on the seriousness of the risk. However, this paints a rather bleak picture when you bear in mind that if an organisation already holds a Fire Certificate under the 1971 act, the fire precautions that are currently in place should be adequate, although it would be wise to check with your local fire officer.

1.5.5 Help and Advice

Local Fire Authorities have enforcement responsibilities, but under the Fire Services Act 1951 they are also responsible for the free provision of information which may be useful when undertaking a risk assessment or assessing whether your current fire precautions are adequate.

Details and guidance to the Regulations are given in Fire Precautions in the Workplace Information for Employers About the Fire Precautions (Workplace) Regulations 1997, (ISBN 0 11 341169 3) and the Regulations themselves (ISBN 011 0647386) are available from the Stationery Office, P.O. Box 276, London SW8 5DT.

1.6 The Health and Safety (First Aid) Regulations 1981

On 1st July 1982 the Health and Safety (First Aid) Regulations 1981 came into force. They cover the arrangements that must be made to ensure that immediate attention is available should an employee be injured or become ill.

1.6.1 Content of the legislation

The employer should make an assessment of first aid needs appropriate to their particular workplace.

When assessing needs, employers need to take into account:-

- workplace hazards and risks
- the size of the organisation
- the organisations history or accidents
- the nature and distribution of the workforce
- the remoteness of the site from emergency medical services
- the needs of travelling.
- employees working on shared or multi-occupied sites
- annual leave and other absences of first aider's and appointed persons
- Sufficient first aid personnel and facilities should be available to give immediate assistance to casualties and to summon an ambulance or other professional help.

Employers should provide a suitable first aid room when the assessment of first aid needs identifies this as necessary. The room should contain essential first aid facilities and equipment, be easy accessible to stretchers and be clearly signposted and identified. If possible, the room should be reserved exclusively for giving first aid.

When the first aid assessment identifies a need for people to be available for first aid, the employer should ensure that they are provided in sufficient numbers and at appropriate locations to enable first aid to be administered without delay should the occasion arise.

Before taking up first aid duties, a first aider must hold a valid certificate of competence in first aid at work, issued by an organisation whose training and qualifications are approved by the H.S.E certificates are valid for a period of three years, employers must arrange refresher training with re-training of competence before certificates expire.

It is good practise for employers to provide first aiders with a book in which to record incidents which require their attendance. The information to be recorder would include:-

- date, time and place of incident; name and job of the injured or ill person; details of the injury / illness and what first aid was given; what happened to the person immediately afterwards; name and signature of the first aider or person dealing with the incident

1.6.2 Help and Advice

Details and guidance to the Regulations are given in First Aid at work - Approved Code of Practice and Guidance (ISBN 07176 10500) available from HSE Books PO Box 1999 Sudbury, Suffolk, CO10 6FS. and also from Signs and Labels, product code BVE62. The regulations themselves, (ISBN 0 1188 55360) are available from the stationery office, PO Box 276, London, SW8 5DT.

1.7 The Control of Substances Hazardous to Health Regulations

1994

On 16th January 1995 The Control of Substances Hazardous to Health (COSHH) Regulations came into force. Their main purpose is to protect people against health risks from hazardous substances used at work.

1.7.1 Scope

COSHH covers substances which can cause ill-health. These can:

- be used directly in work, e.g. paints or cleaning materials.
- arise from the work, e.g. dusts, fumes and waste products.
- occur naturally, e.g. fungal spores in agriculture.

What is a substance hazardous to health?

1.7.2 Under COSHH, substances hazardous to health are:

Substances or mixtures classified as dangerous to health under the Chemicals (Hazard Information and Packaging for Supply) Regulations. These must be identified by hazard warning labels and a safety data sheet provided. The Approved Supply List (part of the CHIP Regulations) lists dangerous substances along with their risk and safety phrases and the hazard warning labels(s) to be shown on the substances' packaging.

- Substances with occupational exposure limits.
- Biological agents, if they are directly connected with the work or if exposure is incidental to it, e.g.: farming or healthcare.
- Dust in a substantial concentration.

1.7.3 Exempt Substances

- Asbestos and lead, which are covered by separate Regulations.
- Biological agents if they are not directly connected with the work being undertaken and they are outside the employer's control e.g.: catching a cold from a colleague.

1.7.4 Requirements of COSHH

COSHH requires employers to:-

Assess the risks to health arising from work/processes carried out in the workplace. This involves reading safety data sheets for any bought in substances and assessing what risks may arise as a result of work carried out.

Decide what precautions are needed to protect workers from any hazards, such as providing suitable personal protective equipment or changing the way in which a process is carried out.

Prevent or control exposure to substances hazardous to health. This may involve changing the process or activity so that the hazardous substance is not required or replace it with a safer alternative. Ensure that control measures are used and maintained. Instruct, train and inform their employees to use control measures effectively and to report any defects in them.

Monitor how long workers are exposed to hazardous substances and keep a record of this monitoring.

Train and inform their employees on the nature of the substances they work with and the risks created by exposure to these and on the precautions they should take.

1.7.5 Help and Advice

Guidance on the Regulations is given in The New Brief Guide for Employers (ISBN 0 7176 11892) available from HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 6FS. The Regulations themselves (ISBN 0 1104 37217) are available from the Stationery Office, PO Box 276, London SW8 5DT.

1.8 The Electricity at Work Regulations 1989

The Electricity at Work Regulation states that every work activity, including operation, use and maintenance of a system and work near a system, shall be carried out in such a manner as not to give risk, so far as is reasonably practicable to danger.

1.9 Provision and Use of Work Equipment Regulations 1992

These Regulations came into force on 1st January 1993 and are concerned with ensuring that work equipment is suitable for the purpose for which it is used or provided.

1.9.1 Work Equipment

Work equipment is any machinery, appliance, apparatus or tool, any assembly of components which, in order to achieve a common end, arranged and controlled so that they can function as a whole and any vehicles which are not privately owned.

1.9.2 Suitability of Work Equipment

Every employer must ensure that work equipment is constructed and adapted to be suitable for the purpose for which it is used or provided. When selecting work equipment, every employer must consider where the equipment will be used, the working conditions and risks to the health and safety of persons working in the same environment. An employer must consider the operations that are to be undertaken with the equipment and establish whether they will affect the health or safety of any person.

1.9.3 Maintenance

Employers must ensure that work equipment is maintained in an efficient state, in efficient working order and good repair. If a maintenance log is used, it must be kept up-to-date.

Maintenance work must be carried out by persons who have received adequate information, instructions and training.

Routine maintenance includes periodic lubrication, inspection and testing as recommended by the manufacturer.

1.9.4 Specific Risks

Where the use of work equipment is likely to involve a specific risk to health or safety, an employer must ensure that the use of that equipment is restricted to those persons who have been given the task of using it, and that repairs and maintenance are undertaken by employees who have been specifically designated to perform them and that they have had adequate information and training.

1.9.5 Information and Instructions

Employers must ensure that all persons who use work equipment have available to them adequate health and safety information and, where appropriate, written instructions about the use of the equipment.

The information or written instructions should include:

- the conditions in which and the methods by which work equipment may be used.
- foreseeable abnormal situations, and the action to be taken should they occur.
- any conclusions drawn from experience in using the work equipment.

1.9.6 Training

Employers must ensure that all persons who use work equipment have received adequate training for purposes of health and safety. This may include methods that have been adopted when using work equipment, any risks which such use may entail and precautions to be taken.

1.9.7 Conforming with European Union Requirements

Employers should ensure that work equipment purchased, complies with any legislation which implements the relevant EW Directive, if necessary checking that there is CE marking and requesting a copy of the EW Declaration of Conformity.

1.9.8 Dangerous Parts of Machinery

An employer should take measures which are effective to:

prevent access to any dangerous part of machinery or to any rotating stock bar.

stop the movement of any dangerous part of machinery or rotating stock bar before any part of a person enters a danger zone, (a danger zone is any area in which a person is exposed to a risk to health or safety from contact with a dangerous part of machinery or rotating stock bar).

1.9.8.1 Measures to be taken are:

- provide fixed guards enclosing every dangerous part or rotating stock bar where it is practicable to do so, or provide other guards or other protection devices to the extent that it is practicable to do so, or

- provide jigs, holders, push-sticks or similar protection appliances used in connection with machinery where and to the extent that is practicable to do so, or
- provide information, instruction, training and supervision.
- All guards and protection devised and protection appliances must:
 - be suitable for the purposes they are provided
 - be of good construction, sound material and adequate strength.
 - be maintained in an efficient state, in efficient working order and good repair.
 - not increase any risk to health and safety.
 - not be easily bypassed or disabled.
 - be situated at sufficient distance from the danger zone.
 - not unduly restrict the view of the operating side of the machinery, where such a view is necessary.

be constructed or adapted so that they allow operations necessary to fit or replace parts, allow maintenance work, and restrict access so that access is allowed only to the area where the work is to be carried out.

1.9.9 Protection Against Specific Hazards

Employers must ensure that exposure of any person using work equipment to certain specified hazards is prevented or (where that is not reasonably practicable), adequately controlled. Hazards specified are:

- any article or substance falling on work equipment
- rupture or disintegration of parts of work equipment.
- work equipment catching fire or overheating.
- the unintended or premature discharge of any article, or of any gas, dust, liquid, vapour or other substance which is produced, used or stored in the work equipment.
- the unintended or premature explosion of the work equipment or any article or substance produced, used or stored in it.

1.9.10 High or Very Low Temperature

Employers must ensure that work equipment (including parts) and any article or substance produced, used or stored in work equipment which is at a high or very low temperature shall have protection where appropriate so as to prevent injury to any person from burn, scald or sear.

1.9.11 Controls for Starting or Changing Operating Conditions

Employers must ensure that, where appropriate, work equipment is provided with several controls, to individually start the equipment, control the speed or pressure. It should not be possible to perform any functions without deliberate action on a control other than restarting or changing operating conditions as part of the operating cycle.

1.9.11.1 Stop Controls

Employers must ensure that where appropriate, there are accessible controls that will bring the work equipment to a safe condition in a safe manner. These controls will bring the work equipment to a complete stop where necessary for reasons of health or safety.

The controls will switch off all sources of energy after stopping the work equipment functioning.

Stop controls must operate in priority to any control which starts or changes the operating conditions.

1.9.11.2 Emergency Stop Controls

Employers must ensure that work equipment is provided with an accessible emergency stop control. Emergency stop controls must operate in priority to other controls.

1.9.12 Controls

Employers must ensure that all controls are clearly visible and identifiable, including appropriate marking where necessary. The operation should be able to ensure that no person is in a place where they could be at risk as a result of the operation of a control. As an alternative, an audible, visual or other suitable warning shall be given whenever the work equipment is about to start.

1.9.12.1 Control Systems

Employers must make sure that all control systems of work equipment are safe. A control system must ensure that any fault or damage or loss of energy supply cannot result in additional or increased risk to health or safety.

1.9.13 Isolation From Sources of Energy

Employers must ensure where appropriate that work equipment is provided with a suitable means to isolate it from its sources of energy. Such means must be clearly identifiable and readily accessible. Reconnection of the energy source must not expose any person using the work equipment to any risk to their health or safety.

1.9.14 Stability

Employers must ensure that work equipment is stabilised by clamping or otherwise necessary for the purposes of health or safety.

1.9.15 Lighting

Employers must ensure that suitable and sufficient lighting is provided, taking into account the operations to be carried out.

1.9.16 Maintenance Operations

Employers must take appropriate measures to ensure that work equipment is constructed or adapted so that, maintenance operations which involve a risk to health or safety can be carried out whilst the work equipment is shut down. Maintenance operations must be carried out without exposing the employees who are doing them a risk to their health or safety.

1.9.17 Markings

Employers must ensure that work equipment is marked in a clearly visible manner, with appropriate health or safety markings.

1.9.18 Warnings

Employers must ensure that work equipment incorporates warnings or warning devices which are appropriate for reasons of health or safety. The warnings must be unambiguous, easily perceived and understood.

For more information see 'Work Equipment', Guidance on the Provision and Use of Work Equipment Regulations 1992 available from the HSE and from Signs & Labels Ltd Code: BVE57 £5.75

1.10 Manual Handling Operations Regulations 1992

These Regulations came into force on 1st January 1993. They apply to the manual handling of loads by human effort. the human effort maybe applied directly to a load or indirectly by pulling on a lever or hauling on a rope.

1.10.1 Employers Duties:

- To avoid hazardous manual handling operations so far as is reasonably practicable.
- To assess any hazardous manual handling operations that cannot be avoided.
- To reduce the risk of injury so far as is reasonably practicable.

1.10.2 RISK ASSESSMENT

As part of the Management of Health and Safety at Work Regulations 1992, an employer must make a suitable and sufficient assessment of the risks to the health and safety of his employees to which they are exposed to whilst at work. If this assessment indicates a possibility of injury from a manual handling operation, then consideration should be given to avoiding the operation:

- Could the movement of the load be eliminated?
- If not, could the movement of the load be automated or mechanised?

If, after consideration, there is still a need for a Manual Handling Operation, then a further more specific Risk Assessment should be undertaken. This should be carried out by the employer or someone delegated the task by the employer.

1.10.2.1 RECORDING THE ASSESSMENT

Significant findings of the assessment should be recorded and the record kept readily available whilst it remains relevant.

1.10.2.2 MAKING A DETAILED ASSESSMENT

The tasks - do they involve:

- Holding loads away from the trunk?
- Twisting the trunk?
- Stooping?
- Reaching upwards?
- Large vertical movement?
- Long carrying distances?
- Strenuous pushing or pulling?
- Unpredictable movement of loads?
- Repetitive handling?
- Insufficient rest or recovery?
- A workrate imposed by a process?

The Loads - are they:

- Heavy?
- Bulky/unwieldy?
- Difficult to grasp?
- Unstable/unpredictable?
- Intrinsically harmful (eg: sharp/not?)

1.10.2.3 The Working Environment - are there:

- Constraints on posture?
- Poor floors?
- Variations in levels?
- Hot/cold/humid conditions?
- Strong air movements?
- Poor lighting conditions?

1.10.2.4 Individual Capability - does the job:

- Require unusual capability?
- Hazard those with a health problem?
- Hazard those who are pregnant?
- Call for special information/training.

1.10.2.5 Other Factors:-

Is movement or posture hindered by clothing or personal protective equipment?

1.10.3 RULES FOR SAFE LIFTING

1. Assess the load first. Make sure work area is clear from hazards
2. Keep back upright in a natural way, bend knees, stand close to load and spread feet. DO NOT TWIST TRUNK
3. Raise the head, lift using your legs grasp the load firmly, arms close to body.
4. Hold close to centre of body when stable. Make sure work area is clear from hazards.

For further information, see Manual Handling, Manual Handling Operations Regulations 1992. Guidance on Regulations available from the HSC or from Signs & Labels Ltd., Our Signs & Labels Code : BVE65 : £5.75.

1.11 Workplace (Health, Safety and Welfare) Regulations 1992

Since the 1st January 1996 these Regulations have applied in all workplaces. Below is a summary of the Regulations:

For the purpose of these Regulations, workplaces are:

- Factories
- Shops
- Offices
- Schools
- Hospitals
- Hotels
- Places of entertainment
- Common parts of shared buildings
- Private roads
- Business parks
- Temporary work sites (not construction sites)

These Regulations aim to ensure that workplaces meet the health, safety, and welfare needs of each member of a workplace.

Employers have a duty to ensure that workplaces under their control comply with these Regulations. An employer is required to:

- Ensure the maintenance of the workplace and all equipment, devices and systems.
- Ensure suitable ventilation.
- Maintain the workplace at a reasonable temperature.
- Ensure suitable and sufficient lighting.
- Maintain the workplace in a clean and orderly fashion.
- Ensure that employees have sufficient floor area, height and unoccupied space for purposes of health, safety and welfare.
- Make sure that floors and traffic routes are kept in a reasonable condition.

- Make sure that there are suitable workstations and seating.
- Ensure that suitable and effective measures are taken to prevent falls or injuries from falling objects.
- Ensure that there are adequate windows, transparent or translucent doors, gates and walls. That they are where necessary protected against breakage and are
- appropriately marked to be made apparent.
- Ensure that there is sufficient organisation of traffic routes so that pedestrians and vehicles can circulate safely.
- Ensure that any door or gate is suitably constructed and that it may be opened and closed in a safe manner.
- Ensure that if there are any escalators or moving walkways, that they function safely, are equipped with any necessary safety devices and
- have one or more emergency stop controls.
- Make sure that there are sufficient and suitable sanitary conveniences at accessible places.
- Ensure that there are sufficient and suitable washing facilities, including showers if required by the nature of the work or for health reasons, provided at accessible
- places.
- Ensure that there is suitable and sufficient accommodation for clothing including P.P.E. and workers own clothing.
- Ensure that there are suitable and sufficient facilities provided to change clothing.
- Ensure that there are suitable and sufficient rest facilities provided for persons to eat meals, for non-smokers to be protected from tobacco smoke and for pregnant
- women or nursing mothers to rest.

For further information see: Workplace Health, Safety and Welfare - Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice, available from the HSC or Signs & Labels Ltd. Our Code: BVE59 £5.75

1.12 BS EN3 1996 : Changes to the Colour Coding of Portable Fire Extinguishers

BS EN3 is a joint British and European standard which relates to all newly certified fire extinguishers in use in European countries and replaces the old British Standard BS 5423:1987.

The standard is aimed at preventing anomalies occurring from member state to member state and will impose a Europe-wide colour scheme.

Content

Whereas extinguishers in the UK used to be identifiable by the colour of their casing (e.g. cream for foam, black for carbon dioxide, etc), BS EN3 requires all extinguisher casings to be red. A colour band up to a maximum of 5% of the surface area will now be used to identify the extinguisher type.

1.12.1 Training

There will always be the temptation to grab the nearest extinguisher to hand in a fire situation. It is therefore imperative that this change in extinguisher colour coding is made clear by:

- Changing fire equipment signage to take account of the new coding system.
- Ensuring the appropriate extinguisher type is installed around the risk area.
- Ensuring that employees are trained on the new colour coding system.

1.12.1.1 Status and Implementation

Although the changes proposed by BS EN3 are not legal requirements, some organisations such as insurance companies may specify that EN3 extinguishers are used. However, it is inevitable that there will be a gradual phasing in of the 'red' extinguishers as most manufacturers are already producing products to the European Standard. N.B. The standard is NOT retrospective and extinguishers do not need to be replaced until they have reached the end of their useful life.

1.12.2 Help and Advice

Copies of BS EN3 can be purchased from BSI Customer Service, 389 Chiswick High Road, London W4 4AL. Tel: 0181 996 7000.

