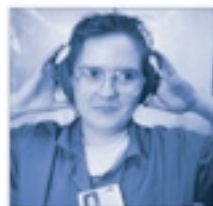


# Health and Safety



Interactive links to articles  
can be accessed from the  
contents on pages 5 & 6

ESSENTIALS



# INTRODUCTION



**T**he AEEU has a proud tradition of upholding policies and systems that are essential in maintaining safe and secure workplaces. Over the years we have published many leaflets and books on various aspects of health and safety. This latest publication is new in both format and approach in dealing with everyday and more complex safety problems.

In this booklet we have included major industries, while not ignoring smaller enterprises that have problems of equal gravity. As time has moved on, much of the older legislation has been repealed and replaced with new regulation. With this in mind, we have put an abbreviated version of the most relevant legislation into this publication. The law is constantly changing and updates are published in the Union News, the AEEU's quarterly journal. Health and Safety Essentials is available for downloading on the AEEU website at [www.aeeu.org.uk](http://www.aeeu.org.uk), or further copies are available from head office on: 020 8462 7755 ext 436.

As your interest broadens, so will your information sources need to expand. Therefore a network of people dedicated to health and safety issues is now in place. The network is responsible for all aspects of safety training, information dissemination, National representation on various official bodies and committees, and most importantly listening to what our safety representatives want, and responding to their wishes.

We hope that you find this book useful. If you need advice remember we are only a phone call, fax, e-mail, or letter away. Keep in touch, together we can make workplaces safer.

Best wishes,

A handwritten signature in black ink, appearing to read 'Ken Jackson', written in a cursive style.

Sir Ken Jackson  
General Secretary  
AEEU

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# CHAPTER EIGHT

## Health and safety law

**T**his chapter is included to give some idea on the scope of legislation that exists to control and legislate hazards in the workplace. There is legislation covering every aspect of health and safety and the AEEU will always uphold and encourage others to uphold the law of the land. We cannot include all the various legislation within this book so we have chosen a few of the more relevant/popular pieces to illustrate what they contain. The explanations are by no means exhaustive but carry the main points for your perusal and use.

### Part 1

#### Requirements of health and safety law

The basis of British health and safety law is the Health and Safety at Work etc Act 1974.

The Act sets out the general duties that employers have towards employees and members of the public, and employees have to themselves and to each other.

These duties are qualified in the Act by the principle of 'so far as is reasonably practicable'. In other words, the degree of risk in a particular

job or workplace needs to be balanced against the time, trouble, cost and physical difficulty of taking measures to avoid or reduce the risk.

The law requires what good management and common sense would lead employers to do anyway. i.e. to look at what the risks are and take sensible measures to tackle them.

**The Management of Health and Safety at Work Regulations 1999** (the Management Regulations) generally make more explicit what employers are required to do to manage health and safety under the Health and Safety at Work Act. Like the Act, they apply to every work activity.

The main requirement on employers is to carry out a risk assessment. Employers with five or more employees need to record the significant findings of the risk assessment.

Risk assessment should be straightforward in a simple workplace such as a typical office. It should only be complicated if it deals with serious hazards such as those on a nuclear power station, a chemical plant, laboratory or an oil rig.

Besides carrying out a risk assessment, employers also need to:

- (a) Make arrangements for implementing the health and safety measures identified as necessary by the risk assessment
- (b) Appoint competent people (often themselves or company colleagues) to help them to implement the arrangements
- (c) Set up emergency procedures
- (d) Provide clear information and training to employees
- (e) Work together with other employers sharing the same workplace

Other regulations require action in response to particular hazards, or in industries where hazards are particularly high.

## European law

In recent years much of Britain's health and safety law has originated in Europe. Proposals from the European Commission may be agreed by Member States, who are then responsible for making them part of their domestic law.

Modern health and safety law in this country, including much of that from Europe, is based on the principle of risk assessment described above.

## Guidance

Guidance can be specific to the health and safety problems of an industry or of a particular process used in a number of industries. The main purposes of guidance are:

- (a) To interpret – helping people to understand what the law says – including, for example, how requirements based on EC Directives fit with those under the Health and Safety at Work Act
- (b) To help people comply with the law
- (c) To give technical advice

Following guidance is not compulsory and employers are free to take other action. But, if they do follow guidance they will normally be doing enough to comply with the law

## Approved Codes of Practice

Approved Codes of Practice offer examples of good practice. They give advice on how to comply with the law by, for example, providing a guide to what is 'reasonably practicable'. For example, if regulations use words

like 'suitable and sufficient', an Approved Code of Practice can illustrate what this requires in particular circumstances.

Approved Codes of Practice have a special legal status. If employers are prosecuted for a breach of health and safety law, and it is proved that they have not followed the relevant provisions of the Approved Code of Practice, a court can find them at fault unless they can show that they have complied with the law in some other way.

## Regulations

Regulations are law, approved by Parliament. These are usually made under the Health and Safety at Work Act, following proposals from HSC. This applies to regulations based on EC Directives as well as 'home-grown' ones.

The Health and Safety at Work Act, and general duties in the Management Regulations, are goal-setting and leave employers freedom to decide how to control risks that they identify. Guidance and Approved Codes of Practice give advice, but employers are free to take other measures provided they do what is reasonably practicable. However, some risks are so great, or the proper control measures so costly, that it would not be appropriate to leave employers discretion in deciding what to do about them. Regulations identify these risks and set out specific action that must be taken. Often these requirements are absolute – to do something without qualification by whether it is reasonably practicable.

## The Construction (Design and Management) Regulations 1994

### Clients and clients' agents

Clients' agents must make a written declaration to the Health and Safety Executive stating they are the clients for a particular construction project (contact details must be provided). The clients, i.e. the people or organisation requiring the construction work, must ensure that the agent and other designated personnel receive relevant information and are competent. They must also appoint a planning supervisor and principal contractor, and ensure they allocate adequate resources for health and safety.

### Notification

Planning supervisors must submit written notification of the construction work to the HSE. The details required to be notified include the construction site address, contact details of designated people, start date, duration and the maximum number of workers.

### Designers

Designers should ensure that health and safety is taken into account in their designs with regard to the actual construction and subsequent maintenance. They should also ensure that risks are minimised. The duty extends to the provision of information in relation to any hazardous structures or substances encountered.

### Planning supervisors

Planning supervisors must ensure that designers fulfil their duties, that different designers on the same project cooperate with each other, advise on the competency of designers and contractors, ensure that appropriate resources are allocated for health and safety, prepare the first part of the health and safety plan, and ensure the health and safety file is completed throughout the project and handed to the client.

### Health and safety file

This contains all the health and safety information relevant to the construction project, including subsequent maintenance. The file is completed by the planning supervisor and handed to the client at the end of the work. The client must retain the file and ensure it is available for inspection (the file must be passed on to subsequent owners of property, etc. when the original client disposes of their interest in the property).

### Health and safety plan

This provides the focus for health and safety in the project. It is started by the planning supervisor and passed on to the principal contractor for completion at the construction phase.

### Principal contractors

Principal contractors must coordinate all contractors on site. They must ensure they are competent, have allocated appropriate resources for health and safety, follow the health and safety plan and are provided with all necessary information and training.

## Construction (Health, Safety and Welfare) Regulations 1996

### Safe places of work

Every workplace must be safe and without risks to health, including means of entry and exit.

### Falls and falling objects

Measures must be taken to prevent people falling from their place of work, or through fragile materials. This may include the provision of guard-rails, toe-boards, personal suspension equipment, fall-arrest harnesses, etc.

### Excavations

Measures should be taken to ensure excavations do not collapse, i.e. that they are adequately supported and are not endangered by the proximity of vehicles above.

### Traffic routes

There should be adequate organisation to allow vehicular and pedestrian traffic to move around safely, and the routes themselves should not create additional risks. Appropriate signing may be necessary.

### Emergency procedures

People must be able to reach a place of safety quickly and safely in any emergency. Such routes must be of sufficient number, clearly signed and kept free of obstructions, and they must be familiar to the workers.

### Welfare facilities

Suitable and sufficient toilets, washing facilities, rest and changing areas, facilities for preparing and eating meals and boiling water, and a supply of drinking water must be provided.

### Equipment

Equipment must be safe, suitable, of good construction and well maintained. Other provisions cover the stability of structures; demolition, use of explosives; cofferdams/caissons; prevention of drowning; safety of doors and gates; prevention, detection and means of fighting fire; temperature; protection from adverse weather; lighting; maintenance; and training.

### Construction (Head Protection) Regulations 1989

Head protection must be suitable, must fit securely and comfortably and be provided where there is a foreseeable risk of injury from falling objects. Damaged head protection must be replaced. Workers must wear any head protection provided, store it in appropriate accommodation provided and report any losses, defects or damage.

### Provision and Use of Work Equipment Regulations, 1988

PUWER covers everything from a photocopier to a combine harvester. It places duties on employers in all industries to provide work equipment

that is safe, irrespective of how old it is or where it has come from. Introduced to implement an EU Directive, the HSE says it has taken the opportunity to 'simplify and clarify' Britain's own laws, which dealt with work equipment and 17 different sets of Regulations.

The PUWER legislation will prove to be one of the most important regulations that will affect AEEU safety representatives.

These included requirements of the Abrasive Wheels 1970, the Woodworking Machines Regulations 1974 and the Construction (General Provisions) Regulations 1961, seven of the Factories Act 1961 (including Sections 12-16), one section of the Offices, Shops and Railway Premises Act 1963 (S17) and two sections of the Mines and Quarries Act 1954.

#### Scope of the regulations

'Work equipment' covers any machines, appliances, apparatus, tools or plant used at work. 'Use' covers starting, stopping, modifying programming, setting, transporting, maintaining, servicing and cleaning. These wide definitions mean that the Regulations apply to an extensive range of workplaces and work activities.

#### Definitions and applications (Regulations 1-4)

Almost all employment relationships and the places of work involved, where HASAWA applies, are within the scope. This includes all industrial sectors, offshore operations and service occupations. All activities involving work equipment are dealt with in the Regulations, and any machine, appliance, apparatus or tool used at work or made available for use in non-domestic premises is covered. All the requirements apply to employers, the self-employed in respect of personal work, persons holding

obligations under Section 4 of HASAWA (control of premises) in connection with the carrying on of a trade, business or other undertaking, and persons occupying factories as defined by Section 175 of the Factories Act 1961.

#### Suitability (Regulation 5)

The most important requirement of the Regulations is that the equipment is 'suitable' for the job it has to do. Employers must look at the design, construction or adaptation of the equipment. They must also take into account the working conditions and hazards in the workplace. For example, a petrol generator discharging exhaust fumes should not be used in an enclosed space. Finally, they should ensure that equipment is used only for operation for which it is suitable. For example, knives with unprotected blades are often used for cutting operations where scissors could be used more safely. The risk assessment required under the Management Regs will help employers to select work equipment and assess its suitability for particular tasks.

#### Maintenance (Regulation 6)

This Regulation requires that equipment be maintained 'in an efficient state, in efficient working order and in good repair.' Maintenance work should only be done by those who have received adequate information, instruction and training relating to that job. A record of maintenance should be kept.

### Restricted use (Regulation 7)

Restricts use of equipment to persons given the task of using it, and where maintenance or repairs have to be done, those doing it must be nominated.

### Information, instruction and training (Regulations 8 and 9)

Employers must give adequate and easily understood information and, as appropriate, written instructions to employees on the 'conditions in which and the methods by which work equipment may be used; foreseeable abnormal situations and the action to be taken if such a situation were to occur; and any conclusions to be drawn from experience is using the work equipment'. They must also check that written instructions from manufacturers and suppliers are made available both to those directly using the equipment, to supervisors and manager. Training is required for any employee not competent enough to use, supervise or manage work equipment safely.

### Compliance with other EU Directives (Regulation 10)

All work equipment taken in to use for the first time after 1992 will have to comply with any other relevant Directive, for example, the Machinery Safety Directive, and those on simple pressures vessels, tractors, noise and industrial trucks.

### Hazards or work equipment (Regulations 11-24)

Deal with specific hazards associated with the use of work equipment. In most cases the requirements are aimed at the provision of equipment which is safe and without risks to health and the need to ensure that

work equipment is provided with appropriate safety devices or protected against failure.

Specific requirements are designed to reduce the risk to employees from dangerous parts of machinery (Regulation 11). This includes measures to prevent access to dangerous parts of machinery and to stop movement of any dangerous part before someone enters the danger zone. These measures must consist of guards or protection devices as far as practicable, and detailed requirements relating to them are also established. In working out the existence, size and position of a danger zone, account is only taken of the risk of contact with dangerous parts of machines.

Examples of work equipment covered by the regulations

Machines	Apparatus/Appliances
dumper truck	ladders, access platforms
harvesting machines	beer pumps
X-ray baggage detectors	laboratory apparatus
laser check out machines	pipettes
air compressors	bunsens
automatic car wash	glassware
computer	heating mantle
crane	safety cabinets
power press	knapsack sprayer
road tanker	photoelectric device
tractor	work benches
fork lift truck	detonators
lawn mower	circus trapeze

crampers  
overhead projector  
slide projector

resuscitator  
fire engine  
turn table  
hydraulic platform

Tools  
portable drill  
stapler  
syringe  
shotgun  
butcher's knife  
drill bit  
hammer  
socket set  
torch  
handlamp  
portable saw

Other equipment  
milking parlour  
drilling rig  
pit winding gear  
reactors  
scaffolding  
cooling towers  
pressure vessel  
body store  
blast furnace  
robot line  
degreasing bath

In selecting preventive measures, the Regulation sets out a hierarchy:

- (a) Fixed, enclosing guards to the extent practicable, but where not...
- (b) Other guards or protection devices to the extent where practicable, but where not...
- (c) Protection appliances (jigs, push bikes etc) to the extent practicable, but where not...
- (d) Provision of information, instruction, training and supervision

Guards and devices are to be:

- (e) Suitable for the purpose and of good constructions, sound material and adequate strength
- (f) Adequately maintained, in good repair and efficient working order
- (g) Not the source of additional risk
- (h) Not easily bypassed or disabled
- (i) Situated at sufficient distance from the danger zone
- (j) Not unduly restrictive of any necessary view of the machine
- (k) Constructed or adapted to allow maintenance or part replacement without removing them

Control of hazards (Regulation 12)

Exposure of a person to specified hazards must be prevented by the employer as far as is reasonably practicable, or adequately controlled where it is not. The specific hazards are:

- (a) Ejected or falling objects
- (b) Rupture or disintegration of parts of the work equipment
- (c) Fire or overheating of the work equipment
- (d) The unintended or premature discharge or ejections of any article or of any gas, dust, liquid, vapour or other substance produced, used or stored in the work equipment
- (e) The unintended or premature explosion of the work equipment or any material produced, used or stored in it

This Regulation does not apply where other specified Regulations apply, on COSHH, noise, ionising radiations, asbestos, lead and head protection in construction activities.

### High or very low temperature (Regulation 13)

Measures must be taken to ensure that people do not come into contact with work equipment, parts of work equipment or any article or substance produced, used or stored in it that are likely to burn, scald or sear.

### Provision and use of control systems (Regulations 14-18)

These set out specific requirements related to the provision, location, use and identification of control systems and controls on work equipment. They relate to controls for starting or making a significant change in operating conditions, stop controls emergency stop controls, controls in general and control systems.

### Isolation for sources of energy (Regulation 19)

All work equipment is to have a means to isolate it from all its source of energy. The means will have to be clearly identifiable and readily accessible. Reconnection of equipment to any energy source must not expose people to any risk.

### Stability (Regulation 20)

Work equipment is to be stable by clamping or otherwise where necessary to avoid risks.

Lighting (Regulation 21): places where work equipment is used have to be suitably and sufficiently lit, taking into account the kind of work being done.

### Maintenance operations (Regulation 22)

As far as is reasonably practicable, maintenance operations are to be done while the work equipment is stopped. Otherwise, other protective measures are to be taken, unless maintenance people can do the work without exposure to risk.

### Markings and warnings (Regulations 23 and 24)

Employers must ensure that all work has clearly visible markings where appropriate and any warnings or warning devices appropriate for health and safety. Warnings will be inappropriate unless they are unambiguous, easily perceived and easily understood.

## The Supply of Machinery (Safety) Regulations 1992 (amended 1994)

These regulations provide useful 'leverage' against suppliers or manufacturers who supply equipment below an acceptable safety standard. Knowledge of the regulations is essential for those who advise on the safety requirements for equipment used and built-in-house either in a production, or a research environment.

Because the Regulations are far more specific than the general duties imposed on manufacturers and suppliers of plant and equipment used at work, an overall tightening of machinery safety standard should be achieved.

Since 1995, new machinery supplied within the UK has been required to carry the CE mark, to indicate compliance with EU safety

requirements. The Regulations aim to secure free trade throughout the EU for machinery bearing the CE mark.

### Machinery maintenance

Sections 2(1) and (2)(a) of HASAWA and Regulation 22 and Guidance to PUWER cover maintenance. Regular maintenance and inspection of machines and their safeguards are essential in order to discover potential problems and put them right. Safeguards should not be installed and then left without preventative maintenance by a competent person.

The Guidance states:

‘Ideally there is no risk associated with the maintenance operation. For example, lubrication points on machines may be designed so that they can be used safely even while the machine is in motion, or adjustment points positioned so that they can be used without opening guards.

If, however, the maintenance work might involve a risk, this Regulation requires that the installation should be designed so that work can, so far as is reasonably practicable, be carried out with the equipment stopped or inactive. This will probably be the case for most equipment.

If equipment has to be running or working during a maintenance operation and this presents risks, measures should be taken to enable the operation of the equipment in a way that reduces the risk. These measures include further safeguards or functions designed into the equipment, such as limiting the power, speed or range of movements that is available to dangerous parts during maintenance operations.’

Regulation 9 of PUWER states:

Every employer shall ensure that all persons who use work equipment have received adequate training for purposes of health and safety,

including training in the methods which may be adopted when using the work equipment, any risks which such use may entail and precautions to be taken.

Every employer shall ensure that any of his employees who supervises or manages the use of work equipment has received adequate training for purposes of health and safety, including training in the methods which may be adopted when using the work equipment, any risks which such use may entail and precautions to be taken.

Training and instruction is a central requirement of both HASAWA and of many specific Regulations. Regulation 11 of the Management Reg requires employers to provide their employees with general health and safety training. This should be supplemented as necessary with more specific training on the use of work equipment. The detailed training requirements in, for example, the Woodworking Machines Regulations 1974 and the Abrasive Wheels Regulations 1970 are not replaced by PUWER and continue to apply.

## Control Of Substances Hazardous to Health Regulations 1999 (COSHH)

The COSHH Regulations 1999, is the main piece of legislation covering control of risks from chemicals, respiratory sensitisers and toxic substances generally. The Regulations set out, within a single legislative framework, the steps which employers must take to control the exposure of workers to substances hazardous to health.

The definition of carcinogens takes into account the Chemicals (Hazard Information and Packaging) Regulations 1994 CHIP2.

The broad scope to COSHH 99 requires employers to make an assessment of the risk to health that may arise from the use of substances at the workplace, establish and maintain the necessary control measures, and provide monitoring of exposure and health surveillance.

#### Key features of COSHH

COSHH applies to all substances classified as being very toxic, harmful, corrosive, or irritant under the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994. They also apply to all other substances hazardous to health arising from work activities. In addition, COSHH applies to micro-organisms, but does not cover the hazard to infection arising directly from a person suffering from a disease (except where that person is an inpatient at a hospital). Certain existing prohibitions on very dangerous substances are continued.

#### Assessment (Regulation 6)

The key provision of COSHH, from which other elements follow, is the requirement in Regulation 6 for the employer to carry out an assessment of likely risks to health to employees arising from exposure to hazardous substances. The purpose of such an assessment, which in all but the simplest cases needs to be in writing, is to enable a decision to be made about measures necessary to control these substances. It allows the employer to show: all the factors pertinent to the work have been considered; an informed and correct judgement has been reached about the risks and the steps which need to be taken to achieve and maintain adequate control; the need for monitoring exposure at the workplace; and the need for health surveillance.

HSE guidance on assessment stresses that it should allow for a systematic review to consider which substances or types of substances workers are liable to encounter, what are the effects of these substances, where the substance are likely to be present, and the ways and the extent to which any groups could potentially be exposed. Under the Regulation and the general ACoP, the degree of detail involved in its preparation has to be commensurate with the nature and degree of risk arising from the work. Key issues here concern:

- (a) The degree of detail and rigour appropriate to the assessment procedure in various circumstances
- (b) The competence and qualifications of persons carrying out the assessment
- (c) The degree of reliance to be placed on manufacturers' and suppliers' information
- (d) The need for written procedures and records
- (e) Consultation with Safety Reps

#### Control (Regulation 7)

Once the employer has identified a potential risk to health, under Regulation 7, they must ensure that the exposure of workers is either prevented or adequately controlled. Inhalations of substances assigned a maximum exposure level (MEL) should not exceed these limits and should be reduced below them to the greatest extent that is reasonably practicable. Inhalation of substances that have been assigned an occupational exposure standard (OES) should be reduced to the standard. If exposure exceeds the OES, control will still be deemed to be adequate

provided that the employer has identified why the OES has been exceeded and they are taking appropriate steps to comply with OES as soon as is reasonably practicable. In all cases, prevention or adequate control of exposure should be achieved by measures other than personal protective equipment to the greatest extent that is reasonably practicable – the use of engineering controls is the first objective.

#### Use of control measures (Regulation 8)

Regulation 8 requires every employer who provides any control measure to ensure that it is properly used and every worker to make full and proper use of any control measures.

#### Maintenance, examination and testing (Regulation 9)

Under Regulation 9, every employer who provides any control measure to comply with Regulation 7 should ensure that it is maintained in efficient working order and in good repair. The employer should ensure that thorough examination and testing of engineering controls are carried out. In the case of local exhaust ventilation plants this should be done at least once a year.

Respiratory protective equipment has to be examined at suitable intervals, and for all control measures a record (or summary) of the examinations has to be kept for five years.

The objective of this Regulation is to ensure that all control measures that have been provided to meet the requirements of Regulation 7 (1) perform as originally intended, thereby continuing effectively to prevent or adequately control exposure.

### Monitoring exposure (Regulation 10)

Under Regulation 10 monitoring of exposure should be carried out when it is required to ensure that exposure is adequately controlled. It is required when failure or deterioration of the control measures could result in a serious risk to health or where it is necessary to demonstrate that a MEL or OES is not exceeded. A record should be kept showing when the monitoring is done, what monitoring procedures were adopted and what the results were.

### Health surveillance (Regulation 11)

Regulation 11 requires that where it is necessary for the protection of the health workers the employer should ensure that they are under suitable health surveillance. This should be treated as being appropriate where the worker is exposed to one of the substances in Schedule 6 to the Regulations, which lists a range of substances where statutory medical examinations are required under existing legislation.

Health surveillance also has to be carried out where the exposure of the worker is such that an identifiable disease, or adverse health effect, may be related to the exposure or where there is any reasonable likelihood that the disease or effect may occur which must be related to the nature and degree of exposure. If, following assessment, it can be shown that it is most unlikely that any disease or adverse health effect will result, then exposure can be deemed not to be significant and health surveillance is not required. Examples of health effects where health surveillance should be considered are given in the ACoP.

Information, instruction and training (Regulation 12)  
Under Regulation 12, workers must be given sufficient information, instruction and training to enable them to know about the risks involved and the precautions that should be taken. They are also entitled to know the results of environmental monitoring and the collective results of any health surveillance.

### Carcinogens

Under COSHH, a carcinogen is defined as:

- (a) Any substance or preparation which if classified under the Chemicals (Hazard Information and Packaging) Regulations 1994 (CHIP2) would be required to be labelled with the risk phrase R45 'may cause cancer' or R49 'may cause cancer by inhalation'; or
- (b) Any substance or preparation listed in Schedule 10 to COSHH and any substance or preparation arising from a process specified in that Schedule which is a substance hazardous to health.

Schedule 10 comprises the following:

- (a) Aflatoxins
- (b) Arsenic and its inorganic compounds
- (c) Auramine manufacture
- (d) Beryllium and beryllium compounds
- (e) Bichromate manufacture involving the roasting of chromite ore
- (f) Calcining, sintering or smelting of nickel copper matte or acid leaching or electro refining of roasted matte
- (g) Coal soots, coal tar, pitch and coal tar fumes
- (h) Electronic chromium processes, excluding passivation, which involve hexavalent chromium compounds

- (i) Hard wood dusts
- (j) Isopropyl alcohol manufacture (strong acid process)
- (k) Leather dust in boot and shoe manufacture, arising during preparation and finishing
- (l) Magenta manufacture
- (m) Mineral oils (unrefined and mildly vacuum distillates; catalytically cracked petroleum oils with final boiling points above 320C, used engine oils)
- (n) Mustard gas
- (o) 4-Nitro phenyl
- (p) Rubber manufacturing and processing giving rise to rubber process dust and rubber fume
- (q) Toluidine

Of particular relevance to carcinogens is a fundamental provision of CHIP2 for the 'classification' of dangerous substances and preparation in addition to labelling requirements dividing carcinogenic substance into three categories:

Category 1: Substances known to be carcinogenic to humans.

Category 2: Substances which should be regarded as of they are carcinogenic to humans, for which there is sufficient evidence to provide a strong presumption that human exposure may result in the development of cancer, based in long-term animal studies and other relevant information.

Category 3: Substances which cause concern owing to possible carcinogenic affects but for which available information is not adequate for making satisfactory assessment (such as evidence from appropriate animal studies insufficient for a Category 2 classification).

Supply hazard warning symbols and specific risk phrases are applied to substances and preparations in the three categories as follows:

Categories 1 and 2: 'toxic' symbol and R45 'may cause cancer'. (For substances carcinogenic only when inhaled and not as a result of other routes or exposure, the following are used: 'toxic' symbol plus R49 'may cause cancer by inhalation').

Category 3: 'harmful' symbol plus R40 'possible risk or irreversible effects'.

## Testing substances and monitoring the air at work

Carrying out tests is an essential part of identifying, assessing and controlling toxic substances. Tests may need to be carried out by a specialist industrial hygienist (though some gas detectors work like breathalysers and can be used by anyone for spot checks), but the essential principles of monitoring the tests are clear, and there is no reason why safety reps should not ask for particular types of monitoring and receive and respond to test results.

Identification of a substance can be done in a number of ways. It can be mixed with other chemicals and the way it reacts may indicate what it is. Alternatively, the material can be vaporised in a spectrometer – light rays are shone through the vapour, and the direction and colours of the beams that emerge can be used to indicate what the substance is made of.

The extent of contamination by known substances can be measured in three basic ways:

- (a) A sample of air is blown through a collector or filter, and the amount of air passing is recorded in a meter. The filter is weighed or inspected with a microscope, because the size range of the particles affects the proportion of dust which can be breathed into the lungs
- (b) After the sample is counted or weighed, the results can be compared with the air volume sampled – the result can then be expressed as parts per million or milligrams per cubic metre or fibres per cubic centimetre
- (c) Gases and vapours can be measured by blowing air through a chemical, which changes colour when exposed to the substances in the air. The extent of the colour change shows the amount of pollution

There are different kinds of test equipment. They vary in price and accuracy – some need to be backed up by laboratory analysis of samples.

- (a) Personal samplers are worn during work – air is sucked from the workers' breathing zone and passed through a filter. At the end of the test period, the filter can be examined to show the amount of pollution in the metered sample of air
- (b) Indicator tubes are like breathalysers – a small hand pump is used to pump a known volume of air through a glass tube of test chemical. The extent of discolouration of the test chemical shows the amount of pollution present. You have to know what substances you are looking for to choose the right test chemical and the accuracy varies according to which substance you are testing for. The advantages of this method are cheapness, ease of use, and immediate results without

the need for laboratory analysis. The most common type of pump is the 'Draeger' meter. You may want to ask management for the use of one

- (c) Continuous monitoring equipment is sophisticated test equipment that can indicate average levels of contamination as well as recording how levels change at different times during the working day. Some types can be set to sound an alarm or to shut a process down when a pre-set level of contamination is exceeded. Continuous monitoring equipment is now made to detect a number of common industrial chemicals. The machine used depends on the substance being monitored. The equipment can be expensive and would normally be used for special surveys or to monitor high risk processes
- (d) Dust lamps show where invisible dust clouds are present, and how the dust flows in the air. This is very useful for checking the effectiveness of ventilation systems. They are cheap – in fact any bright beam light beam on a darkened corner can be used

### Exposure limits

Official limits, set to control exposure to air contamination by about 700 substances, are published by the HSE in Guidance Note EH 40, which is revised annually.

There are two main sorts of limit:

**Maximum Exposure Limits (MELs):** These have been formally adopted by the HSC, and are embodied in a schedule in COSHH. They must not be exceeded and exposure must be reduced as far as is reasonably practicable below them.

Occupational Exposure Standards (OESes): These are set at the level of exposure considered safe, and which must not be exceeded.

MELs and OSEes replace the previous system of Threshold Limit Values (TLVs), which were used until 1984. The different types of limits work in broadly the same way, and share many of the same problems which safety reps should be aware of. Guidance Note EH 40 states that exposure limits should not be used as an index of relative hazard or toxicity. They are not sharp dividing lines between 'safe' and 'dangerous' concentrations.

Nor does the absence of a substance from the list indicate that it is safe. Exposure limits have been judged, after consideration of available scientific and medical evidence, to be 'Reasonably practicable for the whole spectrum of work activities in Great Britain'.

They are based on good working conditions and HSE recommends that 'any factors which impose additional stress on the body, e.g. long hours of work, exposure to ultra-violet radiation, high temperatures and humidity, may increase the toxic response to a substance. In these circumstances, care must be exercised in the application of the exposure limits listed, as exposure may have to be adjusted to take the effects of these factors into consideration'.

Limits are set assuming that exposure is limited to one substance only. But, many workers will tend to be exposed to a variety of chemicals, and different substances may combine to create an even greater danger.

Measures to control hazards should be effective, acceptable and convenient from the worker's point of view. A number of measures are possible, as the following list from the ACOP makes clear.

Means of preventing or controlling exposure can include one of more of the following (in order of preference):

- (a) Elimination of the substance hazardous to health
- (b) Substitution of a substance hazardous to health by one that is less hazardous
- (c) Plant, processes and systems of work designed to prevent the exposure to, or suppress the formation of, dust, vapour, gases, aerosol
- (d) Substances hazardous to health being contained in totally closed systems
- (e) Enclosure with effective local exhaust ventilation being used
- (f) Effective local exhaust ventilation as close to the source of contamination as possible
- (g) Effective general ventilation should be provided by the circulation of fresh air in working areas
- (h) Restricting the quantity if the substance used, limiting the area in the workplace in which the substance is used, limiting the number if people exposed. In appropriate cases the period of exposure should be limited, but this is not desirable if it leads to a corresponding increase in the numbers of persons exposed

Additionally, the control of exposure should include:

- (a) The taking of appropriate measures to secure the cleanliness of workplaces, premises and plant
- (b) Avoidance of the spread of contamination;
- (c) Where necessary, the provision of adequate and suitable personal protective equipment
- (d) The provision of adequate and suitable facilities for washing, clothing accommodation, eating, drinking and smoking

### Personal protective equipment

Control at source is the primary objective, but in practice it may be that personal protection has to be used. This may include respirators, goggles, helmets, overalls, gloves, aprons and boots.

Personal protection should be treated as a last resort, or as a temporary measure to deal with emergencies or other special operations. In rare cases, personal protection may offer the only answer to a problem.

### The Health and Safety (First Aid) Regulations 1981

The Health and Safety (First-Aid) Regulations 1981 require the employer to provide adequate and appropriate equipment, facilities and personnel to enable first aid to be given to employees if they are injured or become ill at work.

What is adequate and appropriate will depend on the circumstances in the workplace and the employer should assess what are the first aid needs.

The minimum first-aid provision at any workplace is:

- (a) A suitably stocked first-aid box
- (b) An appointed person to take charge of first-aid arrangements

It is also important to remember that accidents can happen at any time. First-aid provision needs to be available at all times people are at work

An appointed person is someone the employer chooses to take charge when someone is injured or falls ill, including calling an ambulance if

required. The appointed person must look after the first-aid equipment, e.g. by restocking the first-aid box.

Appointed persons should not attempt to give first aid for which they have not been trained, though short emergency first-aid training courses are available. Remember that an appointed person should be available at all times people are at work on site. This may mean appointing more than one person.

A first aider is someone who has undergone a training course in administering first aid at work and holds a current first aid at work certificate. The training has to have been approved by HSE. Lists of local training organisations are available from HSE Offices. You may decide, following your first-aid assessment, that you need one or more first aiders. A first aider can undertake the duties of an appointed person.

It is not possible to give hard and fast rules on when or how many first aiders or appointed persons might be needed. This will depend on the circumstances of each particular organisation or worksite. The following table offers suggestions on how many first aiders or appointed persons might be needed in relation to categories of risk and number of employees. The details in the table are suggestions only – they are not definitive nor are they a legal requirement. It is for your employer to assess your first-aid needs in the light of your particular circumstances. The employer must inform employees of the first aid arrangements. Putting up notices telling staff who and where the first aiders or appointed persons are and where the first-aid box is will usually be sufficient. They will need to make special arrangements to give first-aid information to employees with reading or language difficulties.

### Suggested numbers of first-aid personnel

First-aid personnel should be available at all times to people who are at work, based on assessments of risk and number of workers. This table is based upon the recommendations of the HSE.

Category of risk	Numbers employed at any location	Suggested number of first-aid personnel
<b>Lower risk</b>		
e.g. shops and offices, libraries	Fewer than 50	At least one appointed person
	50-100	At least one first aider
	More than 100	One additional first aider for every 100 employed
<b>Medium risk</b>		
e.g. light engineering and assembly work, food processing, warehousing	Fewer than 20	At least one appointed person
	20-100	At least one first aider for every 50 employed (or part thereof)
	More than 100	One additional first aider for every 100 employed
<b>Higher risk</b>		
e.g. most construction, slaughter houses, chemical manufacture, extensive work with dangerous machinery or sharp instruments	Fewer than five	At least one appointed person
	5-50	At least one first aider
	More than 50	One additional first aider for every 50 employed

## The Lifting Operations and Lifting Equipment Regulations 1998

Employers have duties under these Regulations in situations where lifting equipment is used by employees at work. Self-employed persons have a similar duty with regard to lifting equipment they use at work. In addition, persons who have any control of lifting equipment, or who use, supervise or manage the use of lifting equipment also have a duty under the Regulations, but only to the extent of their control. These duties do not apply in cases where the lifting equipment has been supplied by way of sale, agreement for sale or hire purchase agreement.

### Strength and Stability (Regulation 4)

Lifting equipment must be of adequate strength and stability for each individual load raised or lowered. Particular attention must be paid to the stresses incurred at the mounting or fixing points. Load parts and any attachments used in the lifting operation must also be of adequate strength.

### Lifting equipment for lifting persons (Regulation 5)

Lifting equipment used for lifting people must prevent anyone using it from being crushed, trapped or struck, and from falling from the carrier. Similar precautions are required for work activities being carried out from the carrier, as far as reasonably practicable. There must also be suitable devices to prevent the risk of a carrier from falling. If this risk cannot be prevented, the carrier must have an enhanced safety coefficient suspension rope or chain which must be inspected on each working day.

People trapped inside a carrier must be protected from danger and be able to be freed.

#### Positioning and installation (Regulation 6)

Lifting equipment must be positioned and installed so as to be safe, and minimise the risks, as far as reasonably practicable, of the lifting equipment or its load striking a person, or its load drifting, falling freely or being unintentionally released.

Suitable devices must be provided to prevent people from falling down lift shafts or hoistways.

#### Marking of lifting equipment (Regulation 7)

Lifting equipment must be clearly marked with its safe working loads. In situations where the safe working load is reliant on the equipment configuration, the safe working load for each configuration must be clearly marked on the lifting equipment. Alternatively, information containing these details must be kept with the lifting equipment.

Accessories used in lifting operations must be marked with any information necessary to ensure their safe use.

Lifting equipment intended for lifting people must be clearly marked as such. Any lifting equipment not intended for lifting people, but which may be mistakenly used as such, must also be clearly marked to this effect.

### Organisation of lifting operations (Regulation 8)

Lifting operations involving lifting equipment must be properly planned by a competent person, appropriately supervised and carried out in a safe way.

### Thorough examination and inspection (Regulation 9)

Lifting equipment must be thoroughly examined for defects before it is put into service for the first time. This does not apply in situations where the lifting equipment has not been used before and there is an accompanying EC declaration of conformity (where this is appropriate) that is less than 12 months old before the lifting equipment was put into service. Lifting equipment obtained from a third party must be accompanied by physical evidence of the last thorough examination before it is used in the new employer's premises.

Lifting equipment must also be thoroughly examined to ensure correct installation and safe operation after it has been installed and before being put into service for the first time, or after it has been relocated if its safety is dependent on its installation.

Where lifting equipment is exposed to conditions that may cause deterioration likely to result in danger, it must be thoroughly examined as follows:

- (a) Lifting equipment for lifting people: at least every six months
- (b) Other lifting equipment: at least every 12 months.

In both cases, a competent person must draw up an examination scheme, i.e. a suitable scheme that determines the frequency of the thorough examinations.

A competent person may inspect lifting equipment at suitable intervals between thorough examinations if necessary.

Lifting equipment that was required to be thoroughly examined under specified legislation that has been repealed or revoked by these Regulations, must undergo another thorough examination before the date on which the previous thorough examination is due for renewal.

Reports and defects (Regulation 10 and Schedule 1)

The person undertaking the thorough examination must notify the employer immediately of any defects that are, or could be, a danger to people. As soon as practicable they must submit a written and signed report to the employer and, if appropriate, the person hiring or leasing the lifting equipment. The enforcing authority must also receive a copy of any report where there is an existing or imminent risk of serious personal injury due to a defect in the lifting equipment. For lifting equipment that has been hired or leased, the enforcing authority is the HSE, in other cases it is the enforcing authority for the premises.

The employer must be notified immediately of any defects noted during an inspection of the lifting equipment that pose, or may pose, a danger to people. A written record of the inspection must be made.

Employers may not use any lifting equipment notified as having a defect before the defect is corrected. In cases where the defect could become a danger, the lifting equipment may not be used after the time specified in the report (i.e. the time after which the defect is deemed by the competent person to be dangerous) until the defect is corrected.

### Keeping of information (Regulation 11)

Employers must retain EC declarations of conformity that relate to lifting equipment obtained after 5 December 1998 for as long as they operate the lifting equipment.

Thorough examination reports for lifting equipment must be retained until the lifting equipment ceases to be used. The thorough examination reports for lifting equipment accessories must be kept for two years. Thorough examination reports relating to the installation or assembly of lifting equipment must be kept until the equipment ceases to be used at the location where it was installed or assembled. Finally, thorough examination reports that relate to the deterioration in condition of lifting equipment must be kept either until the next report is made, or for two years, whichever is the later.

Records relating to the inspection of lifting equipment must be kept until the next record is made.

### Noise at Work Regulations 1989

The Noise at Work Regulations 1989 apply to all workers in Great Britain, and to those offshore activities within the scope of the Health and Safety at Work etc Act 1974, except the crews of sea-going ships, aircraft, or hovercraft moving under their own power. Employers (and mine or quarry managers) are responsible for action at the workplace, and employees must cooperate with their employers' programme to prevent hearing damage. Machine designers, manufacturers, importers and suppliers also have duties.

The Noise at Work Regulations deal only with people at work and with risks to hearing, not other aspects of health, safety and welfare. The duties set out in the Health and Safety at Work etc Act 1974, and the Management of Health and Safety at Work Regulations 1999, are more general in scope. This means that employers will need to take action if noise causes risks other than hearing damage, or creates risks to people other than workers. For example:

- (a) If background noise reduces the audibility of a warning sound
- (b) Where people who are not at work are exposed to noise risk

## The Noise at Work Regulations 1989 and Guidance on the Noise at Work Regulations (L108)

Action levels (Regulation 2)

Three 'action levels' are defined:

- (a) The first action level refers to a daily personal noise exposure of 85dB(A)
- (b) The second action level refers to a daily personal noise exposure of 90dB(A). The daily total personal exposure to noise at work at action levels 1 and 2, takes no account of any ear protectors worn
- (c) The third level is a peak action level of 200 pascals (equivalent to 140dB(C)). This peak pressure is the highest pressure reached by the sound wave, for example, generated by a cartridge-operated tool

### Assessment of exposure (Regulation 4)

Employers are required to make adequate arrangements for the assessment of exposure where this is likely to be at or above either the first or peak action levels. A 'competent person' should make the assessment. Noise assessments must be reviewed when there has either been a significant change in the work to which the assessment relates, or wherever there is reason to suspect that the assessment is no longer valid.

The noise assessment will help the employer (Guidance 19) to:

- (a) Identify the daily noise exposure of all employees who might be at risk of hearing damage
- (b) Obtain information necessary to control the noise exposure
- (c) Draw up an informed action plan to reduce the risk of hearing damage.

### Five steps to noise assessment (Guidance 20)

Step 1 Look to see whether there is likely to be a noise hazard

Step 2 Identify all workers likely to be exposed to the hazard

Step 3 Evaluate the risks arising from the hazard

Step 4 Record the findings

Step 5 Review the assessment and revise it if necessary

### Competent persons (Guidance 109-111)

A competent person should be capable of bringing together and presenting enough information about the noise exposures. They do not need detailed knowledge and experience of selecting and designing control measures to complete a noise assessment, but will need to indicate where other further specialist assistance is required. This will

enable the employer to make correct decisions on complying with the legislation, and whether additional specialist support is necessary. Knowledge alone is not sufficient, the competent person should also possess appropriate experience and skills including:

- (a) Being clear about the purpose of assessments
- (b) A good basic understanding of what information needs to be obtained
- (c) An appreciation of his or her own limitations
- (d) How to make measurements
- (e) How to record results, analyse and explain them to others
- (f) The reasons for using various kinds of instrumentation and how to use and look after the instruments involved
- (g) How to interpret information

#### Records (Regulation 5)

Employers must ensure that an adequate record of the assessment and of any review is kept. The best person to complete the noise assessment record is the competent person.

#### Reduction of risk of hearing damage (Regulation 6)

Employers are obliged to reduce the risk of damage to the hearing of employees from exposure to noise, to the lowest level reasonably practicable, irrespective of action levels. This is because there is a risk of hearing damage between 85dB(A) (first action level), and 90dB(A) (second action level), and a residual risk below 85dB(A). This means that, in addition to taking the legal steps that are required to reduce noise below 90dB(A), employers may have to reduce the risk of hearing damage further.

### Reduction of noise exposure (Regulation 7)

Where employees are exposed:

- (a) At or above the second action level – a daily personal exposure level of 90dB(A)
- (b) Or the peak action level (peak sound pressure of 200 pascals)

Employers are required to ensure that exposure is reduced to the lowest level reasonably practicable other than by the provision of ear protectors.

The most reliable way of limiting exposure is to reduce the level of workplace noise. The noise assessment should have identified the sources of noise in the workplace, and the ways noise levels can be reduced.

Employers should develop a plan of action to:

- (a) Identify steps that are reasonably practicable to reduce the noise level by engineering means
- (b) Establish priorities
- (c) Ensure action is taken
- (d) Reassess noise exposure.

### Control of noise exposure (Part 5, Guidance 168-206)

Someone with the knowledge and skill to understand the techniques available, and the benefits that they can bring should design noise control measures. Trade union safety representatives should be consulted during this process, as they can point out their own or their members working knowledge of the process.

### Design of workplaces for low noise emission

Noise emissions and noise exposure can be limited by careful choice of design, layout and construction materials used for a building.

### Substitution of a quieter process or machine

Changes in technology can alter the machine or process resulting in a lower noise exposure to the workforce. Sometimes a different way of working might avoid the need for a noisy operation. Some changes may produce better quality control, design and manufacturing procedures, reducing the need for noisy assembly practices and the need to rectify faults.

Purchasing low-noise machines through a positive purchasing policy is often the most cost-effective, long-term measure that can be taken. The introduction of a local noise limit, that is a realistic low-noise emission level for incoming plant and equipment, can be very helpful.

### Engineering control

It is good practice to establish the contribution from all sources in the total noise field, and to establish which is the most dominant. Methods of limiting noise generation include:

avoiding impacts or making arrangements to cushion them

- (a) Damping involving adding material to reduce induced vibrations and the tendency of machine parts to 'ring'
- (b) Isolation involving separating the machine from its surroundings
- (c) Silencers which are attachments fitted to the inlet or exhaust of a moving air or gas stream emitted from machines
- (d) Active noise control which is an electronic-controlled noise reduction method, which involves the reduction or cancellation of one sound by the introduction of a second sound having equal amplitude
- (e) Machine maintenance which can be very effective in limiting noise emission.

Modification of the routes by which noise reaches workplaces

The path between the points at which the noise is generated and the workplace can sometimes be modified by the following means:

- (a) Enclosure involving placing a sound-proof cover over the noise source. Noisy machines can be enclosed fully, or a partial enclosure or an acoustic cover can be placed around a noisy part of a machine
- (b) Screens and barriers involving the placing of a physical obstacle between the noise source and the employees. These measures have limitations, but their performance can be enhanced by the use of sound absorbing materials
- (c) Noise refuges where the employee workstation is surrounded by an acoustically designed enclosure
- (d) Increasing the distance between a person and the noise source.

Reduction

The final approach in the control hierarchy is reduction of exposure times. This can be achieved by job design, where noisy devices are only used when they are actually needed. Job rotation can also reduce exposure, where employees move between noisy and quieter machines.

Ear protection (Regulation 8)

Where employees are likely to be exposed to:

- (a) The first action level of 85dBA or above, in circumstances where the daily personal noise exposure is likely to be less than 90dB(A), suitable and efficient personal ear protectors must be available to those who request them

- (b) The second action level of 90dBA or above, or to the peak action level of 200 pascals or above, suitable personal ear protectors must be provided

It is made absolutely clear in Part 6 of the Guidance to the Noise at Work Regulations that 'the use of ear protection is a last resort to control noise exposure. It should only be considered where it is not reasonably practicable to control exposure by other means' Part 6 goes on to give detailed guidance on the selection and use of personal ear protection.

#### Ear protection zones (Regulation 9)

Where employees are likely to be exposed to the second action level of 90dBA, or to the peak action level of 200 pascals, the employer should designate an ear protection zone. This should be demarcated and identified by a sign indicating that this is an ear protection zone, and that employees must wear personal ear protectors whilst in the zone.

#### Maintenance and use of equipment (Regulation 10)

Employers are required to ensure that anything that is provided is:

- (a) Fully and properly used
- (b) Maintained in an efficient state, in efficient working order, and in good repair

Employers should introduce a planned programme of maintenance (Guidance 59), which includes:

- (a) Inspecting noise control equipment periodically
- (b) Monitoring the equipment's effectiveness
- (c) Reporting the results to a responsible person for action

### Employees' duties (Regulation 10(2))

Employees are required to make full and proper use of ear protectors provided at or above the second action level of 90dBA, or to the peak action level of 200 pascals, and any other protective measures. Defects should be reported to the employer.

### Provision of information to employees (Regulation 11)

Employers must provide employees who are likely to be exposed to the first action level of 85dBA or above, or the peak action level of 200 pascals or above, with adequate information, instruction and training on:

- (a) The risk of hearing damage that exposure may cause
- (b) Steps to minimise that risk
- (c) Steps to be taken by employees in order to obtain personal ear protection
- (d) Employees' obligations

### Safety representatives (Guidance 71)

Employers are reminded under this guidance, to make information available to safety representatives. This includes entitlement to inspect employer's documents, including records of noise assessments. Employers should also make sure that union safety representatives know how information can be obtained.

### Exemptions (Regulation 13)

The Health and Safety Executive may consider exemptions where:

- (a) There are substantial fluctuations in noise exposure from day to day, and effective control can be better exercised by averaging exposure over a week
- (b) The compulsory use of ear protectors might increase danger overall
- (c) It is not practicable to use ear protectors

### Personal Protective Equipment at Work Regulations 1992

Regulation 5 of the PPE Regulations requires that hearing protectors are compatible with other protective equipment used at the same time, and continue to be effective.

### Health surveillance (Management of Health and Safety at Work Regulations 1999)

When there is a risk of hearing loss from exposure to loud noise at work, the employer should provide adequate health surveillance. The objectives of health surveillance are to:

- (a) Detect adverse health effects at an early stage, thereby enabling further harm to be prevented
- (b) Check the effectiveness of control measures
- (c) Provide feedback on the accuracy of risk assessment
- (d) Identify and protect individuals at increased risk

The appropriate technique for noise health surveillance is audiometry. It involves asking the subject to listen to a range of pulsed pure tones over a chosen range of frequencies and recording hearing response on a chart called an audiogram. Assessment of the audiogram then enables

conclusions to be drawn about the subject's hearing status. It can be used to measure hearing capability, or if used periodically, it can be used to detect deterioration of hearing in the individual.

Health surveillance using audiometry or other techniques, is not a substitute for the employer's obligation to control noise.

## Part 2

### The law and accidents

When accidents happen at work the law requires most of them to be reported and recorded. Safety Reps have important legal rights to investigate accidents .

The Social Security (Claims and Payments) Regulations require injured workers to report accidents and employers to investigate and keep records of reported accidents. The main requirements of these regulations are:

### Social Security (Claims and Payments) Regulations 1979

#### Requirements on the employee

Injured workers, or persons acting for them, to give employer specific details of accidents for which DSS benefits may be claimed. Particulars required need to be no more than:

- (a) Full name, address and occupation of injured person
- (b) Date and time of accident
- (c) Place where accident happened
- (d) Cause and nature of injury
- (e) Name, address and occupation of person giving the notice, if other than the injured person

### Requirements on employers

- (a) Employers to investigate the circumstances of every accident reported.
- (b) Records to be kept for a minimum of three years.
- (c) Accident book to be readily accessible.

## Reporting of Injuries Diseases and Dangerous Occurrences Regulations 1995

Accidents that cause serious or fatal injuries, or lead to more specified period of work, have to be notified to the HSE under the new Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995. These require employers to notify information direct to the HSE, and to keep records. They also cover certain dangerous occurrences and a range of industrial diseases.

The main requirements of the Regulations are:

### Notification requirements

The following injuries and occurrences must be notified by the employer to the relevant enforcing authority by the 'quickest practicable means'. Following this, a written report on form F2508 must be made within seven days.

- (a) The death of any person as a result of an accident arising out of or in connection with work
- (b) Any person suffering any of the following injuries or conditions as a result of an accident arising out of or in connection with work
- (c) Fracture of the skull, spine or pelvis

- (d) Fracture of any bone – in the arm or wrists, but not a bone in the hand; or in the leg or ankle, but not a bone in the foot
- (e) Amputation of a hand or foot; or a finger, thumb or toe, or any part thereof if the joint or bone is completely severed
- (f) The loss of sight of an eye, a penetrating injury to an eye, or a chemical or hot metal burn to an eye; either injury (including burns) requiring immediate medical treatment, or loss of consciousness resulting in either case from an electric shock from any electrical circuit or equipment, whether or not due to direct contact
- (g) Loss of consciousness due to lack of oxygen
- (h) Decompression sickness (unless suffered during an operation to which the Diving Operators at Work Regulations 1981 apply) requiring immediate medical treatment
- (i) Either acute illness requiring treatment, or loss of consciousness, resulting in either case from absorption of any substance by inhalation, ingestion or through the skin
- (j) Acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a pathogen or infected material
- (k) Any other injury that results in the person injured being admitted immediately into hospital for more than 24 hours.

Dangerous occurrences must also be notified, these are listed in a schedule to the Regulation as follows:

## SCHEDULE 1 REGULATION 2 (1)

## Dangerous occurrences Part 1 – general

Lifting machinery: The collapse of, the overturning of, or the failure of any load-bearing part of:

- (a) Any lift, hoist, crane, derrick or mobile powered access platform, but not any winch, teagle, pulley block, gin wheel, transporter or runway
- (b) Any excavator
- (c) Any pile driving frame or rig having an overall height, when operating, of more than seven metres

## Passenger carrying amusement device

The following incidents at a fun fair (whether or not a travelling fun fair) while the relevant device is in use or under test:

- (a) The collapse of, or the failure of any load bearing part of, any amusement device provided as part of the fun fair which is designated to allow passengers to move or ride on it or inside it
- (b) The failure of any safety arrangement connected with such a device, that is designed to restrain or support passengers.

## Pressure vessels

Explosion, collapse or bursting of any closed vessel, including a boiler or boiler tube, in which the internal pressure was above or below atmospheric pressure, which might have been liable to cause the death of, or any of the injuries or conditions by Regulation 3(2) to, any person, or which resulted in the stoppage of the plant involved for more than 24 hours.

#### Electrical short circuit

Electrical short circuit or overload attended by fire or explosion which resulted in the stoppage of the plant involved for more than 24 hours and which, taking into account the circumstances of the occurrence, might have been liable to cause the death of, or any of the injuries or conditions covered by Regulation 3(2) to, any person.

#### Explosion or fire

An explosion by fire occurring in any plant or place leading to suspension or normal work in that place for more than 24 hours, where such explosion or fire was due to the ignition of process materials, their by-products (including waste) or finished products.

#### Escape of flammable substances

The sudden, uncontrolled release of one tonne or more of highly flammable liquid, within the meaning of regulation 2(2) of the Highly Flammable Liquids and Liquefied Petroleum Gases Regulations 1972, flammable gas or flammable liquid above its boiling point from any system or plant or pipe-line.

#### Collapse of scaffolding

A collapse or partial collapse of any scaffold that is more than five metres high, which results in a substantial part of the scaffold falling or overturning, and where the scaffold is slung or suspended, a collapse or part collapse of the suspension arrangements (including any outrigger), which causes a working platform or cradle to fall more than five metres.

### Collapse of building or structure

#### Any unattended building or structure:

- (a) Any building or structure under construction, reconstruction, alteration or demolition, or of any false work, involving a fall or more than 5 tonnes of materials
- (b) Any floor or wall of any building being used as a place or work, not being a building under construction, reconstruction, alteration, or demolition.

### Escape of a substance or pathogen

The uncontrolled or accidental release or the escape of any substance or pathogen from any apparatus, equipment, pipework, pipe-line, process plant, storage vessel, tank, in-works conveyance tanker, land-fill site or exploratory land drilling site, which have regard to the nature of the substance or pathogen and the extent and location of the release or escape, might have been liable to cause the death of, any of the injuries of conditions covered by Regulation 3(2) to, or other damage to health of any person.

### Explosives

Any ignition or explosion of explosives, where the ignition or explosion was not intentional

### Freight containers

Failure of any freight container or failure of any load bearing part thereof while it is being raised, lowered or suspended.

### Pipe lines

Either of the following incidents in relation to a pipeline as defined by the Pipe-Line Act 1962:

- (a) The bursting, explosion or collapse of a pipe-line or any part thereof;  
or
- (b) The unintentional ignition of anything in a pipe-line or of anything that immediately before it was ignited was in a pipe-line.

### Conveyance of dangerous substances by road

Any incident:

- (a) In which a road tanker or tank container used for conveying a dangerous substance by road overturns or suffers serious damage to the tank in which the dangerous substance is being conveyed
- (b) In which there is no relation to such a road tanker or tank container
  - i) An uncontrolled release or escape of the dangerous substances being conveyed
  - ii) A fire that involves the dangerous substance being conveyed

Any incident involving a vehicle conveying a dangerous substance by road, other than a vehicle to which paragraph 13 applies, where there is:

- (a) An uncontrolled release or escape from any package or container of the dangerous substance being conveyed
- (b) A fire that involves the dangerous substance being conveyed

### Breathing apparatus

Any incident where breathing apparatus while being used to enable the wearer to breathe independently of the surrounding environment

malfunctions in such a way as to be likely either to deprive the wearer of oxygen or, in the case of use in the contaminated atmosphere, to expose the wearer to the contaminant to the extent in either case of posing a danger to his health, except that this paragraph shall not apply to such apparatus while it is being used in a mine; or maintained or tested.

#### Overhead electric lines

Any incident in which plant or equipment either comes into contact with any uninsulated overhead electric line in which the voltage exceeds 200 volts, or causes an electrical discharge from such an electric line by coming into close proximity to it, unless in either case the incident was intentional.

#### Locomotives

Any case of an accidental collision between a locomotive and a train and any other vehicle at a factory or a dock premises, which might have been liable to cause the death of, or any of the injuries or conditions covered by Regulation 3(2) to, any person.

In some cases, it is enough to report in writing to the enforcing authority within seven days – for example, injuries caused by accidents at work resulting in more than three days incapacity for work (including non-work days), or a death after a work injury that is not immediate, but happens within a year of injury.

#### Diseases

Since April 1996, the diseases reportable under RIDDOR have been as the list of Prescribed Diseases under the DSS industrial injuries scheme. These

diseases must also be reported to the HSE on a special form (F2508A) when a relevant diagnosis has been provided by a doctor. It is most important that workers undertaking relevant jobs understand the symptoms of these diseases so that they can draw this information to the attention of their doctor if they think they are suffering from a notifiable condition.

### Records

Under RIDDOR, employers are obliged to keep records of all notifiable injuries, dangerous occurrences and diseases and this information must be made available for safety reps and safety committees. Particulars of records to be kept are set out in the following schedule.

### SCHEDULE 3, REGULATION 7

#### Records – Part 1

Particulars to be kept in records of any event which is reportable under Regulation 3:

- (a) Date and time of accident and dangerous occurrence.
- (b) The following particulars of the person affected
  - i Full name
  - ii Occupation
  - iii Nature of injury or condition
- (c) Place where the accident or dangerous occurrence happened
- (d) A brief description of the circumstances

## Records – Part 2

Particulars to be kept in records of instances of any of the diseases specified in Schedule 2 and reportable under regulation 5:

- (a) Date of diagnosis of the disease
- (b) Occupation of the person affected
- (c) Name or nature of the disease

## Personal Protective Equipment Regulations 1992

PPE is defined in the Regulations as ‘all equipment (including clothing affording protection against the weather), which is intended to be worn or held by a person at work and which protects him against one or more risks to his health or safety’, e.g safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses. Waterproof, weatherproof or insulated clothing is subject to the Regulations only if its use is necessary to protect employees against adverse climatic conditions that could otherwise adversely affect their health or safety.

A few types of equipment are not covered by the Regulations, mainly ordinary working clothes and uniforms that don’t specifically protect against risks to health and safety, and protective equipment worn by professional sports people during competition.

### Provision and use of PPE

The main requirement of the PPE at Work Regulations 1992 is that personal protective equipment is to be supplied and used at work

wherever there are risks to health and safety that cannot be adequately controlled in other ways.

Because the effectiveness of PPE can be compromised easily, e.g. by not being worn properly, it should always be considered as the last resort and used only where other precautions cannot adequately reduce the risk of injury.

However, where PPE is the only effective means of controlling the risks of injury or ill health, then employers must ensure that it is available for use at work – free of charge.

#### The self-employed

The self-employed also have a duty to obtain and use the appropriate PPE wherever there is a risk to their health and safety that cannot be controlled adequately by alternative measures. The only exception to this is for those who are classified as self-employed for tax reasons, but who otherwise work in an employee-employer relationship. In this case it will be for the employer to provide suitable PPE.

#### Assessing suitable PPE

To allow the right type of PPE to be chosen, the different hazards in the workplace need to be considered carefully. This will enable an assessment to be made of which types of PPE are suitable to protect against the hazard and for the job to be done. Your supplier should be able to advise you on the different types of PPE available and their suitability for different tasks. It may be necessary in a few particularly difficult cases to obtain advice from specialist sources – and of course from the PPE manufacturer.

The following factors should be considered when assessing the suitability of PPE:

- (a) Is it appropriate for the risks involved and the conditions at the place where exposure to the risk may occur? For example, eye protection designed for providing protection against agricultural pesticides will not offer adequate face protection for someone using an angle grinder to cut steel or stone.
- (b) Does it prevent or adequately control the risks involved without increasing the overall level of risk?
- (c) Can it be adjusted to fit the wearer correctly?
- (d) Has the state of health of those who will be wearing it been taken into account?
- (e) What are the needs of the job and the demands it places on the wearer? For example the length of time the PPE needs to be worn, the physical effort required to do the job and the requirements for visibility and communication
- (f) If more than one item of PPE is being worn, are they compatible? For example, does the use of a particular type of respirator make it difficult to get eye protection to fit properly?

Personal protective equipment

Eyes: Hazards: chemical or metal splash, dust; projectiles, gas and vapour, radiation.

Choices: spectacles, goggles, face-screens

Head and neck: Hazards: impact from falling or flying objects, risk of head bumping; hair entanglement.

Choices: helmets, bump caps, hats; caps, sou'westers and cape hoods, skull-caps

Breathing: Hazards: dust, vapour, gas; oxygen deficient atmospheres.  
Choices: disposable filtering face piece or respirator, half/full face respirators, air-fed helmets, breathing apparatus.

Protecting the body: Hazards: temperature extremes; adverse weather; chemical or metal splash; spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing.

Choices: conventional or disposable overalls, boiler suits; donkey jackets, specialist protective clothing, e.g. chain-mail aprons, high visibility clothing

Hands and arms : Hazards: abrasion; temperature extremes, cuts and punctures, impact, chemicals; electric shock; skin infection, disease or contamination, vibration

Choices: gloves, gauntlets, mitts, wristcuffs, armllets

Feet and legs: Hazards: wet, electrostatic build-up, slipping, cuts and punctures, falling objects, metal and chemical splash, abrasion

Choices: safety boots and shoes with steel toe caps (and steel mid sole), gaiters; leggings; spats

A chain-saw operator may need all the following equipment:

- (a) A safety helmet – replace at intervals recommended by the manufacturer, e.g. every two to three years
- (b) Ear defenders
- (c) Eye protection
- (d) Clothing – should be close fitting
- (e) Gloves – with protective pad on the back of the left hand
- (f) Protection for legs – incorporating loosely-woven long nylon fibres or similar material. All round protection is recommended;
- (g) Chain-saw operator boots – the casual user may obtain adequate protection by a combination of protective spats and industrial steel toe-capped safety boots

### Training

Make sure the user is aware of why PPE is needed, when it is to be used, repaired or replaced and its limitations. Instruct, train, and supervise its use. Because PPE is the last resort after other methods of protection have been considered, it is important that users wear it all the time they are exposed to the risk. Never allow exemptions for those jobs which take 'just a few minutes'. Check regularly the use of PPE and investigate fully any reasons for non-use. Safety signs can be useful reminders to wear PPE.

### New PPE

Since 1 July 1995, new PPE needs to have been 'CE' marked in accordance with the requirements of the amended Personal Protective Equipment (EC

Directive) Regulations 1992. The CE mark signifies that the PPE satisfies certain basic safety requirements, and in most cases will have been type-tested and certified by an independent body.

Non-CE-marked PPE supplied before 30 June 1995 can continue to be used after that date providing it still offers adequate protection.

## Other regulations

The PPE at Work Regulations do not apply where PPE is provided under six sets of existing Regulations. These Regulations already require the use of some types of PPE to protect against certain risks, for example, the Noise at Work Regulations require the use of hearing protection where necessary. The six sets of Regulations are:

Control of Lead at Work Regulations 1980

Ionising Radiations Regulations 1985

Control of Asbestos at Work Regulations 1988

Control of Substances Hazardous to Health Regulations 1994

Construction (Head Protection) Regulations 1989

Noise at Work Regulations 1989

## Key points to remember

Are there ways (other than PPE) in which the risk can be adequately controlled, eg engineering controls? If not, check that:

- (a) PPE is provided
- (b) It offers adequate protection for its intended use
- (c) Those using it are adequately trained in its safe use
- (d) It is properly maintained and defects reported
- (e) It is returned to its proper accommodation after use